Consultation Paper – Annex A

High level cost-benefit-analysis draft technical standards (MiFID/MiFIR)

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1. Introduction

In this paper ESMA provides a high-level cost-benefit analysis (CBA) in respect of the MiFID II and MiFIR implementing measures covered by the Consultation Paper (CP) and the also annexed Technical Standards.

Please be aware that due to time constraints this CBA is not yet complete and most notably does not cover the highly complex Technical Standards on non-equity transparency or transaction reporting. Those sections are blank in this document. ESMA will publish a complete CBA along with the final Technical Standards in the summer of 2015.

2. Investor Protection

2.1. Procedures for granting and refusing requests for authorisation of investment firms

Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA,[1] ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

One of the objectives of the proposed draft RTS is to develop an exhaustive list of information to be provided to the relevant competent authority by an applicant investment firm, when requesting authorisation to provide investment services and/or the performance of investment activities. The aim is to set up a harmonised, common list of information that provides legal certainty, clarity and predictability with regard to the authorisation process and to the supervisory decision.

Another objective of the proposed draft RTS is to specify the requirements applicable to the management of investment firms and shareholders and members with qualifying holding, as well as obstacle which may prevent effective exercise of the supervisory function of the competent authority.

The purpose of this document is to provide an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against the MiFID/MiFIR baseline. Whenever market practices are above what is being required by MiFID/MiFIR, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[2] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions. In this case, this will be noted in our analysis.

For each section of the RTS, the document includes (i) a short introduction sets the ground for the RTS, (ii) an explanation of the baseline i.e. of the starting against which the incremental rule arising from the RTS is assesses, (iii) the identification of stakeholders (iv) a

[1] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

[2] See http://ec.europa.eu/internal_market/securities/docs/isd/MiFID/SEC_2011_1226_en.pdf

summary description of the RTS technical options and (v) an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the RTS. Interviews will be conducted with investment firms, trade associations and national competent authorities and questionnaires will be circulated to provide a more quantitative cost-based analysis. Responses to the Consultation will also help inform this cost/benefit analysis.

Information to be provided to competent authorities, including the programme of operations – Draft RTS under Article 7(4)(a) of MiFID II

1. Introduction

As in MiFID, Article 7(1) of MiFID II requests competent authorities, when granting an authorisation to a firm for the provision of investment services and/or the performance of investment activities, to assess that the applicant firm complies with all requirements under the provisions adopted pursuant to the Directive. However, MiFID left discretion to each competent authority to set up the list of information required from an applicant firm to asses compliance with the Directive and its implementing measures, In order to provide for more clarity and predictability in the authorisation process and in the supervisory decision, MiFID II requires ESMA to develop a harmonised list of information to be provided to the competent authority by a firm when seeking authorisation as investment firm.

2. Baseline

From a legal perspective, the legislation to consider is:

- Article 7(2) of MiFID, under which the investment firm must “provide all information, including a programme of operations setting out, inter alia, the types of business envisaged and the organisational structure, necessary to enable the competent authority to satisfy itself that the investment firm has established, at the time of initial authorisation, all the necessary arrangements to meet its obligations (...)”.
- Article 7(2) of MiFID II is an identical recast of Article 7(2) of MiFID.

Empowerment/RTS

Under Article 7(4)(a) of MiFID II, ESMA has to develop regulatory technical standards to specify “the information to be provided to competent authorities under paragraph 2 of [Article 7], including the programme of operations.”

The list of information to be provided by the applicant firm set out in the draft RTS partly draws on the information to be provided on the proposed acquirer under the Committee of European Banking Supervisors (CEBS), Committee of European Securities Regulators (CESR) [3] and Committee of European Insurance and Occupational Pensions (CEOPS)

[3] CEBS/2008/214; CESR/08-543b ;CEIOPS-3L3-19/08

"Guidelines for the prudential assessment of acquisitions and increases in holdings in the financial sector required by Directive 2007/44/EC".

The incremental rule relates to the content and details of the information to be provided by an investment firm to the competent authority when seeking authorisation as set out in the draft RTS compared to the status quo, i.e. the current state of play (including the MiFID/MiFID II requirements set out above). When regulatory requirements at domestic current market practices, including national competent authorities' practices, are above the MiFID requirements, they will be taken into consideration for the cost-benefit assessment.

In some instances, it is very difficult to disentangle the costs related to the Level 1 text and the costs related to the implementing measure. Any indication of costs for this draft RTS is therefore to be taken as an upper bound.

3. Stakeholders

Entities seeking authorisation as investment firms: those entities will have to adjust to the new format of the information to be provided and to provide the additional information requested, where applicable.

National competent authorities: NCAs will have to review format of application files and to process the additional information requested from applicants.

4. Technical Options

Technical Option 1: List of information to be provided by an applicant firm to the competent authority for authorisation

Policy Objective	Setting up an harmonised list of information providing certainty, clarity and predictability in the authorisation process
Technical Proposal	The information to be provided by the applicant firm to the competent authority of the home Member State should comprise the following chapters: i. General information; ii. Information on the capital, including, when available, evidence on the source of capital; iii. Information on the shareholders, including documentation relating to their suitability; iv. Information on the management body and persons directing the business, with indication of the position for which they are appointed, their detailed curricula vitae and evidence of their

	suitability; v. Financial information ; vi. Information on the organisation.

5. Cost-benefit impact assessment

Technical Option 1: List of information to be provided by an applicant firm to the competent authority for authorisation

	Qualitative description
Benefits	• A harmonised list will provide certainty, clarity and predictability to firms with regard to the authorisation process and to supervisory decision on the authorisation process. • A standardised list will also benefit competent authorities in facilitating guidance in the authorisation process. It will likely reduce inquiries by applicants and simplify internal processes.
Costs to regulator	One-off costs: • NCAs will have to amend application rules/guidelines to reflect revised standardised list of information • NCAs may incur staff training costs to process the additional information provided On-going costs • Processing of updated information and data storage costs At this stage, additional costs are not expected to be significant.
Compliance costs	One-off costs: • Firms will incur some staff costs, including possibly external consultancy costs, to meet the revised harmonised list. On-going costs • Update of the information provided and data storage costs. At this stage, additional costs are not expected to be significant.
Costs to other stakeholders	None

Indirect costs	None

Requirements applicable to the management body of investment firms – Draft RTS under Article 7(4)(b) of MiFID II

1. Introduction

Article 9 of MiFID sets out high level requirements for persons who effectively direct the business of investment firms, who have “to be of sufficiently good repute and sufficiently experienced as to ensure the sound and prudent management of the investment firm”. As a response to concerns that have been expressed with regards to the role weaknesses in governance may have had in the 2008 financial crisis, and taking into account the key role of the management body in ensuring that investment firms meet their regulatory obligations, MiFID II provides for detailed requirements for those persons. The directive incorporates by reference Articles 88 and 91 of Directive 2013/36/ on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, as supplemented by additional specific requirements,. Those governance arrangements are underpinned by the requirement that at least two persons effectively direct the business of the applicant firm. However, by way of derogation, authorisation may be granted to investment firms that are natural persons or to investment firms that are legal persons managed by a single natural person. The purpose of this section of the RTS is to set out the requirements applicable to the management body of an investment firm in such circumstances.

2. Baseline

From a legal perspective, the legislation to consider is:

i. Article 9(4), second paragraph of MiFID, which provides that, where the investment firm is a natural person or is legal person managed by a single natural person, “Member States shall nevertheless require that alternative arrangements be in place which ensure the sound and prudent management of such investment firm.”, supplemented by
ii. Article 9(6) of MiFID II which, for authorising such investment firms, requires that :
    a. “alternative arrangements be in place which ensure the sound and prudent management of the investment firm and the adequate consideration of the interest of clients and the integrity of the market;
    b. the natural persons concerned are of sufficiently good repute, possess sufficient knowledge, skills and experience and commit sufficient time to perform their duties”.

Empowerment/ RTS

Under Article 7(4)(b) of MiFID II, ESMA has to develop regulatory technical standards to specify “the requirements applicable to the management of investment firms under Article 7(6).”

The draft RTS sets out a series of conditions to be met by the management body of investment firms that are natural persons or legal persons managed by a single natural person for that entity to be authorised. Those conditions relate to the availability of the natural person managing the investment firm as well as to the reputation, experience and availability of the person to be empowered by the management bodies or the by-laws of the firm availability to substitute the manager immediately and perform all his duties if the latter is unable to perform them. The draft RTS also sets out the list of information to be provided to the home competent authority as part of the application process.

The incremental rule relates to the additional requirements imposed on the management body of investment firms that are natural persons or legal persons managed by a single natural person set out in the RTS compared to the status quo, i.e. the current state of play. The status quo may be existing regulatory requirements for such investment firms at domestic level or the MiFID/MiFID II requirements set out above.

It is however very difficult to disentangle the costs related to the Level 1 text and the costs related to the RTS. Any indication of costs for this section RTS is therefore to be taken as an upper bound.

3. Stakeholders

Natural persons and legal person managed by a single natural person seeking authorisation as investment firms: these persons may incur additional costs if they have to enhance staffing and/or internal organisational to meet the requirements set out in the draft RTS. They will benefit from more predictability and certainty in the authorisation process.

National competent authorities: where the domestic legal framework allows for the authorisation of natural persons and legal person managed by a single natural person, NCAs may have to process more information for the authorisation of such investment firms.

Clients of such investment firms will benefit from enhanced quality of management body.

4. Technical Options

The requirements for the management body of investment firms that are natural persons or legal persons managed by a single natural person, the draft RTS include the list of information to be provided on the person that may be empowered to substitute the manager. The articles referred to in 2. below to are the ones setting out the information on Personal details, curricula vitae of the members of the management body and persons effectively directing the business and their related powers to be provided by a firm seeking authorisation as an investment firm to the competent authority.

Technical Option 1: Harmonised obligations to be met by the management body of investment firms that are natural persons or legal persons managed by a single natural person for authorisation.

Policy Objective	Ensuring harmonised and effective requirements for the management body of investment firms that are natural persons or legal persons managed by a single natural person
Technical Proposal	1. A firm that is a natural person or a legal person managed by a single natural person, may be authorised if : a) the constitutive rules and national laws of the Member State permit it; b) the natural person appointed to manage the investment firm, or the natural person investment firm, must be easily contactable at short notice by the competent authorities and have sufficient time dedicated to this function; c) the governing bodies or bylaws of the investment firm empower a person to substitute the manager immediately and perform all his duties if the latter is unable to perform them; and d) the person empowered pursuant to the previous point shall be must be of sufficiently good repute and have sufficient experience to carry out the function of manager for the time of absence of the manager, or until a new manager is appointed, so as to ensure sound and prudent management of the investment firm. The person empowered for investment firms that are natural persons, shall be also available to assist insolvency practitioners and relevant authorities in the liquidation of the firm. This person shall have the necessary availability for this function. 2. As part of its authorisation process, an applicant investment firm which is a natural person, or a legal person managed by a single natural person, shall provide to the competent authority the information listed in Article 4(1)(a), 4(1)(c), 4(1)(d), 4(1)(e), 4(1)(f), 4(1)(g) and 4(1)(h) in relation to the person empowered under paragraph 1(c).

5. Cost/benefit impact assessment

Technical Option 1: Harmonised obligations to be met by the management body of investment firms that are natural persons or legal persons managed by a single natural person for authorisation.

	Qualitative description
Benefits	• Harmonised obligations will provide certainty, clarity and predictability to firms with regard to the authorisation process and to supervisory decision on the authorisation process. • Harmonised obligations will also benefit competent authorities in facilitating guidance in the authorisation process. A clearer legal framework will likely reduce inquiries by applicants and simplify internal processes. • Harmonised and enhanced obligations for management body will benefit clients of investment firms that are natural persons or legal persons managed by a single natural person.
Costs to regulator	One-off costs (where investment firms that are natural persons or legal persons managed by a single natural person may be authorised): • NCAs will have to amend application rules/guidelines to reflect revised obligations, • NCAs may incur staff training costs to process the additional information provided. At this stage, additional costs are not expected to be significant.
Compliance costs	One-off and on-going costs: Firms may incur additional staff costs to meet revised obligations.
Costs to other stakeholders	None
Indirect costs	None

Requirements applicable to shareholders and members with qualifying shareholdings – Draft RTS under Article 7(4)(c) of MiFID II

1. Introduction

Shareholders and members with qualifying holdings have a key role in providing guidance and directions to the management of an investment firms. MiFID II confirms the provisions of MiFID regarding the suitability assessment of shareholders and members with qualifying holdings, taking into account the need to ensure the sound and prudent management of an investments firm. However, as in many other areas, MiFID II goes further than MiFID and, with the two-pronged objective of more certainty, clarity and predictability in the approval process and more harmonised suitability assessments across the EU, empowers ESMA to develop RTS to further specify the requirements applicable to shareholders and members with qualifying holdings.

2. Baseline

From a legal perspective, the legislation to consider is Article 10(1), second paragraph of MiFID, which provides that "The competent authorities shall refuse authorisation [of shareholders or members that have qualifying holdings] if, taking into account the need to ensure the sound and prudent management of an investment firm, they are not satisfied as to the suitability of the shareholders or members that have qualifying holdings."

Article 10(1), second paragraph of MiFID II is an identical recast of MiFID.
The legal baseline also includes the Committee of European Banking Supervisors (CEBS), Committee of European,Securities Regulators (CESR) [4] and Committee of European Insurance and Occupational Pensions (CEOPS) "Guidelines for the prudential assessment of acquisitions and increases in holdings in the financial sector required by Directive 2007/44/EC."'

Empowerment/ RTS

Under Article 7(4)(c) of MiFID II, ESMA has to develop regulatory technical standards to specify "the requirements applicable to shareholders and members with qualifying holdings (…)".

The RTS proposes to use, for the assessment of shareholders and members with qualifying holdings, criteria similar to the ones set out in in Article 13(1) of MiFID II for the assessment of proposed acquisitions.

The incremental rule relates to those criteria, compared to the status quo. The status quo may refer either to existing regulatory requirements for such investment firms at domestic level, if they are above the MiFID requirements, or to the MiFID/MiFID II requirements set out above.

It is however difficult to disentangle the costs related to the Level 1 text and the costs related to the RTS. Any indication of costs for this section RTS is therefore to be taken as an upper bound.

3. Stakeholders

Entities seeking authorisation as investment firms: those entities will incur additional costs to provide all the information requested by the competent authority to be able to assess

[4] CEBS/2008/214; CESR/08-543b ;CEIOPS-3L3-19/08

shareholders and members with qualifying holdings. They will benefit from more clarity, predictability and certainty in the authorisation process and supervisory decisions.

National competent authorities: NCAs will have more information to process, and store, at the time of authorisation for suitability assessment. Harmonised assessment criteria will provide at he to process more information for the authorisation of such investment firms.

EU investors will ultimately benefit from more detailed and harmonised criteria for assessing the suitability and financial soundness of investment firms' shareholders and members with qualifying holdings.

4. Technical Options

Technical Option 1: Criteria for assessment of shareholders and members with qualifying holdings consistent with criteria for assessment of proposed acquisition.

Article 13(1) of MiFID II provides a list of criteria against which a proposed acquisition of an investment firm should be assessed in respect to the suitability of the proposed acquirer and the financial soundness of the proposed acquisition. ESMA proposes consistent criteria to be used for the assessment of shareholders and members with qualifying holdings.

Policy Objective	Providing for harmonised requirements for shareholders and members with qualifying holdings
Technical Proposal	An applicant investment firm's proposed shareholders and members with qualifying holdings and having regard to the likely influence of each proposed shareholder or member with qualifying holdings, shall be assessed for their suitability and their financial soundness, by the competent authority, in order the latter to ensure the sound and prudent management of the investment firm, against all of the following criteria: (a) the reputation and experience of any person who will direct the business of the investment firm; (b) the reputation of the proposed shareholders and members with qualifying holdings; (c) the financial soundness of the proposed shareholder and members with qualifying holding, in particular in relation to the type of business pursued and envisaged in the investment firm; (d) whether the investment firm will be able to comply and continue to comply with the prudential requirements based on Directive 2014/65/EC and, where applicable, other Directives, in particular Directives 2002/87/EC and 2013/36/EU, in particular, whether the group of which it will

	become a part has a structure that makes it possible to exercise effective supervision, effectively exchange information among the competent authorities and determine the allocation of responsibilities among the competent authorities; (e) whether there are reasonable grounds to suspect that, in connection with the authorisation of the investment firm, money laundering or terrorist financing within the meaning of Article 1 of Directive 2005/60/EC is being or has been committed or attempted, or that the authorisation of the investment firm could increase the risk thereof.

5. Cost/benefit impact assessment

Technical Option 1: Criteria for assessment of shareholders and members with qualifying holdings consistent with criteria for assessment of proposed acquisition.

	Qualitative description
Benefits	• Criteria for assessment of shareholders will provide certainty, clarity and predictability to firms with regard to the authorisation process and to supervisory decision on the authorisation process. • Harmonised obligations will also benefit competent authorities in facilitating guidance in the authorisation process. • Enhanced and harmonised suitability and financial soundness assessment of shareholders and members with qualifying holdings benefits clients of investment firms and, ultimately serves investor protection and market integrity.
Costs to regulator	One-off costs: • NCAs will have to amend application rules/guidelines to reflect revised assessment criteria, • NCAs may incur staff training costs and IT storage costs to process the additional information provided. At this stage, additional costs are not expected to be significant.
Compliance costs	One-off costs: Firms will incur additional staff costs, and possibly outsourced fees, to provide all the information needed to enable competent authorities to conduct suitability and financial soundness assessment. On-going costs will be incurred for updating the information.

	At this stage, additional costs are not expected to be significant.
Costs to other stakeholders	None
Indirect costs	None

Obstacles which may prevent the effective exercise of the supervisory functions of the competent authority–Draft RTS Article 7(4)(c) of MiFID II

1. **Introduction**

MiFID II replicates the provisions of MiFID under which a competent authority must refuse the authorisation of an investment firm where it would not be in a position to efficiently exercise its supervisory functions. Those provisions become all the more relevant and critical as the investment firms, and more globally, the market structure landscape experiences a higher level of corporate activity, and where multiple business activities, including investment services, may be included in the same group of undertakings. MiFID II therefore empowers ESMA to develop RTS to further specify the obstacles that may prevent the effective supervision of firms.

2. **Baseline**

From a legal perspective, the legislation to consider is:

Article 10(1), third paragraph of MiFID, which provides that "Where close links exist between the investment firm and other natural or legal persons, the competent authority shall grant authorisation only if those links do not prevent the effective exercise of the supervisory functions of the competent authority.", and

Article 10(2) of MiFID which provides that the authorisation of an investment firm must be refused "if the laws, regulations or administrative provisions of a third country governing one or more natural or legal persons with which the undertaking has close links, or difficulties involved in their enforcement, prevent the effective exercise of its supervisory functions."

Articles 10(1) and 10(2) of MiFID II are an identical recast of MiFID.

Empowerment/ RTS

Under Article 7(4)(c) of MiFID II, ESMA has to develop regulatory technical standards to specify "(…) obstacles which may prevent effective exercise of the supervisory function of the competent authority under Articles 10(1) and (2)".

The RTS proposes an all-encompassing approach to the circumstances that may prevent competent authorities from effectively exercise their supervisory function. The incremental rule relates to any additional obligation related to the RTS compared to the status quo, including the MiFID/MiFID II framework described above. However; it can be argued that any cost related to this specific section of the RTS is attributable to the Level 1 text rather than to the Level 2 measure.

3. Stakeholders

Entities seeking authorisation as investment firms: those entities may have to reconsider options where, for instance legal, geographical, financial, or any other information or situation will be deemed to prevent the effective exercise of its supervisory functions by the competent authority.

National competent authorities: NCAs will have more solid legal grounds to refuse authorisation where they consider they would not be in a position to effectively exercise their supervisory functions.

4. Technical Options

Technical Option 1: Broad definition of situations that may be considered as preventing effective exercise of supervisory powers.

Policy Objective	Enabling competent authorities to effectively exercise their supervisory functions.
Technical Proposal	Any information or situation that may prevent the competent authority to effectively appraise the suitability of the shareholder or member with qualifying holding or the influence of close links with the applicant firm shall be considered to be an obstacle to the exercise of the supervisory function of the competent authority.

5. Cost/benefit assessment

Technical Option 1: Broad definition of situations that may be considered as preventing effective exercise of supervisory powers.

	Qualitative description
Benefits	• Effective exercise of supervisory functions powers by competent authorities • Effective exercise of supervisory functions serves investor protection and market integrity.
Costs to regulator	None

Compliance costs	Not predictable
Costs to other stakeholders	None
Indirect costs	None

Draft Implementing Technical Standards under Article 7(5) of MiFID II

As empowered by Article 7(5) of MiFID II, ESMA has developed draft Implementing Technical Standards (ITSs) to determine standard forms, templates and procedures for the notification or provision of information to the home competent authority by entities applying for an authorisation as investment firm.

Common standard forms, templates and procedures further contribute to the common understanding and enforcement among Member States' competent authorities of the authorisation process.

For competent authorities, it is likely that a clearer legal framework with specified templates and procedures will clarify the authorisation process, reducing the volume of inquiries by applicants and simplifying internal processes.

For firms or natural persons applying for authorisation, common standard forms, templates and procedures provide additional clarity and predictability in the authorisation process and contribute to ensuring a level playing field amongst applicants, whatever the competent authority they are applying to for authorisation.

2.2. Freedom to provide investment services and activities / Establishment of a branch

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[5], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such

[5] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The objective of the proposed RTS is to develop an exhaustive list of information to be notified to the relevant competent authority by investment firms and credit institutions exercising their rights under the freedom to provide services or the freedom of establishment. The proposed RTS and Implementing Technical Standards (ITSs) are based significantly on the existing CESR 'Protocol on MiFID Passport Notifications'.

The purpose of this document is to provide an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against the status quo, including the CESR Protocol and the MiFID/MiFIR baseline. Whenever current market practices are above what is being required by MiFID/MiFIR, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[6] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions. In this case, this will be noted in our analysis.

The document includes (i) a short introduction sets the ground for the RTS, (ii) an explanation of the baseline i.e. of the starting against which the incremental rule arising from the RTS is assesses, (iii) the identification of stakeholders (iv) a summary description of the RTS technical options and (v) an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the RTS. Interviews will be conducted with investment firms, trade associations and national competent authorities to provide a more quantitative cost-based analysis. Responses to the Consultation will also help inform this cost/benefit analysis.

2. Introduction

The right of freedom to provide investment services and activities and the right of establishment on the basis of home country authorisation and supervision has been one of the cornerstones of the EU financial market legal framework since the Directive 93/22/EEC (Investment Services Directive). When an investment firm wishes to provide services and activities or set up a branch in another Member State, or otherwise change the range of services and activities offered, information must be notified to the home competent authority on the services and activities contemplated. The home competent authority will then forward the information to the competent authority in the host Member State.

MiFID and MiFID II both refer to a "programme of operations" to describe the information to be notified to the home competent authority. However, in order to enhance clarity, certainty and predictability in the notification process for investment firms and to facilitate internal process within competent authorities through the use harmonised documents, MiFID II empowers ESMA to develop RTS to further specify the content of the information to be

[6] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

provided, as well as ITSs. The information to be provided includes MiFID II latest developments, such as the operation of an Organised Trading Facility (OTF) and a greater attention brought to the use of tied agents by investment firms or credit institutions, where relevant.

ESMA also empowers ESMA to draft Implementing Technical Standards to establish standard forms and procedures for the transmission of information.

3. Baseline

Information to be notified to the home competent authority under the right of freedom to provide investment services and activities – Draft RTS under Article 34(8) of MiFID II

From a legal perspective, the legislation to consider is Article 31(2) of MiFID, as supplemented by Articles 34(2) and 34(5) of MiFID II.

Article 31(2) of MiFID provides that "An investment firm wishing to provide services or activities within the territory of another Member State for the first time, or which wishes to change the range of services or activities so provided, shall communicate (…) to the competent authorities of its home Member State the following information (…)
(a) the Member State in which it intends to operate;
(b) a programme of operations stating in particular the investment services and/or activities as well as ancillary services which it intends to perform and whether it intends to use tied agents in the territory of the Member States in which it intends to provide services".

Article 34(2) of MiFID II mirrors Article 31(2) of MiFID but adds that "Where an investment firm intends to use tied agents, the investment firm shall communicate to the competent authority of its home Member State the identity of those tied agents". The same provision applies to credit institution under Article 34(5) of MiFID II.

Finally, Article 34(7) of MiFID II extends to the operator of an OTF the obligation imposed by MiFID on the operator of an MTF: "The investment firm or the market operator operating an MTF or an OTF shall communicate to the competent authority of its home Member State the Member State in which it intends to provide such arrangements. The competent authority of the home Member State shall communicate, within one month, that information to the competent authority of the Member State in which the MTF or the OTF intends to provide such arrangements".

Empowerment/RTS

Under Article 34(8) of MiFID II, ESMA has to develop regulatory technical standards to specify "the information to be notified in accordance with the information to be notified in accordance with paragraphs 2, 4, 5 and 7".

The incremental rule relates to the content and details of the information to be provided by an investment firm to the competent authority under the freedom to provide investment services and activities compared d to the status quo, i.e. the current state of play (including the MiFID/MiFID II requirements set out above).

The draft RTS (and ITSs) are based significantly on the existing CESR work on the passport under MiFID, which includes a Recommendation "Protocol on MiFID Passport Notifications"[7], a Consultation Paper[8], and a feedback statement[9]. As there are no fundamental changes made to the substance of the document, it is not expected that the proposed draft RTS would be a source of significant incremental obligation and thereby of significant cost. In addition, it should be noted that, in some instances, such as the provision of information on an OTF, it is difficult to disentangle the effects of the Level 1 text and of the Level 2 measure. Any indication of cost is therefore to be taken as an upper bound.

Information to be notified to the home competent authority under the right of establishment – Draft RTS under Article 35(11) of MiFID II

From a legal perspective, the legislation to consider is Article 32(2) of MiFID, as supplemented by Articles 35(2)(c) and (d) and 35(7) of MiFID II.

Article 32(2) of MiFID provides that "an investment firm wishing to establish a branch within the territory of another Member State must first notify the competent authority of its home Member State and provide it with the following information : (...)
(b) a programme of operations setting out inter alia the investment services and/or activities as well as the ancillary services to be offered and the organisational structure of the branch and indicating whether the branch intends to use tied agents (…).
In cases where an investment firm uses a tied agent established in a Member State outside its home Member State, such tied agent shall be assimilated to the branch and shall be subject to the provisions of this Directive relating to branches".

Article 35(2) of MiFID II mirrors Article 32(2) of MiFID but is more specific about the use of tied agents. If the branch intends to use a tied agent, the identity of the tied agent must be provided. In addition, where tied agents are to be used in a Member State in which an investment firm has not established a branch, a description of the intended use of the tied agent(s) and an organisational structure, including reporting lines, indicating how the agent(s) fit into the corporate structure of the investment firm must be provided. Finally, under Article 35(7), credit institutions are required as well to notify the competent authority of their home Member State of their wish to used tied agent established in a Member State outside its home Member State.

Empowerment/RTS

Under Article 35(11) of MiFID II, ESMA has to develop regulatory technical standards to specify "the information to be notified in accordance with paragraphs 2, 4, 7, and 10".

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[7] CESR/07-337b
[8] CESR/06-669
[9] CESR/07-318

The incremental rule relates to the content and details of the information to be provided to the competent authority by an investment firm wishing to make use of the right of establishment arising from the proposed RTS, compared to the status quo, i.e. the current state of play (including the MiFID/MiFID II requirements set out above).

The draft RTS (and ITSs) are based significantly on the existing CESR work on the passport under MiFID, which includes a Recommendation "Protocol on MiFID Passport Notifications"[10], a Consultation Paper[11], and a feedback statement[12]. As there are no fundamental changes made to the substance of the document, it is not expected that the draft RTS would be a source of significant incremental obligation and thereby of significant cost. In addition, it should be noted that, in some instances, such as the provision of information on an Organised Trading Facility (OTF), it is difficult to disentangle the effects of the Level 1 text and of the Level 2 measure. Any indication of cost is therefore to be taken as an upper bound.

4. Stakeholders

Investment firms wishing to make use of the freedom to provide investment services and activities or of the right of establishment: those investment firms will have to adjust to the new format of the information to be provided and to provide the additional information requested, including in relation to tied agents and the operation of a Multilateral Trading Facility (MTF) or an OTF where applicable.

Market operators operating an MTF and/or an OTF: such market operators will have to comply with the harmonised and standardised information to be provided on arrangements to facilitate access.

National competent authorities: NCAs will have to adapt to the standardised format and review more information upon notification by an investment firm.

5. Technical Options

Technical Option 1: List of information to be notified in an investment firm passport notification and changes thereof.

Policy Objective	Providing certainty, clarity and predictability in the passport notification process and facilitating review by competent authorities.
Technical Proposal 1	The information to be notified in an investment firm passport notification includes: i. name, address and contact details of the investment firm (or credit institution);

[10] CESR/07-337b
[11] CESR/06-669
[12] CESR/07-318

	ii. investment services/activities/ancillary services to be provided in the host Member State and the respective financial instruments; iii. name, address and contact details of tied agent, where applicable. The information to be notified on the change of investment services and activities particulars notification must include all applicable details of any change. The withdrawal or cancellation of the authorisation of an investment firm is considered to be a change in the particulars notification. Those provisions apply to credit institutions wishing to use tied agents under the right of freedom to provide investment services and activities.

Technical Option 2: Arrangements facilitating access.

Policy Objective	Providing certainty, clarity and predictability in the passport notification process and facilitating review by competent authorities
Technical Proposal 2	The information to be notified for the provision of arrangements to facilitate access to an MTF or an OTF includes : i. name, address, contact details of a specified contact person, ii. short description of the arrangement to be put in place and date of effectiveness, iii. short description of the business model of the MTF or the OTF (type of financial instruments traded, type of participants, marketing approach to target remote uses.

Technical Option 3: List of information to be notified in a branch notification or in a tied agent passport notification process under the right of establishment and changes thereof.

Policy Objective	Providing certainty, clarity and predictability in the passport notification process and facilitating review by competent authorities.
Technical Proposal 3	The information to be notified in a branch passport notification or in a tied agent passport notification under the right of establishment includes the name, address, contact details of the investment firm in the home Member Stated of the branch in the host Member State and a programme of operations. The programme of operations includes; i. The list of investment services, activities, ancillary services and financial instruments to be provided,

	ii. A high level strategy, explaining how the branch or the tied agent will contribute to the firm's or group's strategy iii. A description of the type of the clients or counterparties the branch or tied agent will be dealing with and of the making approach, iv. A high-level summary of organizational structure of the branch and tied agent and reporting lines to the investment firm (including identity, address and contact details of each tied agent here applicable), v. Details of any outsourcing arrangements critical to the operations of the branch or the tied agent, vi. Details of individuals performing key functions with the branch or the tied agent, vii. Summary details of the systems and controls that will be put in place, viii. Forecast statements for both profit and loss and cash flow, over an initial thirty six month period, The information to be notified on the change of investment services and activities particulars notification must include all applicable details of any change. Changes to the passport notification concerning the termination of the operation of the branch, or the cessation of the use of a tied agent must include: i. the name of the person(s) who will be responsible for the process of terminating the operation of the branch or the tied agent; ii. the schedule of the planned termination; and iii. the details and processes of how it is proposed to wind down the business operations.

6. Cost/benefit impact assessment

Technical Option 1: List of information to be notified in an investment firm passport notification and changes thereof.

	Qualitative description
Benefits	• An improved identification of tied agents and their activities will allow for better supervision, in the interest of clients • Considering withdrawal or cancellation of authorisation as a change in the particulars notification will allow the host competent authority to be informed s of such decision

Costs to regulator	One-off costs: • NCAs will have to amend application rules/guidelines to reflect additional information on tied agents and process the information. On-going costs • Processing of updated information and data storage costs for additional information on tied agents.
Compliance costs	One-off costs: • Investment firms (and credit institution where relevant) will have to provide additional information on tied agents On-going costs • Update of the information provided and data storage costs.
Costs to other stakeholders	None
Indirect costs	None

Technical Option 2: Arrangements facilitating access.

	Qualitative description
Benefits	• A harmonised list of information will provide certainty, clarity and predictability to operators of OTFs with regards to the notification of arrangements facilitating access, as well as level playing field across the EU.
Costs to regulator	One-off costs: • NCAs may need to amend passport notification rules/guidelines to reflect information on OTF arrangements • NCAs may incur staff and IT costs to process the additional information provided. On-going costs • Processing of updated information and data storage costs
Compliance costs	One-off costs: • Operators of OTFs will incur some staff costs, and possibly outsourced fees, to provide the information requested on arrangements facilitating access

	However, those costs can be considered as attributable to the Level 1 text mostly.
Costs to other stakeholders	None
Indirect costs	None

Technical Option 3: List of information to be notified in a branch notification or in a tied agent passport notification process under the right of establishment and changes thereof.

	Qualitative description
Benefits	• A harmonised list will provide certainty, clarity and predictability to investment firms (including credit institution where relevant) with regard to the passport notification process. • A harmonised and standardised list will also benefit competent authorities as it will likely reduce inquiries by applicants and facilitate guidance. • A standardised set of information will facilitate review and processing of documents, as well as exercise of responsibilities by the host competent authority, who may be less familiar than the home competent authority with the investment firm making use of the right of establishment. • Additional information on the tied agent will allow for better supervision, to the benefit of clients. • The information to be notified concerning the termination of a branch or the cessation of the use of a tied agent will allow for better monitoring of clients' interests by competent authorities.
Costs to regulator	One-off costs: • NCAs may have to amend application rules/guidelines to reflect revised standardised list of information; • NCAs may incur additional staff costs to process the additional information provided. On-going costs • Processing of updated information and data storage costs.
Compliance costs	One-off costs: • Investment firms, including credit institution where relevant, may incur some staff costs, IT costs and possibly outsourced fees to meet the revised harmonised list.

	On-going costs • Costs will be incurred for notification of applicable details of any change in the particulars notifications.
Costs to other stakeholders	None
Indirect costs	None

Draft Implementing Technical Standards under Articles 34(9) and 35(12) of MiFID II

As empowered by Articles 34(9) and 35(12) of MiFID II 7(5), ESMA has developed draft Implementing Technical Standards (ITSs) is to determine standard forms, templates and procedures for the transmission of information required when investment firms wish to provide investment services and perform activities to another Member State under the right of freedom to provide investment services and activities or under the right of establishment.

Those draft ITSs are based on the existing standards and forms contained in the CESR Protocol on MiFID Notifications and are therefore not expected, at this stage, to be a source of significant additional costs for stakeholders, i.e. national competent authorities and investments firms.

Standards procedures covering the language and means of communication of passport notifications which can be used by the investment firms and the competent authorities of home and host Member States will facilitate the exercise of the provision of investment services and activities across Member States. They will also contribute to the efficiency of the performance of the respective tasks and responsibilities of the competent authorities.

2.3. Provision of services and performance of activities by third-country firms following an equivalence decision (general provisions)

2.4. Information relating to execution of orders to be published

Best Execution (Article 27(10) of MiFID II)

1. **Executive Summary**

The fiduciary obligation of a firm to provide its client with the best execution possible has become increasingly complex as trading has become more automated. While the concept of is straightforward, the process of providing best execution is now based on increased use quantitative data, greater transparency of order flow behaviour and measurement of benchmarks to verify the execution selection process taken. Best execution is now an important commercial consideration for firms receiving assets from end investors as well as a focus for regulators. The data required to understand implicit and explicit costs of trading is an essential metric for investment firms to monitor performance from venues, for the buy side to monitor sell side, and ultimately for the end investor to ensure they are receiving the execution quality required.

Pursuant to Article 10(1) of the Regulation establishing ESMA[13], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

Under Article 27(10) ESMA is required to develop draft regulatory technical standards to determine the specific content, the format and periodicity of data relating to the quality of execution to be published, taking into account the type of execution venue and the type of financial instrument; as well as the content and the format of information to be published by investment firms. The purpose of the proposed draft RTS is to improve the content, format and periodicity of data related to the quality of execution to be published by venues and investment firms. Providing investment firms with minimum statistics on execution quality will facilitate their ability to determine the best way to execute client orders.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against the MiFID II/MiFIR Level 1 baseline.

This document has five sections. The introduction sets out the background for the RTS, which aims at further facilitating and enhancing best execution. The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which can be either the MiFID requirement, or the level of disaggregation offered by the execution venue where it exceeds the current MiFID requirements.

Increased transparency of the execution process will affect investment firms as well as end investors. As such the stakeholders identified are trading venues, market makers, systematic internalisers or other liquidity providers collectively described as execution venues investment firms and end investors.

After a summary description of the different levels of data disaggregation proposed in the RTS, with possible exemptions in certain circumstances, an interim qualitative analysis

[13] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

No current Level 2 rules are set at European level to define the specific content and format of the data to be published regarding the quality of execution. Therefore, the legal baseline for the purposes of this CBA is MiFID II Level 1.

In this interim CBA we review the technical options proposed by ESMA and their objectives defined in the following areas: the specific content, format and periodicity of data relating to the quality of execution to be published on financial instruments subject to the trading obligation in Articles 23 and 28, taking in to account the type of financial instrument concerned and the type of execution venue. This will also include the publication of an investment firms top five execution venues and information relating to the quality of execution. For the final CBA we will expand the initial research conducted to establish the level of adoption that has already occurred across the European Union.

2. Introduction

The Best Execution requirement in MiFID aimed at providing market participants greater awareness and ability to challenge that their orders have been executed in line with the relevant execution policies. While competition between execution venues has indeed intensified across Europe after the implementation of MiFID, recent supervisory experience by Member States indicates that the quality of monitoring execution quality is not consistently good.

MiFID II Level 1 requires that venues publish periodic reports that include details about price, cost, speed and likelihood of execution for individual financial instruments. In practice information on execution performance often remains generic and inadequate. The level of awareness regarding best execution is not high and, as a result there is little challenge by participants as to how firms ensure best execution, particularly when considering non-equity instruments and OTC activity.

To address these issues, MiFID II introduces a series of provisions aiming at improving the best execution quality for end-investors. Increasing transparency in this crucial area is fully consistent with the overall objectives of MiFID II. However it is necessary to strike a balance between granularity of data and a level of aggregation that will facilitate meaningful comparisons to be made given the range of different client needs and intentions. Therefore it is important to ensure the implementation costs of this obligation are proportionate to the potential benefit for all clients from investment firms to asset managers and end-investors.

Costs in setting up the technology required to provide and receive the data necessary to deliver best execution are not insignificant, however while there are standard hardware costs and data pricing feeds requirements, the cost to industry will clearly depend on a firm's individual starting point. The increased role of third party vendors are providing more cost effective out of the box solutions to provide technology to a wider range of market participants at differing price points independently. The introduction of overall standardisations will also lower implementation costs.

The measures proposed will impose moderate compliance costs to some venues and firms however the benefits in providing best execution are significant to all end investors. In addition advances have already been made in the provision of equities data on best execution which are being translated to other asset classes such as FX TCA, which will lower costs to entry. Ultimately the cost/impact ratio will depend on the final details of the implementation to be defined by ESMA.

3. Baseline

The concept of best execution was introduced in MiFID Level 1 and expanded in MiFID Implementing Directive. However the obligation remained on investment firms taking “all reasonable steps” to achieve the best result for their clients. Quality of execution was deemed an important factor in achieving best execution. Although the availability, comparability and consolidation of data related to execution quality provided by execution venues was cited as crucial in enabling investment firms to identify venues that provided best execution, the provision of data was not mandated[14].

MiFID II does not set out major changes to the principles of best execution requirements but rather provides additional clarification regarding the data to be provided in order to increase efficiency of best execution assessment.

Under Article 27(3) Member States require each trading venue and systematic internaliser or execution venue to make available to the public data relating to the quality of execution on at least an annual basis without any charge. These periodic reports shall include details about price, costs, speed and likelihood of execution. Member States shall also require investments firms who execute client orders to summarise and make public on an annual basis the top five execution venues in terms of trading volumes where they executed client orders in the preceding year and information on the quality of execution obtained.

As such ESMA is required to develop technical standards on the “specific content, the format and the periodicity of data relating to the quality of execution to be published” by execution venues and the “content and the format of information to be published by investment firms”. Increased efficiency of best execution assessment through the provision of harmonised data will not only improve investor protection through greater transparency on the quality of executions, but will also enable the relevant competent authorities to provide more effective supervisions and improve market surveillance.

The legal baseline for the purposes of this CBA is MiFID II Level 1. However whenever market practices are above what is being required by MiFID II/MiFIR, current market practices will be taken into consideration to assess costs and benefits. In practice it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an

[14] Official Journal of the European Union L241/33 (2006)

impact assessment[15] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

Current practices

In general market participants who are operating in multiple regulated markets are already providing data on execution quality. However, this is not provided in a homogeneous and standardised format making it hard, if not impossible, for users of execution venues or firms clients to distinguish between the providers and the level of best execution available to them. In addition the quality and depth of available information differs according to both the instrument traded as well as the method of execution used.

Developments in the provision of data from automated equity trading have already illustrated the benefits of providing readily available data at more granular level: homogeneous data helps analyse effectiveness of trading strategies and influences the choice of which venues to route orders to. One example would be the recent move to the industry use of specified Fix protocol “tags” which provide clearer transparency on the venue and method of order execution used (Tag 29, Tag 30 and Tag 851). The increased granularity of the data provided has enabled the buy side to establish where their orders are routed, where the order was executed and more importantly whether the transaction either provided or took liquidity. This increase in post trade transparency is now being used in specific circumstances for buy side firms to specify the destination venue ahead of trading as well as the execution method required[16]. The increased ownership of execution by the buy side and greater transparency by the sell side has increased education on the importance of execution within the investment process as well as improve the quality of execution for end investors.

Equities

Previous MiFID Best Execution policies were often merely a replication of the text citing the requirement for price, costs, speed, likelihood of execution and settlement, size. However as the underlying equity market structure has evolved, the demand for demonstration of best execution has been driving a quiet revolution which is already delivering greater transparency for the end investor.

As larger brokers find their balance sheets constrained, capital commitment has reduced, and large institutional orders are less likely to be offered risk prices for their full size. This has created a further incentive to self-direct order flow rather than take a partial risk price which would require waiting until the broker has been able to unwind their position and incur slippage costs. 96% of European institutional participants anticipated a continuation or increase in their use of algorithms for equity trading in 2014 compared to just 16% in 2005[17].

[15] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf
[16] TABB Group: A Question of Clarity (2013)
[17] TABB Group: European Equity Trading 2014 Part II- Low Touch Domination Takes Off (2014)

With more firms executing via algorithms it is harder for natural blocks to emerge as a preference remains to “slice and dice” in order to avoid market impact.

Although European equity activity returned in 2014, overall volumes are still half since the peak in 2007. Europe already struggles with vastly disparate liquidity profiles given the country specific nature of equity trading as well as higher market data costs relative to the US. This overall declining liquidity means fund performance is ever more reliant on alpha retention and cost controls.

Orders can now be executed by algorithms over a series of hours, days, even weeks, which can exacerbate short term liquidity issues. This in turn creates additional challenges; while actively managing small and mid-caps strategies may incur greater costs, outperformance in large-cap companies is harder to achieve as stocks tend to be more efficiently priced and entry or exit can be problematic if your order size represents several days’ volume. The investment process now requires a complex balance between long, mid and short term alpha horizons in order to optimise the execution process in this environment of declining liquidity to demonstrate best execution has been achieved.

Rather than focus exclusively on the explicit costs of trading, firms are increasingly reviewing their implicit costs in terms of market impact to ensure they meet best execution obligations for their end clients, requiring asset managers to understand not only where orders are executed but the impact of executing on individual venues and at different times.

In addition, recent developments in FIX Protocol standardisation through the introduction of Tags 29 (Broker Identifier), Tag 30 (Venue Indicator) and Tag 851 (Liquidity Indicator – whether the execution provided or took liquidity) has enabled institutional asset managers to actively monitor broker performance, as well as their own performance in delivering best execution for end investors. Pre-trade monitoring enables firms to select the right execution venues and post-trade monitoring facilitates performance evaluation and demonstration of best execution to end investors. As monitoring improves and is delivered real-time, order execution can be tweaked and adapted in real-time to ensure best execution.

However the majority of buy side participants are still far from receiving all the actionable data required to effectively deliver best execution on a real-time basis. Not all sell side brokers provide full details and not all buy side firms have the capability to receive the data. There is a risk that the increase in technology will impact smaller institutional and retail firms that lack the capabilities to hold their brokers to account or access all trading venues. However as larger asset managers have used their might to demand change in broker practice, this practice is slowly becoming more mainstream across the industry.

Clients’ ability to shop around for quotes in equity like products can be limited as firms cannot maintain multiple accounts with different providers. High levels of sophistication are required for clients to monitor firms pricing in markets where price transparency is low. Even when price transparency is available, clients are obliged to close out contracts with the originating firm that sold them even if there is a better price elsewhere. According to the FCA’s Thematic

Review at least “half of all trades are effectively “captive” due to the lack of client choice over where to execute when closing their positions”[18]

Non-Equities

Unsurprisingly best execution monitoring in other asset classes has yet to develop to the same extent as equities. The challenge for firms is how to efficiently demonstrate best execution in fixed income trading. A major difference between European markets and those of other jurisdictions such as the US, is that best execution is broader than “best price”. Firms will typically determine the relative importance of the best execution criteria for non-equity instruments by using commercial judgment and experience in light of the market information available to them at the time of execution. Price and liquidity are driving factors but other considerations have to be considered – the quality of credit, ideas, and costs including accrued interest: best price may not offer the best result of a client if it also comes with high costs, the ‘total consideration’. Whereas if the transaction takes place on-exchange or via an MTF, price and time will be the primary factors in considering best execution.

The recent thematic review by the FCA following on from the CESR report on best execution highlights that many firms still rely on the assumption that clients will switch to a competitor if they were not satisfied that best execution was delivered, rather than the firms explicit obligation to take all reasonable steps to obtain the best possible result for end clients[19]. The key concept in quote-driven markets is whether the firm is acting on behalf of the client when executing an order, or whether the client can legitimately rely on the firm to protect their interests.

For example when selecting the best quote from an RFQ model, most brokers normally assume that professional clients are performing their own due diligence and ‘shopping around’ unless notified to the contrary. Any clients exercising their discretion to make their own trading decisions fall into the ‘specific request/instruction’ category and therefore exempt from the provision of best execution.

This is in contrast to instructions such as ‘at market’, ‘at best’, ‘limit price’, ‘working order’ which are interpreted as acting ‘on behalf of clients’ and treated as best execution orders.

Information concerning the order flow process has improved and audit trails of all channel contacts with clients and dealers is now, in the main, fairly standard market practice for ulge-bracket firms, including telephone, intranet and instant messaging channels, and time-stamping for receipt of orders/transmissions between sales and trading desks.

Structured products are not treated as conventional “products” as there is little or no due to the bespoke nature of the transaction. For transactions involving customised OTC financial instruments that involve a unique contractual relationship, brokers typically take the position that terms are negotiated directly between the broker and the client. The client is not able to rely on the dealer to protect his/her interests in relation to the pricing or product

[18] FCA Thematic Review 14/13 (July 2014)
[19] FCA Thematic Review 14/13 (July 2014)

characteristics as it would not be legitimate to expect to the broker to share its intellectual property in structuring the product with any of its competitors by going out to another broker when obtaining another 'quote'.

As there will be no market consensus on the value of the product other than the price negotiated at the time of a trade and the firm's own pricing assessment may legitimately be quite different from someone else's, the conventional duty of best execution harder to establish.

Buy side firms have started to address best execution issues in fixed income through the creation of quasi order books, pricing bespoke OTC transactions through the re-creation of publically available pricing data (streaming prices) – best bid and offer, depth, valuations and range on the day to demonstrate that best execution has been achieved.

4. Stakeholders

According to Article 27(10) of MiFID II, ESMA has received the legal empowerment to set technical standards for the specific content, format and periodicity of data relating to the quality of execution, taking into account the type of execution venue and financial instrument concerned; and the content and the format of information to be published by investment firms.

As such the following entities could be affected by these Level 2 requirements:

- Trading venues - Regulated Market (RM) or a Multilateral Trading Facility (MTF); organised trading facility (OTF)
- Systematic internalisers
- Market Makers
- MiFID investment firms

The best execution obligation is split into two areas, venues and investment firms, taking into account price, costs, speed, likelihood of execution and settlement, size, nature or any other consideration relevant to the execution of the order. As standardised reporting is required from all venues, market makers are included who directly execute with clients (or their agents) rather than using a trading venue central limit order book. Trades executed OTC via voice/dealer will be impacted to a greater degree given the difficulty in demonstrating best execution.

As such the content of reporting will vary according to different factors – market mechanisms, trading mode and transaction type. Speed of execution will also be included under Article 4 and Article 5, of the RTS required under Article 27(10)(a) of MiFID II for order driven execution venues and for quote driven execution venues respectively.

Order driven execution venues permit the publication of additional measures of potential execution quality incorporating pre and post trade data to support supplementary execution quality metrics a greater level of data provision will be required. This will facilitate the measurement of metrics such as average effective and realised spreads, best bids and offers, depth weighted spreads, book depths or order to trade ratios. Likelihood of execution shall also be assessed with data on transaction volumes and values, average trade sizes, volume of order cancellations and the number of failed trades when relevant.

For investment firms, there are two groups of stakeholders to be considered: sell side firms who need to establish data from the trading venues they use as well as provide this information to their end clients, and buy side firms. Currently larger asset managers have preferential access to increased granularity surrounding best execution data as they have technology in place to monitor broker behaviour and, in some cases, alert brokers as to potential (unintentional) malpractice. Smaller investment firms and retail investors may potentially benefit most from a more granular level of execution data as they are less likely to have sufficient resources to invest in internal systems and procedures.

5. Technical Options

According to Article 27(10) of MiFID II, ESMA is required to develop Level 2 technical standards on the specific content, format and periodicity of data to be provided by trading venues and investment firms. ESMA proposes technical options in the following areas:

Article 27(10)(a)

- Content of information to be published – including type of execution venue and type of financial instrument concerned;
- Format of data provision;
- Periodicity of data provision;

Article 27(10)(b)

- Content of reports to be published by investment firms;
- Periodicity of reports;
- Standardisation of format – including timing;
- Harmonisation of data;
- Data Granularity.

Technical Option 1: Content of Information to be published by all execution venues

MiFID II Level 1 requires that venues should provide data relating to the quality of the execution and that this should be made available to the public without any charges on at least an annual basis. ESMA propose that data provided by venues should provide a minimum of specific reporting details using a minimum of execution quality metrics outlined in the draft RTS.

The content of reporting should vary according to the market mechanism (way the order is executed) the trading mode (continuous trading, auction or otherwise) and the transaction type, in order to avoid inappropriate comparisons between different types of financial instrument, market mechanism or reporting periods. Reports should be published in a standardised format using standard taxonomy (including timing) to facilitate comparisons between the venues, based on consistent data and calculation methodologies. This taxonomy should be harmonized with pre and post trade transparency and transaction reporting as per Regulation (EU) No 600/2014.

The data provided should be appropriate for investment firms already using the venue and for those considering doing so, requiring a balance between prescriptive data obligations/benchmarks and those which facilitate individual analysis.

Policy Objective	Greater uniformity of data to provide investment firms with minimum statistics on execution quality. This will help firms to deliver best execution for their clients, ensuring a high standard of wholesale conduct and improved stability and resilience within financial markets
Proposal 1	The information to be published shall include for each execution venue the following information: (a) the name, identifier and country of location of the venue; (b) the date for which the information relates, ISO 8601 date format. UTC time shall be used; (c) the nature and duration of any outage or trading suspension or scheduled auctions on that day; (d) the duration of trading interruptions as the result of any volatility auction or circuit breaker which occurred in relation to any instrument on that day.
Proposal 2	The information to be published shall include for each financial instrument available to trade on each execution venue the following information relevant to the each financial instrument: (a) name and financial instrument identifier; (b) where (a) is unavailable the instrument identification type and classification ; (c) name and ultimate underlying instrument identifier; (d) ultimate underlying instrument identification type and classification when applicable; (e) price multiplier (number of units of the underlying instrument represented by a single derivative contract); (f) put/Call identifier; (g) strike price; (h) option style (exercise); (i) maturity date; (j) early termination date;

	(k) delivery type; (l) currency 1 (ISO 4217); (m) currency 2 (currency in which the reference price of the ultimate underlying is expressed); (n) price notation (indication as to whether the price is expressed in monetary value, in percentage or in yield); (o) quantity notation whether the quantity is expressed in number of units or in nominal value; (p) classification of equity, where applicable, as defined in Article 4 of the regulatory technical standards under Article 27(10)(b) of MiFID II.
Proposal 3	The information to be published shall include for each financial instrument available to trade on each execution venue the following information relevant to the likelihood of execution, when applicable: (a) the number of orders or requests for quotes, both in terms of volume and value, that were received on that day; (b) the number of transactions, both in terms of volume and value, that were executed on that day; (c) the number of orders or accepted/released quotes, both in terms of volume and value, that were cancelled on that day; (d) the number of orders, both in terms of volume and value, that were modified on that day; (e) the mean and median transaction size on that day; (f) the mean and median transaction price on that day; (g) volume weighted average price on that day; (h) market makers shall also indicate the daily total value of exchange-traded product units created and redeemed at their request.
Proposal 4	The information to be published shall include for each financial instrument available to trade on each execution venue the following information relevant to the execution price: (a) the price excluding commission and where relevant accrued interest executed for a purchase immediately after each of 9.00.00, 11.00.00, 13.00.00 and 15.00.00 UTC each day for order sizes in the ranges set out in Article 6 for each financial instrument; (b) the price excluding commission and where relevant accrued interest executed for a sale immediately after each of the

	reference times in (a) for order sizes in the ranges set out in Article 6 for each financial instrument; (c) the execution time for each executed transaction referred to in (a) and (b); (d) the transaction size for each executed transaction referred to in (a) and (b); (e) whether the order was a market or a limit order for each executed transaction referred to in (a) and (b); (f) the time the order was received or quote released by the execution venue for each executed transaction referred to in (a) and (b); (g) the time elapsed (to the mili-second) between a market order being received by the execution venue and the subsequent execution for an order driven execution venue for each executed transaction referred to in (a) and (b); (h) the time elapsed between the acceptance/release of a quote and the subsequent execution when applicable for a quote driven execution venue for each executed transaction referred to in (a) and (b); (i) the market mechanism and, where applicable, the trading mode under which the transactions were executed; (j) the trading system under which the transactions were executed; (k) the transaction type; (l) the benchmark price applicable for each executed transaction referred to in (a) and (b).
Proposal 5	The information to be published shall include for each financial instrument available to trade on each execution venue the following information for the reporting period relevant to the execution costs: a) a description of each component of the costs imposed by the execution venue; b) the total value of any costs; c) the total value of any rebate, discounts or other payment offered to the parties; d) the existence of any non-monetary benefit received by the execution venue in connection with the order.

In addition to the standard information required, order driven execution venues shall submit the following additional information for each executed transaction as reported in Article 3(4)(a) and (b) at the reference times as specified in Article 3(4)(a):

Proposal 6	(a) the best bid and offer price (BBO) and corresponding volumes; (b) depth weighted spread at the top end of each range specified in Article 6; (c) book depth, representing the total available liquidity, expressed as the product of price and volume of all bids and offers during a 30 second period after the reporting time that are within 50 basis points of the mid-point of the best bid and offer.
Proposal 7	For each financial instrument available to trade on each order driven execution venue in for each trading day: (a) average effective spread; (b) average realised spread; (c) volume-weighted average effective spread; (d) volume weighted average realised spread; (e) time weighted average price (TWAP); (f) average volume at BBO; (g) average spread at BBO; (h) book depth at 3 ticks, representing the total available liquidity, expressed as the product of price and volume of all bids and offers for 3 price increments (ticks) for each financial instrument from the BBO; (i) book depth at 5 ticks, representing the total available liquidity, expressed as the product of price and volume of all bids and offers for 3 price increments (ticks) for each financial instrument from the BBO; (j) previous day closing price; (k) opening price; (l) highest executed price of the day; (m) lowest executed price of the day; (n) last price before closing; (o) the mean and median time elapsed (to the mili-second) between a market order being received, by the execution venue and the subsequent execution;

	(p) average speed of execution for unmodified passive orders at first limit.

In addition to the standard information required, quote driven execution venues shall submit the following additional information for each executed transaction as reported in Article 3(4)(a) and (b) at the reference times as specified in Article 3(4)(a):

Proposal 8	When applicable, the time elapsed between a request for quote and provision of that quote.
Proposal 9	For each financial instrument available to trade on each quote driven execution venue for each trading day: a. the mean and median time elapsed between acceptance/release of a quote and execution, for all transactions in a given financial instrument; and The mean and median time elapsed between a request for a quote and provision of that quote, for all quotes in a given financial instrument when applicable

In order to compare the quality of executions of different sized orders, execution venues will be required to categorise their reporting by financial instrument in a series of ranges. The thresholds for these ranges will be determined for each class of financial instruments to ensure that the reports are representative in that class of financial instrument and offer sufficient granularity to capture liquid and less liquid instruments as well as differentiate between different types of securities within a particular asset class.

Proposal 10	Execution venues shall categorise their reporting by financial instrument.
Proposal 11	Derivatives based on existing MiFID cash financial instruments such as shares or bonds shall be assessed in term of the ultimate underlying notional amount.
Proposal 12	Execution venues shall report the execution of purchases and sales specified in Article 3 (4)(a) and (b) in below specified ranges. (a) For shares and depositary receipts, options, futures and any other derivatives contracts relating to shares or depositary receipts i. Range 1: Greater than zero and less than or equal to Standard Market Size, ii. Range 2: Greater than Standard Market Size and less than or equal to LIS, and iii. Range 3: Greater than LIS.

	(b) For ETF's i. Range 1: Greater than zero and less than or equal to Standard Market Size, ii. Range 2: Greater than Standard Market Size and less than or equal to LIS, and iii. Range 3: Greater than LIS. (c) For certificates i. Range 1: Greater than zero and less than or equal to Standard Market Size, ii. Range 2: Greater than Standard Market Size and less than or equal to LIS, and iii. Range 3: Greater than LIS. (d) For debt securities, options, futures, swaps, forward rate agreements and any other derivative contracts relating to debt securities trading size: i. range 1 is greater than €0 and less than or equal to €1M, ii. range 2 is greater than €1M and less than or equal to €5M, iii. range 3 is greater than €5M and less than or equal to €10M, iv. range 4 is greater than €10M and less than or equal to €25M, v. range 5 is greater than €25M and less than or equal to €50M, vi. range 6 is greater than €50 and less than or equal to €100M, and vii. range 7 is greater than €100M. (e) For commodity derivatives i. range 1 expressed in value of the derivative instrument is greater than €0 and less than or equal to €50,000,

	ii. range 2 is greater than €50,000 and less than or equal to €500,000, and iii. range 3 is greater than €500,000, (f) For Foreign exchange derivatives i. range 1 expressed in value of the derivative instrument is greater than €0 and less than or equal to €50,000; ii. range 2 is greater than €50,000 and less than or equal to €500,000, and iii. range 3 is greater than €500,000. (g) For Money market instruments i. range 1 is greater than €0 and less than or equal to €1M; ii. range 2 is greater than €1M and less than or equal to €5M, iii. range 3 is greater than €5M and less than or equal to €10M, iv. range 4 is greater than €10M and less than or equal to €25M, v. range 5 is greater than €25M and less than or equal to €50M, vi. range 6 is greater than €50 and less than or equal to €100M, and vii. range 7 is greater than €100M

Technical Option 2: Format of publication

Reports should be published in a standardised format (including timing) based on consistent data and calculation methodologies to facilitate comparisons between execution venues. While MiFID II Level 1 requires data to be provided without any charges on at least an annual basis, the obligation to provide daily recorded data in prescribed formats on a consistent, usable and machine readable electronic format via an internet website are incremental requirements.

Policy Objective	More readily accessible data will to enable users to search, sort and analyse provided data to reinforce best execution selection
Proposal 1	Data shall be recorded for each trading day that the execution venue is open for trading in prescribed table formats.
Proposal 2	Reporting should be made in a consistent, usable and machine-readable electronic format via an internet website that is free and readily accessible to the public.

Technical Option 3: Periodicity of publication

Although MiFID II specifies that venues will be required to report on execution quality data on at least an annual basis, ESMA were required to determine whether more frequent publication is necessary and have proposed quarterly publication. Establishing the processes required for publishing execution quality data will involve an initial implementation cost, and increased frequency of publication will also increase the marginal cost faced by venues.

Data should be capable of aggregation on a monthly basis, to be published quarterly to facilitate analysis of best execution.

Policy Objective	More frequent data publication to improve the relevance and accuracy of standardised reporting, capturing new changes to market structure and greater data to support trend analysis.
Proposal	The reporting period shall commence on the first of each calendar month to the last day of that month for each month of the year. This data shall be published without charge within one month at each quarter end.

Technical Option 4: Content of Reports (Investment firms)

Under MiFID II Level 1, investment firms are required to summarise and make public on an annual basis, for each class of financial instruments, the top five execution venues in terms of trading volumes where they executed client orders in the preceding year and information on the quality of execution obtained.

ESMA propose draft RTS to establish the <u>specific content and format of information to be published</u> by investment firms It also includes information on the quality of execution obtained as pursuant to Article 27(3) and (6) of Directive 2014/65/EU and based on internal monitoring of execution quality pursuant to Article 27(7) 2014/65/EU.

Policy Objective	Investment firms should publish the data relating to their execution of orders to improve monitoring the effectiveness of order execution arrangements

Proposal 1	Information on aggregated executions should be published according to the following instrument classes: (1) Equities – Shares & Depositary Receipts a) ADV less than or equal to €100,000 ("Equity Category A") b) ADV greater than €100,000 and less than or equal to €50,000,000, ("Equity Category B") c) ADV greater than €50,000,000 ("Equity Category C") (2) Bonds a) Corporate Bond & Covered Bonds b) Sovereign Bond c) Convertible Bonds (3) Structured Finance Products (MBS, ABS) (4) Emission Allowances (5) Securitised derivatives (including equity rights) a) Covered Warrants b) Certificates derivatives c) Negotiated rights d) Structures MTNs e) Others (6) Interest Derivatives a) Futures & Options b) Interest swaps & Forward Rate Agreements c) Others (7) Foreign Exchanges derivatives a) Futures & Options b) Forwards & FX Swaps c) Others (8) Equity Derivatives a) Futures & Options b) Swaps & Forwards c) Portfolio swaps d) Others (9) Commodity derivatives a) Precious Metals b) Non-Precious Metals c) Energy d) Index e) Agricultural (10) Credit derivatives (11) Other derivatives a) Environmental b) Freights c) Exotic (12) Contracts for difference

	(13)Exchange traded funds (14) Money Market Instruments a) Treasury Bills b) Certificates of Deposits and Commercial papers c) Others (15) Certificates
Proposal 2	Information regarding the top five execution venues for all client orders for each class of financial instrument executed by the investment firm in each month of the year shall include the following on publication: (1) the name of the class of the financial instrument executed; (2) for the class of financial instrument, the top five execution venues by trading volume expressed as a percentage of all client orders in that class of instrument; (3) for each of the top five execution venues a. the number of orders executed on that execution venue in numbers and % of total executed orders; b. the % of passive and aggressive orders executed on that execution venue; c. the breakdown of the % of client orders between retail clients, professional clients and eligible counterparties respectively; d. the % of client orders that was directed by the client to be executed on that execution venue; e. the existence of close links; f. the existence and monthly value of any payments, discounts or rebates received from the execution venue together with a description of the nature of any non-monetary benefits; g. the monthly value of fees and charges paid to that execution venue expressed as a percentage of the firm's total costs; h. the existence and nature of any conflicts of interest ; i. whether they operate an electronic, voice or an open outcry trading platform; j. where the investment firm executes retail client orders, a link to the relevant section of official website of the execution venue containing the most recent execution quality published pursuant to Article 27(10)(a) of Directive 2014/65/EU.
Proposal 3	A summary of the analysis and conclusions drawn by the investment firm on the quality of execution obtained on the execution venues on

	which it executes client orders for each class of financial instrument as identified under Article 4 addressing the execution factors of price, cost, speed, likelihood of execution, and any other relevant factor.
Proposal 4	Additional quantitative data to be published shall include, information on: (1) for each execution venue the percentage of passive and aggressive orders executed on that execution venue; (2) for each execution venue the breakdown of the percentage of client orders between retail clients, professional clients and eligible counterparties respectively; (3) for each execution venue the percentage of client orders that was directed by the client to be executed on that execution venue; (4) for each execution venue the existence of close links as defined by Directive 2014/65/EU; (5) for each execution venue the monthly value of fees and charges paid to that execution venue expressed as a percentage of the firm's total costs as defined in this Regulation; (6) for each execution venue the existence and monthly value of any payments, discounts or rebates) received from the execution venue together with a description of the nature of any non-monetary benefits; (7) for each execution venue the existence and nature of any conflicts of interest identified and recorded by the investment firm pursuant to Article 23 of Directive 2014/65/EU; and (8) for each execution venue if they operate an electronic, voice or an open outcry trading platform.
Proposal 5	A summary of how the investment firm has used data on execution costs, including rebates, third party payments and other incentives to assess execution quality for retail clients for whom best execution is based on total consideration.
Proposal 6	A summary of how the investment firm has used the most recent publication of execution venue execution quality monitoring that will be implemented under Article 27(10)(a) of the directive 2014/65/EU.
Proposal 7	A summary of how the investment firm has used, if applicable, output of

	a consolidated tape provider established under Article 65 of Directive 2014/65/EU which will allow for the development of enhanced measures of execution quality or any other algorithms used to optimise and assess execution performances.

Technical Option 5: Standardisation of format (investment firms)

Policy Objective	Increased standardisation of information will facilitate investment firms ability to monitor the execution performance they provide end clients, and is likely to lead to an increase in independent third party verification of best execution as comparison between venues is enhanced through standardisation
Proposal	The format of information on a standard table should include the following categories against each of the five venues for each class of financial instrument: • volume of orders executed on this as percentage of total; • numbers of orders executed on this execution venue; • percentage of passive orders executed on execution venue; • percentage of aggressive orders executed on execution venue; • retail as percentage of total on execution venue; pProfessional as percentage of total on execution venue; • ECP as percentage of total on execution venue; • percentage of orders at execution venue that are directed orders; • disclosure of close links; • payments, discounts, rebates and non-monetary benefits received from execution venue; • execution costs incurred on execution venue as percentage of total executions costs incurred by the investment firm; • disclosure of conflicts of interest; • trading systems operated; • execution venue website link.

Technical Option 6: Periodicity of Reports (investment firms)

Policy Objective	Publication of data relating to the execution of orders will enable firms to address execution practices and improve clients' understanding and scrutiny over execution quality
Proposal	The information to be published by each investment firm under Article 5 and 6 should relate to client orders executed from the first day to the last day of each calendar year for the previous calendar year and the data should be aggregated for each month of the financial year. The information required under Articles 5 and 6 shall be published without

	charge within one month of the previous year end.

6. Cost/benefit impact assessment

In the previous section 4 incremental obligations from the Level 2 text have been identified. This section assesses benefits and costs of these incremental obligations, which cover the following areas; execution quality metrics; format and periodicity of data provision.

The following section will assess the impact of each individual option vis-à-vis the baseline scenario identified above. They include the list of positive and negative impacts, either direct (e.g. regulatory compliance costs/administrative burden) or indirect (e.g. widening of bid/ask spread). It also includes impacts in the EU and outside the EU, where relevant (e.g. if extraterritorial impact emerges). The text should also explain where there is uncertainty about the impact.

Please note that, at this stage, the section on costs and benefits does not include any quantitative assessment of benefits and costs, which will be part of the final report that will be published with the technical standards.

Please note costs are ranked (in size) as: "none", "low", "modest", "fair", "high".

<u>Content of Data and Standardisation (Venues)</u>

This section assesses benefits and costs of the proposed technical options for the provision of best execution in three areas for execution venues:

- Content of information to be published by all execution venues
- Standardisation of format
- Format of publication of information.

While much of what is proposed will be incremental in terms of best execution requirements, it may not be considered incremental for the individual execution venue given the proposal to use standard taxonomy as defined for the purpose of pre and post trade transparency and transaction reporting requirements under Regulation (EU) no 600/2014 and MiFIR will also reduce incremental costs in terms of this CBA.

Technical Proposal 1	Information to be published by all execution venues
	Qualitative description
Benefits	• Greater data provision and standardisation will increase clients' ability to both understand and scrutinise the quality of execution received from trading venues. • Uniformity of data will facilitate firms' ability to deliver best execution for their clients raising the standard of wholesale conduct, improving stability and resilience in financial markets. • The ability to facilitate TCA based on consistent data and

	calculation methodologies will improve education around "best execution", helping investment firms and their end clients evaluate the quality of a venue's execution practices and compliance with its execution policy. • Better understanding of the implicit and explicit costs of trading will improve overall execution and deliver better value for end investors.
Costs to regulator: - *One-off* - *On-going*	*Low cost:* both on a one-off and on-going nature to establish a monitoring function to ensure compliance by trading venues.
Compliance costs: - *One-off* - *On-going*	*Low to moderate cost:* Much of what is proposed is either already produced such as daily trading activity, or available but not yet published and provided to clients who subscribe to data packages – either third parties who repackage data or clients who choose to receive this direct. For example the requirement to publish the standardised data outlined in proposals 1 to 5 would incur low costs in the provision as this data is likely to be readily available although not yet all publically available. For non-equity venues the provision of data may also be readily available or venues may be in the process of collating this data. However execution venues will incur additional IT costs in the provision of data, both in technology and administration. These will include on-off costs to formalise procedures and further on-going costs to cover the monitoring and review and human capital costs for employees to collate and monitor the processes required. There is also the chance of loss revenues if any of this information is required to be provided as a standardised offering for free for those venues who currently package this data to sell on. This will require further analysis in the full CBA to establish the level of current best practice across the European Union versus the incremental legal obligation.
Indirect costs	In asset classes other than equities there are possible concerns that increased transparency over the execution process will lead to wider spreads and in some cases lead to an inability to offer bid offer spreads for less liquid instruments due to the impact of information leakage/the "winners curse". This requires further analysis in the full CBA together with a review of the recent growth of alternative liquidity providers (ELPs).

Technical Proposal 2	Data to be made more readily accessible to facilitate greater analysis to reinforce best execution selection.
	Qualitative description
Benefits	Improved accessibility of data may facilitate the growth of independent third party providers to provide further independent governance of best execution.
Costs to regulator: - *One-off* - *On-going*	*Low cost:* both on a one-off and on-going nature to establish a monitoring function to ensure compliance by trading venues.
Compliance costs: - *One-off* - *On-going*	*Low to moderate cost:* Execution venues will incur additional IT costs in providing standardising reporting both in technology and administration. These will include on-off costs to formalise procedures and further on-going costs to cover the monitoring and review, including costs in staffing to oversee systems. This will require further analysis in the full CBA to establish the level of current best practice across the European Union versus the incremental legal obligation.

Technical Proposal 3	Aggregation of data on a monthly basis to be published quarterly
	Qualitative description
Benefits	More frequent data publication will facilitate firms' ability to understand and scrutinise the quality of execution received from trading venues, raising the standard of wholesale conduct, improving stability and resilience in financial markets.
Costs to regulator: - *One-off* - *On-going*	*Low cost:* both on a one-off and on-going nature to establish a monitoring function to ensure compliance by trading venues.
Compliance costs: - *One-off* - *On-going*	*Low to moderate cost:* Execution venues will incur additional IT costs in the publication of data, both in technology, setting up a website or expanding current website to provide this information as standard and administration. These will include on-off costs to formalise procedures and further on-

	going costs to cover the monitoring and review including staffing. Increased frequency of publication will also increase the marginal cost faced by venues. This will require further analysis in the full CBA to establish the level of current best practice across the European Union versus the incremental legal obligation.
Indirect costs	In asset classes other than equities there are possible concerns that increased transparency over the execution process will lead to wider spreads and in some cases lead to an inability to offer bid offer spreads for less liquid instruments due to the impact of information leakage/the "winners curse". This requires further analysis in the full CBA together with a review of the recent growth of alternative liquidity providers (ELPs).

Content of Reports (investment firms)

This section assesses benefits and costs of the proposed technical options for the provision of best execution in three areas for the specific content and format of information to be published by investment firms

- content of information to be published by investment firms
- summaries of how the investment firm has assessed execution quality
- standardisation of format
- format of publication of information.

While much of what is proposed will be incremental in terms of best execution requirements, it may not be considered incremental for the investment firm in relation to current market practices.

Technical Proposal 1	Content of Execution Reports provided by Investment firms
	Qualitative description
Benefits	• Greater data provision and standardisation will increase clients' ability to both understand and scrutinise the quality of execution received from investment firms and execution venues. Order flow information will enable clients of investment firms to address own behaviours raising the standard of wholesale conduct, improving stability and resilience in financial markets. • For example the provision of number of orders cancelled is already made available by certain firms to clients enabling clients to adjust their execution practices as a result. • Improved information relating to book depth rather than just best bid and offer will establish a firmer indicator of real liquidity rather than

	available liquidity at the touch.
Costs to regulator: - *One-off* - *On-going*	*Low cost:* both on a one-off and on-going nature to establish a monitoring function to ensure compliance by investment firms
Compliance costs: - *One-off* - *On-going*	*Low to moderate cost:* Investment firms who do not currently provide this information will incur additional IT costs in the provision of data, both in technology and administration. These will include on-off costs to formalise procedures and further on-going costs to cover the monitoring and review. End clients may also need to improve technology systems in order to analyse the increased data provided. This may also require additional staff and processes; however any investment made is likely to be repaid in increased assets given the increased scrutiny of fiduciary responsibilities by fund trustees for example. Overall costs for investment firms and end clients will require further analysis in the full CBA to establish the level of current best practice across the European Union versus the incremental legal obligation.

Technical Proposal 2	Summaries of how investment firms have used data to improve execution quality monitoring including monitoring of execution costs to assess execution quality for retail clients and if applicable output of a consolidated tape provider
	Qualitative description
Benefits	• Improved availability of order execution data and order flow activity by investment firms will improve end clients ability to direct order flow where they perceive they receive enhanced best execution.
Costs to regulator: - *One-off* - *On-going*	*Low cost:* both on a one-off and on-going nature to establish a monitoring function to ensure compliance by investment firms.
Compliance costs: - *One-off* - *On-going*	*Low to moderate cost:* Investment firms will incur additional administrative costs in providing summaries. These will include on-off costs to formalise procedures and further on-going costs to cover the collation, monitoring and review of information, including costs in staffing to oversee execution monitoring. The level of current market best practice will require further analysis in the

	full CBA.

Technical Proposal 3	Data to be made more readily accessible to facilitate greater analysis to reinforce best execution selection
	Qualitative description
Benefits	• Improved standardisation of order execution will improve end clients ability to direct order flow where they perceive they receive enhanced best execution. • This may also facilitate the growth of independent third party providers to provide further independent governance of best execution.
Costs to regulator: - *One-off* - *On-going*	*Low cost:* both on a one-off and on-going nature to establish a monitoring function to ensure compliance by investment firms.
Compliance costs: - *One-off* - *On-going*	*Low to moderate cost:* Investment firms will incur additional IT costs in providing standardising reporting both in technology and administration. These will include on-off costs to formalise procedures and further on-going costs to cover the monitoring and review, including costs in staffing to oversee systems. End clients may also need to improve technology systems in order to analyse data provided. This may also require additional staff and processes; however any investment made is likely to be repaid in increased assets given the increased scrutiny of fiduciary responsibilities by fund trustees for example. The level of current market best practice will require further analysis in the full CBA.

Technical Proposal 4	Aggregation of data on a monthly basis to be published quarterly
	Qualitative description
Benefits	More frequent data publication will facilitate firms' ability to understand and scrutinise the quality of execution received from trading venues, raising the standard of wholesale conduct, improving stability and resilience in financial markets.

Costs to regulator: - *One-off* - *On-going*	*Low cost:* both on a one-off and on-going nature to establish a monitoring function to ensure compliance by trading venues.
Compliance costs: - *One-off* - *On-going*	*Low to moderate cost:* Investment firms will incur additional IT costs in the aggregation and publication of data, both in technology and administration of providing these services. These will include on-off costs to formalise procedures and further on-going costs to cover the monitoring and review including staffing. End clients may also need to improve technology systems in order to analyse increased published data. This may also require additional staff and processes; however any investment made is likely to be repaid in increased assets given the increased scrutiny of fiduciary responsibilities by fund trustees for example. This will require further analysis in the full CBA to establish the level of current best practice across the European Union versus the incremental legal obligation.

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3. Transparency

3.1. Pre-trade transparency for trading venues in respect of equity and equity like financial instruments

Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA,[20] ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

MiFID introduced transparency requirements, including pre-trade transparency requirements for regulated markets (RMs) and multilateral trading facilities (MTFs) offering trading in shares admitted to trading on a regulated market, as well as for systematic internalisers in the same financial instruments. Based on MiFID experience and considering that trading in shares traded only on MTFs, depositary receipts, ETFs, certificates and other similar financial instruments takes place in largely the same fashion, and fulfils a nearly identical economic purpose, as trading in shares admitted to trading on a regulated market, MiFIR extends pre-trade transparency provisions to the former.

The purpose of the proposed RTS is to further develop the pre-trade transparency information to be made available by trading venues and systematic internalisers in this new environment. This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against the MiFID I/MiFIR baseline. Whenever market practices are above what is being required by MiFID I/MiFIR, current market practices will be taken into consideration to assess costs and benefits. In practice, however, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment covering the general aspects of the Directive has been already performed and published by the European Commission[21], and the effects of the Level 2 provisions. In this case, this will be noted in the analysis.

This document has five sections for each RTS. The introduction sets out the background for the draft RTS. The Baseline section explains the starting point or status quo for assessing the incremental rule related to ESMA's proposals while the persons and entities potentially impacted by the draft RTS are identified in the Stakeholders section.

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[20] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

[21] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

After a description of the technical proposal or options included in the draft RTS, an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

Draft RTS under Article 4(6)(a) of MiFIR – List of pre-trade information to be made public

1. Introduction

Pre-trade transparency information refers to bid and offer prices and the depth of trading interests at those prices. In order to provide for consistency, legal certainty, clarity and predictability with regard to the authorisation process and to supervisory decisions across EU Member States, a harmonised, common list of pre-trade information to be displayed by trading venues, depending on the characteristics of the trading system, must be established. This is the purpose of the proposed RTS developed by ESMA under MiFIR Article 4(6)(a).

A list of pre-trade information to be displayed by regulated markets and MTFs offering trading in shares admitted to trading on a regulated market was already provided in Article 17 and Annex II of the MiFID Implementing Regulation. The proposed RTS considers whether any clarification or adjustment has to be made to these earlier provisions in light of the wider scope of the pre-trade transparency requirements under MiFIR.

2. Baseline

From a legal perspective, the legislation to consider is:

i. in respect of shares admitted to trading on a regulated market :

   a. Article 17 and Table 1 of Annex II of the MiFID Implementing Regulation, which provides for the range of bid and offer prices and market-maker quotes to be made public by regulated markets and MTFs in respect of shares admitted to trading on a regulated market for all trading systems except for Request for Quotes systems and Article 3(1) of MiFIR, for RFQ systems.
   b. Article 3(1) of MiFIR which extends pre-trade transparency information requirements to actionable indications of interests (IOIs).

ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments: Article 3(1) of MiFIR, which requires trading venues to make public current bid and offer prices as well as depth of trading interests available on a continuous basis during normal trading hours and specifies that such requirements apply to actionable IOIs as well.

Empowerment/RTS

Under Article 4(6)(a) of MiFIR, ESMA has to develop draft regulatory technical standards to specify (…)

"(a) the range of bid and offer prices or designated market-maker quotes, and the depth of trading interests at those prices to be made public for each class of financial instrument concerned in accordance with Article 3(1)[22], taking into account the necessary calibration for different types of trading systems, including order-book, quote-driven, hybrid and periodic auction trading systems, as referred to in Article 3(2)"

In respect of shares admitted to trading on a regulated market, the proposed RTS mirrors existing requirements for the trading systems already identified in the MiFID Implementing Regulation[23]. The incremental obligation arising from the draft RTS compared to the MiFID I/MiFIR baseline described above is twofold:

i. the draft RTS provides for the pre-trade information to be made public by RFQ systems ;

ii. the draft RTS extends the list of pre-trade information to be made public by trading venues to actionable IOIs as defined in Article 2(33) of MiFIR.

In respect of shares traded only on MTFs and equity-like instruments, the additional obligation is the precise list of pre-trade information to be made public by each trading system, including in respect of actionable IOIs compared to the MiFIR baseline described above.

Based on preliminary desk research, it appears that many trading venues already provide some pre-trade transparency for equity-like instruments and for shares traded only on MTFs on a voluntary basis. The incremental obligation here relates to the publication of the range of bid and offer prices or designated market makers quotes, and depth of trading interests by trading venues in respect of shares traded only on MTFs, ETFs, depository receipts, certificates and other similar financial instruments required by the draft RTS compared to the status quo, including the MiFID I/MiFIR requirements described above. When trading venues already provide some pre–trade information, current market practices will be taken into consideration when assessing costs.

It should be noted that, where the draft RTS creates additional obligations, the cost associated with the incremental rule will be a combination of the effects of the Level 1 text and of the draft RTS. As those effects are very difficult to disentangle, any indication of costs is to be considered as an upper bound.

3. Stakeholders

The stakeholders that will or may be affected by the scope of the pre-trade information to be made public by trading venues are:

Regulated markets and MTFs: Trading venues offering trading in shares traded only on MTFs and in equity-like instrument may incur one-off costs for amending their trading rules

[22] i.e. shares, depositary receipts, ETFs, certificates and other similar financial instruments traded on a trading venue.
[23] i.e. continuous auction order book trading systems, quote driven trading systems, periodic auction trading systems and hybrid trading systems.

as well as IT costs to adjust their systems to the characteristics of pre-trade information defined by the RTS. This will also include monitoring costs and back-up scenario in case of disruption in the dissemination of such pre-trade information.

Those trading venues could also potentially be indirectly impacted by further pre-trade transparency requirements where pre-trade transparency would lead participants to increase bid/ask spreads and/or reduce available quantity at the best bid and offer or where end-investors would turn to dark trading venues to avoid the potential market impact that their order display may trigger. To the extent there is already some pre-trade transparency for shares traded only on MTFs and for equity-like instruments (except on RFQs systems), it is not expected that the information to be made public under the RTS will have a significant impact.

On the other hand, pre-trade transparency may attract more order flow as market participants get a better sense of the price at which their orders may be executed across trading venues. It should also be noted that High Frequency Trading (HFT) firms develop trading in instruments traded on electronic platforms providing pre and post-trade transparency.

The scenario may be different for RFQs systems where, as of today, the answers provided to a request for quote are only received by the entity which submitted the request. Requiring public disclosure of the quotes may discourage market makers to answer RFQs, unless the quoting size equals or exceeds the Large In Scale (LIS) thresholds This would likely affect the attractiveness of RFQ trading systems. Should it be the case, and considering that equity-like instruments are not subject to the trading obligation, it remains to be seen if and how the RFQ order flow would be re-allocated to other trading and execution venues or directed elsewhere.

As regards the extension of pre-trade equity and equity-like transparency requirements to actionable IOIs, further research will have to be conducted for the final cost-benefit analysis to assess if IOIs currently used by some trading venues, including dark MTFs qualify as actionable IOIs. Should it be the case and should they have to be made pre-trade transparent, it is very likely that such actionable IOIs would no longer be of interest to MTF participants and would tend to disappear, potentially replaced by IOIs not meeting the actionable definition. The alternative option would be to restrict actionable IOIs to LIS actionable IOIs.

Members/participants of trading venues: When moving to a pre-trade transparent environment, market makers may potentially be incentivised to widen the bid and ask spread and/or reduce the quantity available at that price as the market, or other price makers, may move against them. While most members and participants are already used to trading or dealing in equity-like instruments with some pre-trade transparency, on RFQs systems, some price makers could withdraw from providing quotes. Requirements for pre-trade transparent actionable IOISs may also deprive MTF participants from a dark trading alternative and increase execution costs. On the other hand, where more than one market maker is making a market in a given instrument, pre-trade transparency may increase competition between market makers and lead to reduced spreads.

Portfolio/fund management companies, end-investors: Pre-trade information on a financial instrument made public by a trading venue may generate additional interest from potential buyers and sellers and thereby increase liquidity on trading venues. In particular, HFT firms are attracted by electronic trading in financial instruments with pre- and post-trade transparency. On the other hand, where pre-trade transparency would lead to a widening of spreads and/or reduced available quantity at a given price, this would be a source of additional costs for investors. Institutional investors trading in large sizes, that may also be direct MTF participants, may be concerned by the potential market impact of the public display of their orders, should they consider that the calibration of the LIS pre-trade transparency waiver does not adequately meet their concerns.

4. Technical Options

The RTS mirrors existing requirements for continuous auction order book trading systems, quote driven trading systems, periodic auction trading systems and hybrid trading systems. The table of information to be made public for shares under MiFID Implementing Regulation remains valid. In addition, the RTS sets out the pre-trade information to be made public by an additional category of trading systems, RFQ systems. An RFQ system is defined in the RTS as “A trading system where a quote or quotes are only made available to a member or participant in response to a request submitted by the member or participant. The requesting member or participant may conclude transactions by accepting the quote or quotes provided to it on request”.

As equity-like instruments are traded principally through the same trading systems as shares, it is proposed to retain the same table for pre trade information to be made public by trading venues in respect of shares traded only on MTFs and equity-like instruments.

Finally, the draft RTS extends the set of mandatory pre-trade information to actionable IOIs.

Policy Objective	Providing meaningful pre-trade information to market participants and ensuring uniform applicable conditions between trading venues.
Technical Proposal	**Continuous auction order book trading systems**: The aggregate number of orders and the shares, depository receipts, ETFs, certificates they represent at each price level, for at least the five best bid and offer price levels. **Quote-driven trading systems:** The best bid and offer by price of each market maker in that share, together with the volumes attaching to those prices. **Periodic auction trading systems:** The price at which the auction trading system would best satisfy its trading algorithm and the volume

	that would potentially be executable at that price. **Request for Quotes trading systems**: The bids and offers together with the volumes submitted by each responding entity. **Trading system not covered by first four rows (Hybrid systems)** : Adequate information as to the level of orders or quotes and of trading interest; in particular, the five best bid and offer price levels and/or two-way quotes of each market maker in the share, if the characteristics of the price discovery mechanism so permit. The transparency requirements also apply to actionable indications of interest as defined in article 2(33) of MiFIR.

5. Cost/benefit impact assessment

Technical Proposal	Bid and offer prices or quotes to be published by trading venues, including by RFQs systems, including for IOIs.
Qualitative description	
Benefits	Market participants will have increased and harmonised information on opportunities to trade in shares traded only on MTFs, and in equity-like-instruments, as well as on equity and equity-like instruments traded through RFQ systems.
Cost to regulator	NCAs will incur one-off costs to adjust authorisation requirements and procedure for trading venues offering trading in shares traded only on MTFs and in equity-like-instruments, as well as for RFQ systems for equity and equity-like instruments. Extension of pre-trade transparency obligations to actionable IOIs will also have to be taken into consideration. NCAs may incur additional costs for on-going supervision due to the extension of pre-trade requirements. Those costs are not expected to be significant.
Compliance cost	When they do not already provide the same level of pre-trade information as the one required in the RTS, trading venues will incur one-off costs, including IT costs, to adjust systems to make public requested pre-trade information in shares traded only on MTFs, and in equity-like-instruments. They will incur on-going costs for the monitoring of continuous availability of data feeds.
Cost to other stakeholders	• Data vendors will incur IT costs, and possibly management costs, to include additional pre-trade information in their data streams. • Participants/members of trading venues putting their capital at risk may face additional risks, and costs, as the market may potentially move against them. Those costs are not expected

	to be high for participants/members of trading venues that already provide some pre-trade transparency and/or where trading takes place in similar ways for equity and equity-like instruments. The RTS impact is likely to be more significant for responding entities on RFQ trading systems. • As a consequence of the potential market impact of order display, some portfolio/asset managers/investors may incur additional execution costs where they would have to split orders in smaller sizes or seek alternative ways for the execution of their orders, depending on the calibration of the LIS thresholds
Indirect costs	Market participants/investors may incur additional execution cost where pre-trade transparency would lead to higher spreads/reduced available quantity/smaller order size. Trading venues based on RFQ systems or using actionable IOIs where pre-trade transparency requirements would apply could potentially face a drop in trading activity.

Draft RTS under Article 4(6)(b) of MiFIR – Reference price

1. **Introduction**

In line with MiFID, MiFIR provides for circumstances where the obligation to make the pre-trade information described above public is waived. One of those circumstances is when the operator of the trading venue operates a system that matches orders based on a price that is derived from another trading venue, the “reference price”. There are some conditions attached to the price that may serve as a reference. The precise identification of the trading venue where the reference price can be taken from is among the few amendments made by MiFIR to pre-trade transparency waivers compared to MiFID, together with the narrowing down of the prices that can actually serve as a reference (mid- point , opening or closing prices).

2. **Baseline**

From a legal perspective, the legislation to consider is Article 4(2)(a) of MiFIR, which provides that: “The reference price referred to in paragraph 1(a) shall be established by obtaining:

(a)the midpoint within the current bid and offer prices of the trading venue where that financial instrument was first admitted to trading or the most relevant market in terms of liquidity(…)”.

Empowerment/RTS

Under Article 4(6)(b) of MiFIR, ESMA has to develop RTS to specify “the most relevant market in terms of liquidity of a financial instrument in accordance with paragraph 1(a)”.

The draft RTS proposes to use the annual value of transactions, excluding all the transactions executed under a pre-trade transparency waiver (i.e. “reference price” waiver, negotiated transactions, LIS orders) as a criteria to assess the most relevant market in terms of liquidity.

The incremental rule is theoretically the definition of “the most relevant market in terms of liquidity” provided in the RTS against the MiFIR baseline described above. However, it is debatable as to whether the definition provided in the draft RTS does actually represent an incremental rule. In any case, it is extremely difficult, here again, to disentangle the costs related to the reference to the most liquid market in the Level 1 provision and the costs related to the definition provided in the RTS. Any indication of costs for this section of the RTS is therefore to be considered as an upper bound.

3. Stakeholders

The stakeholders that will or may potentially be affected by the definition of the most relevant market in terms of liquidity for the reference price are:

Regulated markets and MTFs currently operating a trading system based on the reference price waiver may potentially be affected as the options they offer to their clients to trade without pre-trade transparency may be potentially reduced by the definition provided in the RTS. However this is not expected to be a source of significant cost as the market of first listing, which is currently used as a reference for some waivers is most often the most liquid market as well. Systems that refer to a larger number of trading venues to calculate a European Best Bid and Offer (EBBO) will likely be more affected as they will have to adopt a single reference market but this a consequence of the Level 1 provision and not of the RTS. RM and MTFs will benefit from increased clarity and predictability in the waiver process.

Trading venues will incur additional costs to provide relevant data to their competent authority each year for each equity and equity-like instrument traded on their systems.

Members/participants, portfolio/fund managers/end investors may potentially be affected as the way they can currently trade without pre-trade transparency on trading venues may be restricted by the RTS. However, as explained above, this is not expected to be a source of significant Level 2 measure costs.

National Competent Authorities (NCAs) will incur additional costs to calculate the total turnover for each equity and equity-like instruments for which they are the competent authority on an annual basis.

4. Technical Options

The most relevant market in terms of liquidity is a reference already used in MiFID (and MiFID II) for transaction reporting purposes. However, the concept of “most relevant market in terms of liquidity” serves a different purpose in the context of the pre-trade reference price waiver and focusses more on the reliability of the price. The draft RTS proposes to use the total value of transactions to assess the most relevant market in terms of liquidity, while excluding all transactions that, although considered as on-venue transactions, do not contribute to the price formation on that trading venue. The calculation would be made annually.

Policy Objective	Having a sound, informative, and reliable price as a reference price, ultimately serving market integrity purposes.
Technical Proposal	For the purpose of Article 4(1)(a) of MiFIR, the most relevant market in terms of liquidity for a share, depositary receipt, ETF, certificate or other similar financial instrument should be the trading venue with the highest turnover within the Union for that share, depositary receipt, ETF, certificate or other similar financial instrument. The calculation of the turnover shall exclude all transactions executed in accordance with one of the pre-trade transparency waivers in Article 4(1)(a) to (c)[24] of MiFIR where applicable. Competent authorities shall calculate the average daily turnover in respect of each share, depositary receipt, ETF, certificate and other similar financial instrument for which they are the competent authority. The calculation shall take into account all the transactions executed in the Union in respect of the financial instrument between 1 January and 31 December of the preceding year, or, where applicable, that part of the year during which the financial instrument was admitted to trading or traded on a trading venue and was not suspended from trading. Competent authorities shall maintain a list of the most relevant markets in terms of liquidity in respect of each financial instrument referred to in paragraph 1 and make it public not later than on the first trading day of March of each year.

5. Cost/benefit impact assessment

Determination of the most relevant market in terms of liquidity for transparency proposes (equity and equity-like instruments)

Technical Proposal	The most relevant market in terms of liquidity for a given instrument is determined by total turnover of transactions for that instrument excluding pre-trade waiver transactions, updated on an annual basis.
Qualitative description	
Benefits	The price taken from the trading venue with the highest turnover is likely to be the least sensitive to price manipulation, all the more that

[24] ("reference price" waiver, negotiated trade waiver, Large In Scale order waiver).

	the turnover only includes the transactions that actually contribute to the formation of the reference price. Increased reliability of the price serving as a reference is a benefit to users of such reference price systems and to market participants more broadly. Total turnover is an unsophisticated but simple and cost-effective proxy for the definition of liquidity for reference price purposes. Annual review of turnover caters for reallocation of trading volume across trading venues while limiting recurrent calculation costs. Publication of most liquid markets for all relevant instruments will provide more certainty and predictability as to compliance with waiver requirements.
Cost to regulator	NCAs will incur some one-off and on-going additional staff and IT costs for annual calculation of turnover. The magnitude of costs is likely to depend on the contribution and assistance provided by trading venues for the calculations.
Compliance cost	Trading venues will likely incur one-off and on-going additional IT costs for the provision of relevant data to NCAs.
Cost to other stakeholders	No Level 2 costs identified
Indirect costs	None

Draft RTS under Article 4(6)(c) of MiFIR – Negotiated transactions / members and participants' capacity

1. **Introduction**

MiFIR, building on the current MiFID, allows pre-trade transparency obligations to be waived under certain circumstances for negotiated transactions. A negotiated transaction involves one or more members or participants of a trading venue who negotiate privately the terms of a transaction which is then reported under the rules of the trading venue. A key component of the definition of a negotiated transaction is the capacity in which the member or participant may act when undertaking a negotiated transaction.

2. **Baseline**

From a legal perspective, the legislation to consider is:

i. In respect of shares admitted to trading on a regulated market, Article 19 of the MiFID Implementing Regulation, which sets out that a negotiated transaction is a transaction "(…) where that member or participant is doing so, undertakes one of the following task :

a) dealing on own account with another member or participant who acts for the account of a client;
b) dealing with another member or participant, where both are executing orders on own account;
c) acting for the account of both the buyer and seller;

d) acting for the account of the buyer, where another member or participant acts for the account of the seller; and
e) trading for own account against a client order".

ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments, Article 4(1)(b) of MiFIR which provides for the negotiated trade waiver.

Empowerment/RTS

Under Article 4(6)(c) ESMA has to develop RTS to specify "the specific characteristics of a negotiated transaction in relation to the different ways the member or participant of a trading venue can execute such a transaction".

The draft RTS proposes to retain the existing MiFID framework. There will therefore be no incremental obligation for trading venues offering trading in shares admitted to trading on a regulated market.

It may potentially represent an incremental obligation for trading venues offering trading in shares traded on MTFs only and in equity like-instruments.

Further research has to be done on the negotiated transactions that trading venues offering trading in shares traded only on MTFs and in equity-like instruments may have already put in place, and more specifically the capacity in which their members or participants may enter into such negotiated transactions. Given the similarity between trading in equity and equity-like instruments, trading venues which have already implemented some pre-trade transparency for shares traded only on MTFs and for equity-like instruments may have already implemented some form of negotiated trade waivers.

The incremental obligation under the draft RTS is the list of ways, or capacity in which members or participants may enter into negotiated transactions compared either to the definition of negotiated transactions that trading venues may have already put in place in respect of shares traded only on MTFs and equity-instruments or to the MiFID I/MiFIR baseline described above. However, being a combination of the MiFIR requirement and of the draft RTS requirement, the incremental rules are very difficult to disentangle. Indication of costs in this area is therefore to be taken as an upper bound.

3. Stakeholders

Regulated markets and MTFs: Regulated Markets and MTFs offering trading in "MTFs only" shares and equity-like instruments may have to amend their rulebook, adjust parameters of their IT systems and enhance monitoring/market surveillance to ensure that their systems formalise negotiated transactions only where their member/participants are acting in the capacity described in the draft RTS.

Members of/participants in such trading venues and end-investors could either be constrained in the way their transactions can be considered as on-trading venue or be offered additional flexibility, depending on the characteristics of negotiated transactions, if any, on that venue. However, given the trading similarities between equity and equity-like instruments, the impact of the incremental rule is not expected to be of major significance.

4. Technical Options

Article 19 of the MiFID Implementing Regulation provides for the capacities and ways under which a member or participant of a trading venue may enter into a negotiated transaction. It is proposed to retain current MiFID provisions for shares and to extend it to trading venues dealing in shares traded only on MTFs and in equity-like instruments.

Policy Objective	Contributing to market efficiency and integrity
Technical Proposal	Negotiated transactions are executed under the rules of a trading venue and negotiated privately by members or participants of a trading venue. The member or participant of a trading venue can execute such a negotiated transaction by undertaking one of the following tasks: a. dealing on own account with another member or participant who acts for the account of a client; b. dealing with another member or participant, where both are executing orders on own account; c. acting for the account of both the buyer and seller; d. acting for the account of the buyer, where another member or participant acts for the account of the seller; and e. trading for own account against a client order.

5. Cost/benefit impact assessment

Article 19 of the MiFID Implementing Regulation provides for the capacities and ways under which a member or participant of a trading venue may enter into a negotiated transaction. It is proposed to retain the existing MiFID framework for shares and to extend it to trading venues dealing in shares traded only on MTFs and in equity-like instruments.

Technical Proposal	Capacity in which participants and members can enter into negotiated transactions
Qualitative description	
Benefits	Providing certainty, clarity and predictability to trading venues with regard to the waiver process and to supervisory decision on the authorisation process. Facilitating guidance for competent authorities with regard to the waiver process. Circumscribing use of negotiated transactions so that they are not misused.

Cost to regulator	None
Compliance cost	Depending on current market practices, trading venues offering trading in shares traded only on MTFs and in equity like instruments may incur one-off costs to amend their rulebook, train staff and adjust IT systems to the negotiated transaction functionalities. They may also incur some additional on-going supervision/monitoring/market surveillance costs.
Cost to other stakeholders	None
Indirect costs	None

Draft RTS under Article 4(6)(d) of MiFIR - Negotiated transactions subject to conditions other than the current market price

1. Introduction

A negotiated transaction involves one or more members or participants of a trading venue who negotiate privately the terms of a transaction which is then reported under the rules of the trading venue. In some circumstances, the trade could not be executed under the systems operated by the trading venues because of special conditions or requirements attached to the trade or because the transaction does not constitute liquidity addressable by market participants other than the counterparties negotiating the transaction. Under Article 18(1)(b)(ii) of the MiFID Implementing Regulation, a negotiated transaction "subject to conditions other than the current market price of the share" is eligible to the negotiated trade waiver. However, the Regulation does not provide a list of such transactions. The text of the Implementation Regulation has been moved to the Framework Regulation under Article 4(1)(b)(iii) of MiFIR and ESMA has to establish the list of negotiated transactions included under this waiver.

2. Baseline

From a legal perspective, the legislation to consider is:

i. in respect of shares admitted to trading on a regulated market, Article 18(1)(b)(ii) of the MiFID Implementing Regulation, which provides that a negotiated transaction is eligible to the pre-trade waiver if "*it is subject to conditions other than the current market price of the share*" ,
ii. in respect of "MTFs only" shares and equity-like instruments, Article 4(2)(b)(iii) of MiFIR, under which a negotiated transaction is eligible to the pre-trade transparency waiver if it is "*subject to conditions other than the current market price of that financial instrument"*.

Empowerment/RTS

Under Article 4(6)(d) of MiFIR, ESMA has to develop RTS to draw up a list of the negotiated transactions *that do not contribute to price formation* and are therefore eligible to the negotiated trade waiver under Article 4(1)(b)(iii) of MiFIR (which actually refers to transactions *"subject to conditions other than the current market price of that financial instrument").*

The draft RTS aims at drawing up an exhaustive list of transactions subject to conditions other than current market price. The list partially builds on the list of transactions that would constitute non addressable liquidity or are determined by factors other than the current market valuation of the share identified by CESR in its Technical Advice to the Commission (CESR/10-882)[25], a joint work with the industry, while the description of the last type of transaction provides flexibility to accommodate future market developments. This list is critical as those transactions will not be taken into account for the calculation of the Volume Cap Mechanism

The following sections provide an interim cost-benefit analysis of the incremental obligations arising from the list of negotiated transactions set out in the draft RTS compared either to current market practices or to the MiFID I/MiFIR legal baseline described above. As the impact of the Level 1 text and of the Level 2 measures are very difficult to disentangle, any indication of cost is to be taken as an upper bound here as well.

3. Stakeholders

Regulated Markets and MTFs may have to adjust some parameters in their IT systems so that member/participants registering negotiated transactions on their systems can refer to the relevant category of transaction eligible to the pre-trade transparency waiver. The list will provide more predictability in the waiver process, at least for the first four categories.

Member/participants/portfolio managers and end-investors: The proposed list partially draws on the list set out in CESR Technical Advice to the Commission (CESR/10-882)[26], and is expected to be mostly in line with current market practices. This is also supported by the flexibility provided by the description of the last negotiated transaction type in the list, aimed at allowing for future market developments.

It should be noted that this list is consistent with the list of transactions not contributing to the price discovery process, hence not subject to the trading obligations for shares, set out in Article 2 of the draft RTS. In addition, ESMA made use of its empowerment under Article 20(3)(b) of MiFIR to exclude certain OTC transactions, such as securities financing transaction from post-trade transparency requirements, which may answer some concerns as well.

NCAs: NCAs review of pre-trade transparency will likely be positively affected by the draft RTS. The list should facilitate guidance from NCAs as well as supervisory convergence, at least for some categories of negotiated transactions. No additional cost is expected from this draft RTS.

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[25] CESR Technical Advice to the European Commission in the Context of the MiFID Review(CESR/10-882)
[26] Ibid

Market participants generally may be indirectly impacted if some negotiated transactions were to be used to circumvent limitation on dark trading.

4. Technical Options

The draft RTS proposes a list of transactions that are subject to conditions other than current market price of the instrument. However, ESMA is also considering extending this list to include the transactions mentioned in Article 5(2) of Regulation 909/2014 (CSDR) i.e."transactions which are negotiated privately but executed on a trading venue, transactions which are executed bilaterally but reported to a trading venue (..)", which are not required to have an intended settlement date of T+2 under CSDR.

Option 1 is set out in Article 6 of the draft RTS and includes a list of transactions that partly builds on CESR technical advice sent to the Commission in the context of the MiFID review (CESR/10-882). However, some transactions previously mentioned in the CESR technical advice, such as securities financing transactions are not included in the list.

Option 2 would supplement the list in Option 1 by adding the transactions mentioned in Article 5(2) of Regulation (EU) No 909/2014 (CSDR).

Policy Objective	Ensuring price formation remains efficient by limiting the use of waivers not subject to the volume caps while allowing for future market developments.
Option 1 **Current draft RTS**	For the purposes of Article 4(1)(b) a negotiated transaction in a share, depositary receipt, ETF, certificate or other similar financial instrument shall be considered as not contributing to the price formation process if: a. the transaction is executed in reference to a price that is calculated over multiple time instances according to a given benchmark, such as volume-weighted average price or time-weighted average price; b. the transaction is part of a portfolio trade that involves the execution of 10 or more financial instruments from the same client and at the same time and the components of the trade are meant to be executed only as a single lot; c. the transaction is a give-up or a give-in; d. the transaction is contingent on a derivative contract having the same underlying and where all the components of the trade are meant to be executed only as a single lot; or e. the transaction is contingent on technical characteristics which

	are unrelated to the current market valuation of that financial instrument.
Option 2	Option 1, supplemented by transactions which, in accordance with Article 5(2) of Regulation (EU) No 909/20144, are not intended to be settled on T+2.

5. Cost/benefit impact assessment

Option 1 is set out in Article 6 of the draft RTS and includes an exhaustive list of transactions that partly builds on CESR technical advice sent to the Commission in the context of the MiFID review (CESR/10-882).

Option 1	Exhaustive list of transactions subject to conditions other than current market price.
Qualitative description	
Benefits	It limits the scope of negotiated transactions, which do not contribute to price formation while not being subject to the double volume caps. The draft RTS provides more certainty and predictability as to the transactions subject to conditions other than current market price. Flexibility in the last transaction type allows for future market developments.
Cost to regulator	None
Compliance cost	One-off costs: Trading venues may have to adjust their IT systems to accommodate the list of negotiated transactions. Some on-going market surveillance staff costs may be incurred to check compliance with the list set out in the RTS but, at this stage, they are expected to be non-significant and absorbed by existing teams.
Cost to other stakeholders	Costs may arise if some stakeholders were no longer be able to execute on-venue non-standard settlement transactions under the negotiated trade waiver.
Indirect costs	Price formation and pre-trade transparency could be affected if the flexibility provided for in the last transaction type was given an extensive interpretation that could be misused.

Option 2 would supplement the list in Option 1 by adding the transactions mentioned in Article 5(2) of Regulation (EU) No 909/2014 (CSDR) i.e. transactions which are negotiated privately but executed on a trading venue or transactions which are executed bilaterally but reported to a trading venue, which are not required to have an intended settlement date on T+2 under CSDR.

Option 2	Option 1+ transactions mentioned in Article 5(2) of Regulation (EU) No 909/2014 (CSDR)
Qualitative description	
Benefits	Option 2 explicitly allows non-standard settlement transactions to

	be executed on trading venues through negotiated transactions.
Cost to regulator	None
Compliance cost	One-off costs: Trading venues may have to adjust IT systems to accommodate the list of negotiated transactions. Some on-going market surveillance staff costs may be incurred to check compliance with the list set out in the RTS but, at this stage, they are expected to be non-significant and absorbed by existing teams.
Cost to other stakeholders	None
Indirect costs	As many negotiated transactions have a settlement date of T+1, and given the breadth of transactions potentially covered by Article 5(2) of Regulation 909/2014, Option 2 could potentially turn Article 6 in an almost open-ended-list of negotiated transactions. As the Article 6 negotiated transactions are not taken into account for the calculation of the double volume cap, this would have the potential impact of substantially affecting price formation and pre-trade transparency. A way of partly mitigating this significant risk, and related indirect costs, might be to restrict non-standard settlement transactions qualifying as negotiated transactions to transactions addressing settlement failures.

Draft RTS under Article 4(6)(e) of MiFIR – Large in scale (LIS) orders

1. Introduction

Building on MiFID I, MiFIR allows pre-trade transparency obligations to be waived under certain circumstances. In particular, pre-trade transparency requirements may be waived for on-venue orders that are considered to be large in size compared to normal market size. The large in scale (LIS) waiver is designed to protect large orders from adverse market impact and abrupt price movements. Setting proper thresholds for large in scale orders is all the more critical that MiFIR also imposes trading obligation for shares.

Under Table 2 in Annex II of the MiFID Implementing Regulation, the average daily turnover (ADT) is used to determine when an order should be considered to be large in scale compared to normal market size. The ADT is calculated by dividing the yearly turnover by the number of trading days and this calculation is made for each share on an annual basis. The shares are grouped within five different classes and the result of the annual ADT calculation determines whether the share should be reclassified and moved to another class. The higher the ADT, the higher the minimum threshold for the large in scale waiver. The purpose of the RTS is to assess whether the ADT table remains valid for shares and to propose relevant thresholds for equity-like instruments. While the MiFID Implementing Regulation remains silent about partially executed LIS orders, the RTS propose a harmonised transparency regime for those resting orders or “stubs”.

2. **Baseline**

From a legal perspective, the legislation to consider is:

i. for shares admitted to trading on a regulated market, Article 20 and Table 2 in Annex II of the MiFID Implementing Regulation and the calculation methodology set out in Article 33 of this Regulation ;
ii. for shares traded only on MTFs and non-equity-instruments, the baseline is MiFIR Article 4(1)(c), which provides that the pre-trade transparency obligations may be waived for operators of trading venues for "orders that are large in scale compared to normal market size".

Article 4(6)(e) empowers ESMA to develop RTS to specify "the size of orders that are large in scale (…) or which pre-trade disclosure maybe waived for each class of financial instrument concerned".

Market practices for shares admitted to trading on a regulated market match the thresholds set out in Article 20 and Table 2 in Annex II of the MiFID Implementing Regulation.

As regards shares traded only on MTFs and equity-like instruments, further research has to be conducted to assess how trading venues where there is already some pre-trade transparency for those financial instruments have been addressing large orders. Preliminary research suggests a variety of situations. On one regulated market surveyed, the equivalent of the LIS threshold for ETFs is € 500, 000. On another regulated market, an order in ETFs qualifies as large and may remain dark if it equals or exceeds € 5 million. On a third one, there is no equivalent of LIS orders for ETFs as no Average Daily Turnover (ADT) is currently calculated; the order management facility waiver, and more specifically iceberg orders, are used by market members for large size ETF transactions.

As for stubs, preliminary research suggests a variety of situations for the execution of LIS orders. As of today, stubs remain protected by the large in scale waiver in some Member States (e.g. UK, Germany). On some other trading venues, LIS orders benefiting from the pre-trade waiver may only be executed outside the order book (France, Greece) and no stubs can be found in the order book.

The incremental obligations stemming from the draft RTS are the LIS order tables set out in ESMA's draft RTS compared to the MiFID I/MiFIR baseline described above. However, for shares traded only on MTFs and for equity-like instruments, in both instances, the incremental rule will be a combination of the MiFIR requirement and of the RTS requirement, which are very difficult to disentangle. Any indication of cost in this area is therefore to be taken as an upper bound.

3. **Stakeholders**

Regulated Markets and MTFs: Trading venues will have to adjust IT systems to the revised thresholds for shares and to new thresholds for non-equity instruments. On one hand the moderate increase in thresholds for LIS orders may lead to more orders contributing to the price formation and discovery process on pre-trade transparent venues. On the other hand, should the threshold for LIS be set at a level that market participants would consider as too high, lit trading venues could potentially face a decrease in order book size or depth as investors would not be willing to have their order publicly displayed. Slicing of large orders may be one effect, which, in turn, may cause a decrease in transaction size on lit markets.

Members/Participants/Portfolio managers/end investors: Those stakeholders will have to adjust their execution algorithm and other execution tools, as well as transaction costs analysis tools to revised or new thresholds for shares and non-equity instruments. Large orders will be protected from adverse price movement while pre-trade transparency will continue to provide meaningful information on opportunities to trade. Should the revised thresholds be considered inappropriate, portfolio/asset managers could also potentially turn to systematic internalisers for the execution of their large orders in shares subject to the trading obligation, or to other alternative execution strategies. These potential consequences are not exhaustive and their impact will ultimately depend on market forces at play, which is difficult to anticipate.

4. Technical Options

(1) Thresholds for LIS orders

For LIS orders, it is proposed to continue with the approach based on Average Daily Turnover (ADT) as a proxy of liquidity and market impact and to extend it to depositary receipts and other equity-like instruments.

LIS thresholds for shares and depositary receipts

ESMA proposes to introduce modifications to the regime for equities by increasing the granularity of ADT classes by creating additional classes with revised pre-trade thresholds per ADT class accordingly. It is also proposed to have the same table for shares and for depositary receipts (DRs).

Policy Objective	Ensuring that thresholds remain appropriate for each class of share while overall increasing the level of transparency in financial markets.
Technical Proposal	An order shall be considered to be large in scale compared with normal market size if, at the point of entry or following any amendment, it is equal to or larger than the minimum size of orders specified in Table 1 below:

Table 1: LIS thresholds for shares and depositary receipts (in EUR)

Class in	ADT <	100 000	500 000	1 000	5 000	25 000	50 000	ADT ≥ 100

terms of average daily turnover (ADT)	100 000	≤ ADT < 500 000	≤ ADT < 1 000 000	000 ≤ ADT < 5 000 000	000 ≤ ADT < 25 000 000	000 ≤ ADT < 50 000 000	000 ≤ ADT < 100 000 000	000 000
Minimum size of orders qualifying as large in scale compared with normal market size	30 000	60 000	100 000	200 000	300 000	400 000	500 000	650 000

<u>LIS thresholds for ETFs</u>

Under Option 1, the draft RTS retains the approach suggested in the Discussion Paper and proposes to have 5 ADT classes in order to achieve a balance between granularity and simplicity, with a uniform distribution of instruments in each class. The large in scale thresholds for each ADT class have been determined to leave roughly 10% of the turnover of the corresponding class above the threshold.

However, taking into account the answers received to the discussion paper where, among other things, most respondents argued that the ADT does not capture the actual liquidity of ETFs, under Option 2, ESMA is considering an alternative approach where, on the assumption that ETFs are mainly liquid, a single threshold of EUR 1 million would apply to all ETFs, regardless of their liquidity.

Policy Objective	Ensure the desired degree of pre-trade transparency while protecting large orders from adverse market impact.
Option 1 **Current draft RTS**	An order shall be considered to be large in scale compared with normal market size if, at the point of entry or following any amendment, it is equal to or larger than the minimum size of orders specified in Table 2 below:

Table 2: LIS thresholds for ETFs (in EUR)

Class in terms of average daily	ADT <	50 000 ≤ ADT <	200 000 ≤ ADT < 500	500 000 ≤ ADT < 2	ADT ≥ 2

turnover (ADT)	50 000	200 000	000	000 000	000 000
Minimum size of orders qualifying as large in scale compared with normal market size	260 000	550 000	750 000	850 000	1 200 000

Option 2	An order shall be considered to be large in scale compared with normal market size if, at the point of entry or following any amendment, it is equal or larger than EUR 1 million.

LIS thresholds for Certificates

Based on an analysis of certificates indicating that i) certificates have different payoffs from shares and are hence separate financial instruments and ii) the number of instruments within this asset class is small with limited trading activity, the draft RTS proposes to retain 2 ADT classes. It is worth noting that 90% of certificates have an ADT < 50 000 euros.

Policy Objective	Ensuring the desired degree of pre-trade transparency while protecting large orders from adverse market impact.
Technical Proposal	An order shall be considered to be large in scale compared with normal market size if, at the point of entry or following any amendment, it is equal to or larger than the minimum size of orders specified in Table 3 below:

Table 3: LIS thresholds for certificates

Class in terms of average daily turnover (ADT)	ADT < 50 000	ADT ≥ 50 000
Minimum size of orders qualifying as large in scale compared with normal market size	15 000	30 000

(2) Classification calculation per instrument

Under MiFID, the ADT is calculated for each share on an annual basis, with an interim review of the ADT whenever there is a change in relation to the instrument or the issuer which significantly affects the previous calculation on an ongoing basis. A more frequent calculation would provide greater sensitivity to changes in the markets but would be more sensitive to temporary effects. On balance, ESMA proposes to maintain the frequency set out in the MiFID Implementing Regulation. The draft RTS represents an incremental obligation for competent authorities in respect of ADT calculations for shares traded only on MTFs and equity-like instruments. There are no incremental obligations in respect of ADT calculations for shares admitted to trading on a regulated market.

Policy Objective	Ensuring that the LIS waiver continues to meet policy objectives (market transparency and protection of large orders from adverse price movements) on an instrument by instrument basis.
Technical Proposal	Competent authorities shall calculate the ADT in respect of each the share, depositary receipt, ETF, certificate and other similar financial instrument for which they are the relevant competent authority. The calculation shall take into account all the orders executed in the EU between 1 January and 31 December of the preceding year, or, where applicable, that part of the year during which the financial instrument was admitted or traded on a trading venue and was not suspended from trading. In the calculations of the ADT, non-trading days in the Member State of the relevant competent authority for that financial instrument shall be excluded. Competent authorities shall ensure the publication, not later than on the first trading day of March of each year, of the ADT for each share, depositary receipt, ETF, certificate and other similar financial instrument which are admitted to trading or traded on a trading venue and for which they are the relevant competent authority. The draft RTS also provides for specific ADT estimates before the financial instrument is first admitted to trading or traded on a venue and interim review clause in case of significant change to previous calculations, similar to the ones set out in the MiFID Implementing Regulation for shares admitted to trading on a regulated market.

(3) Large in scale resting orders/stubs

When a dark LIS order is partially executed against a smaller order, the residual part of the order (“the resting order” or “stub”) may be of a size below the LIS threshold. The draft RTS proposes that the resting order continues to benefit from the LIS order pre-trade transparency waiver.

Policy Objective	Providing consistent treatment for the entire LIS order.
Technical Proposal	Unless the price or other relevant conditions for the execution of an order are amended, the waiver from the obligation referred to in Article 3(1) of MiFIR shall continue to apply in respect of orders that are large in scale compared with normal market size when entered

	into an order book but that fall below the relevant thresholds following partial execution.

5. Cost/benefit impact assessment

(1) Threshold for LIS orders

LIS thresholds for shares and depositary receipts

Creation of additional classes with revised pre-trade thresholds per ADT class accordingly. Same table will apply for shares and for depositary receipts (DRs).

Technical Proposal	More granularity in ADT classes with overall increase in market transparency.
Qualitative description	
Benefits	Thresholds are more appropriate to the liquidity characteristics of each share within each of the more granular classes. Overall transparency is increased.
Cost to regulator	None
Compliance cost	One-off costs: Trading venues will incur IT costs to adjust systems parameters to the revised LIS thresholds
Cost to other stakeholders	One-off costs: Buy-side and sell-side firms may have to adjust Smart order routing systems (SORS) and other order execution management tools/strategies to the revised LIS thresholds.
Indirect costs	Should revised LIS thresholds be considered as too high by market participants trading in largest sizes, this may lead to more fragmentation of orders in the order book of trading venues, reduced size of the order book and increased execution costs. Market reactions are difficult to anticipate ex-ante.

LIS thresholds for ETFs

Option 1	5 ADT classes and thresholds for LIS orders thresholds ranging from € 260,000 to €1 200 000.
Qualitative description	
Benefits	Ensuring the desired degree of pre-trade transparency while protecting large orders from adverse market impact. Achieving a balance between granularity and simplicity. Consistency with the ADT based approach retained for other equity and equity-like instruments.
Cost to regulator	None
Compliance cost	Trading venues will incur one-off IT costs to adjust system parameters to LIS thresholds
Cost to other stakeholders	Sell-side, buy-side firms and end-investors may have to adjust SORS and other execution tools/strategies to LIS thresholds.

	Subject to further research, the definition of a "large order" in ETFs appears to be currently heterogeneous across trading venues and additional costs to other stakeholders are difficult to identify at this stage.
Indirect costs	Thresholds considered as low may attract some additional order flow on venue but without contribution to price formation and pre-trade transparency. Thresholds considered as too high may increase the already substantial part of OTC trading in ETFs.

Option 2	Single LIS order threshold of EUR 1 million
Qualitative description	
Benefits	Simplicity.
Cost to regulator	None
Compliance cost	Trading venues will incur one-off IT costs to adjust system parameters to LIS thresholds.
Cost to other stakeholders	Sell-side, buy-side firms and end-investors may have to adjust SORS and other execution tools/strategies to LIS thresholds. Subject to further research, the definition of a "large order" in ETFs appears to be heterogeneous across trading venues; costs to other stakeholders are difficult to identify at this stage.
Indirect costs	Thresholds considered as low may attract some additional order flow on venue but without contribution to price formation and pre-trade transparency. Thresholds considered as too high may increase the already substantial part of OTC trading in ETFs.

LIS thresholds for Certificates

Technical Proposal	2 ADT classes and 2 minimum order size (EUR 15 000 and 30 000)
Qualitative description	
Benefits	Harmonised thresholds. Ensuring the desired degree of pre-trade transparency while protecting large orders from adverse market impact.
Cost to regulator	None
Compliance cost	Trading venues may incur one-off costs to adjust system parameters to LIS thresholds.
Cost to other stakeholders	To be further identified in the final CBA.
Indirect costs	None

(2) Classification calculation per instrument

The draft RTS proposes to retain the ADT calculation methodology set out in the MiFID Implementing Regulation for shares admitted to trading on a regulated market.

Technical Proposal	ADT calculation on an annual basis for each instrument for potential reclassification, with potential interim calculations.
Qualitative description	
Benefits	Annual recalculation provides some stability in the classification and avoids cyclical effects.
Cost to regulator	Regulators will incur additional one-off and on-going staff and IT costs to do the calculation required on an annual basis and provide interim updates as necessary.
Compliance cost	Trading venues will incur on-going periodic IT costs to adjust system parameters to revised classification of instruments every year. They will also incur additional IT and staff cost to respond to regulators' request to enable regulators to do the requested calculations.
Cost to other stakeholders	Buy-side and sell-side firms may have to adjust SORS and other execution tools/strategies to changing instrument classification.
Indirect costs	None

(3) Large in scale resting orders/stubs

When a dark LIS order is partially executed against a smaller order, the residual part of the order ("the resting order" or "stub") may be of a size below the LIS threshold. The draft RTS proposes that the resting order continues to benefit from the LIS order pre-trade transparency waiver

Technical Proposal	For large in scale orders, stubs may remain protected under the large in scale waiver regime even when, following partial execution, they fall below the relevant large in scale threshold provided that the price or other relevant conditions for execution are not amended following execution.
Qualitative description	
Benefits	Harmonised treatment of stubs across trading venues. Consistent treatment of the whole order, avoiding potential cost of separate execution.
Cost to regulator	None
Compliance cost	One-off costs: Trading venues where stubs are currently made public will have to adjust their IT systems.
Cost to other stakeholders	No direct costs identified at this stage.
Indirect costs	Indirect costs relate to a potential decrease in pre-trade transparency on trading venues where stubs would currently be made public More substantially, pre-trade transparency would be impacted if stubs were used as a way of circumventing the limitation on dark trading.

Draft RTS under Article 4(6)(e) of MiFIR - Order Management Facilities

1. Introduction

Order management facilities are part of the sophisticated order handling and execution tools offered by trading venues. They do not, per se, constitute an impediment to pre-trade transparency as, when the triggering event occurs, the order is always disclosed to the market before execution. While the MiFID Implementing Regulation left room for interpretation in the definition of order management facilities and how orders have to be designed to benefit from this waiver, ESMA considers that two main groups of orders can be exempted in this context: “stop orders” and “reserve or iceberg orders”.

The term “order management facility” which is embedded in the MiFID Implementing Regulation has been moved up to the Framework Regulation level with MiFIR. An RTS has to be developed to further specify the type and minimum size of orders held in an order management facility that are MiFIR compliant.

2. Baseline

From a legal perspective, the legislation to consider is;

i. for shares, Article 18(2) of the MiFID Implementing Regulation, which provides that “Waivers based on the type of orders may be granted only in relation to orders held in an order management facility maintained by the regulated market or the MTF pending their being disclosed to the market.”
ii. for shares traded only on MTFs and for equity–like instruments, Article 4(1)(d) of MiFIR which provides that pre-trade transparency obligations may be waived for “orders held in an order management facility of the trading venue pending disclosure”.

Under Article 4(6)(e) of MiFIR, ESMA has to develop RTS to specify “(…) the type and the minimum size of orders held in an order management facility of a trading venue pending disclosure for which pre-trade transparency may be waived (…)”.

Rather than prescribing a list of detailed order types, the draft RTS describes the main features of the two order types that are currently considered to be MiFID compliant (i.e. reserve/iceberg orders and stop orders) in abstract terms and the main principles such orders must adhere to. The draft RTS also prescribes a minimum size for such orders.

The economic baseline is the type and size of orders that are currently used under the order management facility waiver. The order types that are described for shares admitted to trading in the latest ESMA document on Waivers from pre-trade transparency[27] match the main features and principles set out in the draft RTS, with the notable exception of minimum size

[27] CESR positions and ESMA opinions (ESMA/2011/241)

for reserve/ iceberg orders. Order management facility orders at venues offering trading in shares traded only on MTFs or in equity-like instruments remain to be further assessed.

The incremental obligation is the definition, and size, of orders held in an order management facility eligible to the pre-trade transparency waiver set out in the draft RTS compared either to current market practices for trading venues offering such facilities (see Economic baseline above) or to the MiFID I/MiFIR baseline described above.

3. Stakeholders

Regulated Markets and MTFs: Trading venues may need to adapt IT systems to include minimum reserve order size parameters. Where the unique size set out in the draft RTS would not be consistent with the type of trading activity and participation in the instrument on a trading venue, this may potentially affect order flow and trading activity in that instrument. However, it is not expected at this stage that this would be the case with a EUR 10 000 size.

Members/participants/ investors: The main features of orders held in an order management facility are not expected to bring significant changes, if any, to existing market practices. Potential impact is more likely to arise in relation to the minimum size for reserve orders as market practices vary across trading venues and instruments. The unique minimum size set for iceberg orders in all equity and equity-like instruments will no longer make this order execution management tool available for smaller orders, which may nonetheless be significant in some market segments.

4. Technical Options

Rather than providing an exhaustive list of orders that may be held in an order management facility, the draft RTS sets out the characteristics to be met by such orders to be MiFIR compliant and introduces a minimum order size for reserve/iceberg orders.

Policy Objective	Contributing to harmonised implementation of the waiver and limiting potential for circumvention.
Technical Proposal	The order held in the order management facility must meet the following characteristics: a. it is intended to be disclosed to the order book or to any other equivalent system operated by the trading venue and it is contingent to objective conditions that are defined in advance by the system's protocol; b. it cannot interact with other trading interest prior to its disclosure to the order book (or equivalent system) operated by the trading venue; and c. once disclosed to the order book , it must interact with other

	orders in accordance with the rules applicable to orders of that kind at the time of disclosure. Orders held in an order management facility must not be smaller than the minimum tradable quantity set by the trading venue and the minimum size of a reserve order must not be less than EUR 10 000.

5. Cost/benefit impact assessment

The draft RTS sets out the characteristics of orders held on an order management facility to be MiFIR compliant and introduces a minimum order size for reserve/iceberg orders.

Technical Proposal	Main features of orders held in an order management facility and minimum order size
Qualitative description	
Benefits	The draft RTS provides additional guidance to both national competent authorities and trading venues as to the scope of the waiver as well as greater clarity and predictability in the waiver process. It allows for innovation in order management.
Cost to regulator	None
Compliance cost	Some trading venues will incur one-off IT costs to introduce minimum order size for iceberg orders.
Cost to other stakeholders	Market participants that would no longer be able to use iceberg orders due to minimum size may incur additional costs due to a less efficient execution of their orders.
Indirect costs	None

3.2. Pre-trade transparency for investment firms in respect of equity and equity like financial instruments

Draft RTS under Article 14(7) of MiFIR - Publication of firm quote

Introduction

The MiFIR provisions governing pre-trade transparency obligation for systematic internalisers in shares are close to the MiFID ones, extended however to systematic internalisers in depositary receipts, ETFs, certificates and other similar financial instruments. In order for market participants to be aware of all existing lit liquidity pools, investment firms have to make public firm quotes in respect of those instruments for which they are a systematic internaliser and for which there is a liquid market. As under MiFID, this obligation applies to systematic internalisers only when they deal in sizes up to the standard market size; the price displayed must then reflect the prevailing market condition for that financial instrument. The draft RTS considers whether any clarification or adjustment has to be made to the implementing measures set out in the MiFID Implementing Regulation, including in light of the wider scope of pre-trade transparency requirements under MiFIR.

Arrangements for the publication of a firm quote

1. **Baseline**

From a legal perspective, the legislation to consider is:

i. In respect of shares admitted to trading on a regulated market

Article 27(3) of MiFID I provides that the quote of a systematic internaliser must be “made public in a manner which is easily accessible to other market participants and on a reasonable commercial basis”,

Article 30 of the MiFID Implementing Regulation provides that” pre-trade information is considered to be made public if it is made available through (a) the facilities of regulated market or an MTF; (b) the facilities of a third party; (c) proprietary arrangements”,

Article 32 of the MiFID Implementing Regulation provides that arrangements used to make pre- and post-trade transparency information public “must satisfy the following conditions:

a) it must include all reasonable steps necessary to ensure that the information to be published is reliable, monitored continuously for errors, and corrected as soon as errors are detected;

b) it must facilitate the consolidation of the data with similar data from other sources;

c) it must make the information available to the public on a non-discriminatory commercial basis at a reasonable cost.”

CESR Guidelines and recommendation on Publication and Consolidation of MiFID market transparency data (CESR/07-043) consider that the arrangement facilitates the consolidation of data with other similar data if it:

a) is accessible by automated electronic means in a machine readable way;

b) utilises technology that facilitates consolidation of the data and permits commercially viable usage; and

c) is accompanied by instructions outlining how users can access the information

CESR considered that an arrangement fulfils the ‘machine-readable’ criteria where the data:

a) is in a physical form that is designed to be read by a computer;

b) is in a location on a computer storage device where that location is known in advance by the party wishing to access the data; and

c) is in a format that is known in advance by the party wishing to access the data.

MiFIR tasks the Commission to specify through implementing measures various aspects relevant to how SIs should make public firm quotes, including the means by which a quote is made public (Article 17(3)(a) of MiFIR), the minimum quoting requirements (Article 14(3) of MiFIR), the conditions for the execution of orders at sizes different from the quoted one or at prices different to the quoted ones (Articles 15(3) and 15(4) of MiFIR respectively) and the exceptional market conditions that allow for the withdrawal of quotes.

ii. In respect of shares traded only on MTFs and equity-like instruments

Article 14(1) of MiFIR provides that "Investment firms shall make public firm quotes in respect of those shares, depositary receipts, ETFs, certificates and other similar instruments traded on a trading venue for which they are systematic internalisers and for which there is a liquid market".

Empowerment/RTS

Under Article 14(7) of MiFIR, ESMA has to "develop draft RTS to specify further the arrangements for the publication of a firm quote (…)".

The draft RTS on the conditions to be satisfied by arrangements used by systematic internalisers to publish their quotes mirrors the provisions of the MiFID Implementing Regulation as regards reliability, on-going monitoring of quotes, correction of errors and non-discriminatory access to quotes. However, the technical arrangements referred to in the draft RTS amend the "machine-readable" criteria currently set out in the CESR Guidelines, with a view to further facilitating the consolidation of data. These revised criteria may have an impact on the arrangements currently used by all systematic internalisers when dealing in sizes below standard market size, in case they differ from current market practice.

For existing systematic internalisers in shares admitted to trading on a regulated market, the incremental obligation relates to the "machine-readable criteria" set out in the draft RTS compared to the CESR Guidelines described above. However, we think the costs arising from the RTS itself should be limited for SIs already having a website. For those that do not have one at present the costs should arise from Level 1 and not from this RTS.

For new systematic internalisers under MiFID II/MiFIR, the incremental obligation is the draft RTS compared to the MiFIR baseline described above. Therefore, the cost associated with the incremental rule will be a combination of the effects of the Level 1 text and of the draft RTS. As those effects are very difficult to disentangle, indications of cost are to be considered as an upper bound.

2. Stakeholders

Investment firms acting already as systematic internalisers: There are currently 12 investment firms acting as systematic internalisers in shares across the EU. Further research will have to be conducted for the final cost-benefit analysis to assess the potential impact of the revised "machine readable" criteria on current systematic internalisers' publication arrangements.

Investment firms which may newly become systematic internalisers under MiFID II/MiFIR due to the extension of pre-trade obligations will incur costs to meet the obligations set out in the draft RTS except where they would be dealing only above Standard Market Size. However, those costs are not expected to be significant compared to costs arising from Level 1 text or other implementing measures, such as systematic internaliser thresholds.

National Competent Authorities may incur additional on-going supervisory costs for monitoring systematic internalisers' compliance with pre-trade obligations under the draft RTS, including as the number of systematic internalisers will likely increase, under MiFID II/MiFIR. These costs however should be attributable to MiFID II/ MiFIR or to the supervisory functions related to systematic internalisers rather than to this specific RTS.

Clients of systematic internalisers and market participants more broadly will benefit from easily accessible and accurate pre-trade transparency information from systematic internalisers in equity and equity-like instruments.

3. Technical options

The draft RTS mirrors the provisions set out in the MiFID Implementing Regulation as regards reliability, on-going monitoring of quotes, correction of errors and non-discriminatory access to quotes and proposes to refer to the "machine readable" criteria used for Approved Publication Arrangements and Consolidated Tape Providers. The amendments made to the MiFID baseline described above appear in bold characters in Option 1 below.

In addition to the above, ESMA is also considering requiring systematic internalisers to make public the time quotes have been entered or updated. Option 2 would be an incremental obligation compared both to the MiFID and to the MiFIR II/MiFIR baseline described above.

Policy Objective	Facilitating access to, and consolidation of, accurate pre-trade transparency information.
Option 1 **Current Draft RTS**	The information published must be reliable, monitored continuously for errors, and corrected as soon as errors are detected. The arrangements used must comply with the technical arrangements that facilitate the consolidation of the data with similar data from other sources, as set out in the Draft RTS on publication arrangements for APAs and CTPs. *["Data shall be considered published in a "machine readable" way where:* *(a) it is in an* ***electronic*** *format designed to be* ***directly and automatically read by a computer and*** *known in advance by the party wishing to access the data.* *(b) it is in a location known in advance by the party wishing to access the data* ***and stored in an appropriated IT architecture*** *(…)*

	(c) ***it is robust enough to ensure continuity and regularity in the performance of the services provided and ensures adequate access in terms of speed****.* ***(d) it can be accessed, read, used and copied by freely and publicly available computer software, the source code of which is openly shared.*** ***For the purposes of the previous paragraph "electronic format" includes the type of files or messages, the rules to identify them, and the name and data type of the fields they contain."*** Instructions outlining how users can access and use the data shall be made **easily and continuously** available **to all parties wishing to access the data. Changes to those instructions shall be made public at least one month before coming into effect".**] The information must be made available to the public on a non-discriminatory basis.
Option 2	Pre-trade information published by a systematic internaliser to include the date and time quotes have been entered and published

4. **Cost/benefit impact assessment**

Technical Option 1: Arrangements for the publication of a firm quote

Option 1	Information to be reliable, "machine-readable" and made available on a non-discriminatory basis.
	Qualitative description
Benefits	Facilitating access to, and consolidation of, accurate pre-trade transparency information.
Cost to regulator	Any incremental costs for regulators (supervision of publication of firm quotes, increased number of SIs) should be driven by MiFID II/MiFIR.
Compliance cost	When dealing in sizes below standard market size : - new systematic internalisers under MiFID II/MiFIR may incur one-off and on-going IT costs, staff costs and/or outsourcing fees to meet publication arrangement requirements in case not aligned with current market practice. We estimate these costs to be driven by Level 1 legislation; - systematic internalisers under MiFID may face some additional one-off and ongoing IT costs or fees to comply with revised "machine

	readable” criteria. We estimate these costs not to be significant
Cost to other stakeholders	None
Indirect costs	None

Option 2	Pre-trade information published by a systematic internaliser to include the date and time quotes have been entered and published
	Qualitative description
Benefits	Time stamping of systematic internalisers’ quotes may help ensure that the quotes are firm and reliable by improving the audit chain of the publication to the benefits of market participants. Time stamping of quotes will help systematic internalisers’ clients to better analyse ex-post the quality of prices quotes, the responsiveness of the systematic internaliser and the validity period of quotes.
Cost to regulator	Regulators will likely incur additional supervisory costs to monitor compliance with requirements
Compliance cost	When dealing in sizes below Standard Market Size, systematic internalisers will incur one-off and on-going direct IT costs to correctly timestamp quotes made public.
Cost to other stakeholders	None
Indirect costs	Regulators may face indirect incremental costs to analyse the additional information provided by quotes time stamping. SIs may face indirect compliance costs where time stamping of quotes may lead to review their quoting models and strategy, including responsiveness or validity period of quotes, which may potentially have an impact on the risk they are exposed to.

Prevailing market conditions

1. **Baseline**

From a legal perspective, the legislation to consider is:

i. In respect of shares admitted to trading on a regulated market

Article 24 of the MiFID Implementing Regulation, which provides that “A systematic internaliser shall, for each liquid share for which it is a systematic internaliser, maintain the following:

(a) a quote or quotes which are close in price to comparable quotes for the same share in other trading venues;

(b) a record of its quoted prices, which it shall retain for a period of 12 months or such longer period as it considers appropriate. (..)”.In respect of shares traded only on MTFs and equity-like instruments

Article 14(3) of MiFIR, where the bid and offer price or prices made public by the systematic internaliser “shall reflect the prevailing market conditions for that share, depositary receipt, ETF, certificate or other similar financial instruments.” However, Article 15(2) of MiFIR permits systematic internalisers ‘in justified cases’ to execute orders at a better price than those quoted at the time of reception of the order, ‘provided that this price falls within a public range close to market conditions’.

Empowerment/RTS

Under Article 14(7) of MiFIR, ESMA has to develop draft RTS to “specify further (…) the determination of whether prices reflect prevailing market conditions (...).”

The draft RTS mirrors the provisions of the MiFID Implementing Regulation for shares admitted to trading on a regulated market. The incremental rule in the draft RTS relates to the extension of the definition of “prevailing market conditions” to quotes of systematic internalisers in shares traded only on MTFs and to equity-like instruments. However, it is extremely difficult to disentangle the effects of MiFIR, which extends pre- and post-trade transparency to shares traded only on MTFs and to equity-like instruments (and of other MiFIR provisions) and the effects of the draft RTS. Costs arising from the Level 1 text (and other delegated acts) are expected to be largely predominant. Any indication of cost related to this draft RTS is therefore to be taken as an upper bound.

2. Stakeholders

Stakeholders are the same as the ones identified in the section above (Article 14(7) – Publication of a firm quote).

3. Technical Options

The draft RTS is an identical recast of Article 24 of the MiFID Implementing Regulation and represents an incremental obligation only for systematic internalisers in shares traded only on MTFs and in equity-like instruments.

Policy Objective	Ensuring that the quotes published provide meaningful and useful pre-trade transparency information, including for best-execution purposes.

Technical Proposal	Quotes reflect prevailing market conditions if they are close in price to comparable quotes for the same share, depositary receipt, ETF, certificate or other similar financial instrument in other trading venues. The systematic internaliser has to maintain a record of its quoted prices as a systematic internaliser in liquid equity and equity-like instruments for a period of at least 12 months.

4. **Cost/benefit impact assessment**

Technical Proposal	Definition of "prevailing market conditions" as being close in price to comparable quotes in other trading venues as well as record of quoted prices
	Qualitative description
Benefits	Providing meaningful information to clients of systematic internalisers in shares traded only on MTFs and in equity-like instruments and market participants more broadly, while taking into account a variety of time-varying and instrument-specific factors.
Cost to regulator	None from the RTS
Compliance cost	When dealing in sizes below standard market size, systematic internalisers in shares traded only on MTFs and in equity-like instruments will incur on-going IT costs and other costs to ensure that their prices remain close to comparable quotes.
Cost to other stakeholders	None
Indirect costs	None

<u>Standard Market Size (SMS)</u>

1. **Baseline**

From a legal perspective, the legislation to consider is:

i. In respect of shares admitted to trading on a regulated market

Article 27(1) of MiFID, which provides that "The [requirement to make public firm quotes] shall be applicable to systematic internalisers when dealing for sizes up to standard market size. Systematic internalisers that only deal in sizes above standard market size shall not be subject to the provisions of this article.

Shares shall be grouped in classes on the basis of the arithmetic average value of the orders executed in the market for that share. The standard market size for each class of shares shall be a size representative of the arithmetic average value of the orders executed in the market for the shares included in each class of shares. The market for each share shall be comprised of all orders executed in the European Union in respect of that share excluding those large in scale compared to normal market size for that share ”,

Article 27(2) of MiFID, where “The competent authority of the most relevant market in terms of liquidity as defined in Article 25 for each share shall determine at least annually, on the basis of the arithmetic average value of the orders executed in the market in respect of that share, the class of shares to which it belongs. That information shall be made public to all market participants and transmitted to ESMA, which shall publish it on its website”,

supplemented by Article 23 of the MiFID Implementing Regulation (and Table 3 in Annex II) which provides the standard market size for each class of equity in terms of average value of transactions (AVT) as well further AVT calculations details (estimates before first admission to trading and interim review).

ii. In respect of shares traded only on MTFs and equity-like instruments

Articles 14(2) to 14(6) of MiFID II are an identical recast of the MiFID provisions, extended to shares traded only on MTFs and to equity-like instruments.

Empowerment/RTS

Under Article 14(7) of MiFIR, ESMA has to develop draft RTS to specify further [(…)] the determination of the standard market size [(...)].”

To determine the incremental obligation of this RTS we will differentiate between shares admitted to trading on a regulated market and the new instruments included in MiFIR (ie shares traded only on MTFs and equity-like instruments). For the former, there is no incremental obligation as the RTS copies what it is currently on MiFID I, Level 2. For the latter, the only incremental obligation in the RTS is the interim review and the estimates prior to trading for the first time. We estimate these costs to be non-significant, as Articles 14(4), 14(5) and 14(6) of MiFIR (copied on the RTS) set the bulk of the description of the calculations to be made, and consequently gives rise to the bulk of the costs associated with those calculations.

We provide below an interim analysis of the incremental obligation arising from the revised standard market size table set out in the draft RTS compared to the MiFID/MiFIR baseline described above. As MiFIR requires systematic internalisers to publish quotes in size at least equivalent to 10% of the standard market size, the standard market size table will also have an impact on quoting size obligations. Again, this demonstrates the difficulty of separating the effects of MiFIR and the draft RTS. Any indication of cost related to this draft RTS is therefore to be taken as an upper bound.

2. Stakeholders

Stakeholders are the same as the ones identified in the section above (Article 14(7) – Publication of a firm quote).

3. Technical Options

The Standard Market Size table proposed in the draft RTS is based on AVT, as in the MiFID Implementing Regulation and applies to all liquid equity and equity-like instruments.

The new standard market size table sets the standard market size at the mid-point of the AVT limits for the relevant class. Compared to the MiFID table, and in order to take into account the increased number of shares in the first AVT class, the two smallest classes are grouped into a single class of equity and equity-like instruments with an AVT< 20,000 EUR and the standard market size is at 10,000 EUR. For the next class of shares with AVT between 20,000 and 40,000 EUR, the standard market size is set at 20,000 EUR, and so on.

Policy Objective	Maintaining and enhancing transparency.
Technical Proposal	See table below, in euros. Annual recalculation classification per liquid instrument.

Table 4: Annual recalculation classification per liquid instrument

Class in terms of average value of transactions (AVT)	AVT< 20 000	20 000 ≤ AVT < 40 000	40 000 ≤ AVT < 60 000	60 000 ≤ AVT < 80 000	80 000 ≤ AVT < 100 000	100 000 ≤ AVT < 120 000	120 000 ≤ AVT < 140 000	Etc.
Standard market size	10 000	30 000	50 000	70 000	90 000	110 000	130 0000	Etc.

4. Cost/benefit impact assessment

Revised AVT classes and standard market size

Technical Proposal	Revised table with increased overall transparency.
	Qualitative description
Benefits	Increased level of transparency for systematic internalisers' clients and market participants more broadly. Obligations on systematic internalisers remain reasonable and proportionate.

Cost to regulator	Regulators may incur additional supervisory costs. Where there would be a substantial increase in systematic internalisers under MiFID II/MiFIR, and subsequent increased costs for regulators, this should be driven by Level 1 provisions. The calculation and publication costs incurred should be driven by Level 1 provisions as well.
Compliance cost	Systematic internalisers dealing in sizes below the standard market size may have to increase quoting size, which may be a source of additional risk, and costs, to them. However, this will substantially result from the Level 1 obligation requiring systematic internalisers to quote in sizes representing at least 10 % of the standard market size rather than from the revised table. It is not expected at this stage that the revised AVT will be a source of significant costs in itself.
Cost to other stakeholders	None
Indirect costs	Potential changes to SIs business models, and revenues, as they may get an increase of business from investors shifting from trading venues (not subject to transparency thresholds) and from OTC trading, with potential indirect effects on trading venues.

3.3. Trading obligation for shares

Draft RTS on Trading obligation for shares – Share transactions excluded from price formation (Article 23(3) of MiFIR)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[28], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to establish the list of share transactions that are excluded from price formation.

[28] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFIR baseline. Whenever market practices are above what is being required by MiFIR, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[29] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at establishing the legitimate reasons for a trade to be executed outside of a MiFID venue by determining which transaction are excluded from the price formation process.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which can be either the MiFIR requirements, or the existing practices of regulated markets when are above MiFIR.

The stakeholders identified are Investment firms/Banks/Portfolio managers/CCPs/CSDs/end investors, trading venues/Systematic internalisers (SIs) and national competent authorities (NCAs).

The next section covers the different technical options and the options to be considered in the RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

Investment firms, according to MiFIR Article 23 must execute all trades it undertakes in shares admitted to trading (on own account and on behalf of clients) on a regulated market, MTF, systematic internaliser or third country venue recognised by MiFID unless there is a legitimate reason for them to be concluded outside of such platforms.

Article 23(3) of MiFIR waives that trading obligation when the transactions are non-systematic, ad hoc, irregular and infrequent or when they are carried out between eligible or professional counterparties and do not contribute to the price discovery process. Under those circumstances, the trade can be executed outside trading venues or an SI. However, these transactions could still be subject to post-trade transparency obligations and could be a reportable transaction under the transaction reporting regime.

ESMA is asked to list the characteristics of those transactions in shares that do not contribute to the price. ESMA's mandate does not include specifying the definition of what is non-systematic, ad hoc, irregular and infrequent.

[29] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

The analysis that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014. The technical options proposed by ESMA in this CP may be different than those proposed in the DP as they have been informed by the feedback received since the publication of the DP. No mention to quantifiable costs and benefits was made in the responses to the DP.

3. Baseline

The relevant legal text is MiFIR Article 23(1) that waives the obligation to trade on a trading venue or a systematic internaliser for investment firms in two specific circumstances: the trades are non-systematic, ad hoc, irregular and infrequent or they are carried out between eligible or professional counterparties and do not contribute to the price discovery process.

ESMA is asked in MiFIR Article 23(3) to draft regulatory technical standards to specify the particular *characteristics* of transactions that do not contribute to the price discovery process, taking into consideration trades whose liquidity is non-addressable or where the exchange of shares is determined by factors other than the current valuation of the share.

No current Level 2 rules are set at European level to specify the transactions that do not contribute to the price discovery process, therefore the baseline is MiFIR Article 23, and the existing market practices regarding trading shares OTC vs. on-venue.

The purpose of this document is to CBA the incremental obligation of ESMA's Regulatory Technical Standards against the MiFIR baseline described above. MiFIR obligations are likely to curtail the ability of investment firms to trade shares OTC unless they are doing so as a systematic internalizer. In practice, it will be very difficult to determine what part of the cost will be attributable to MiFIR and what part to ESMA's specification of the transactions excluded from the price formation process. Therefore the compliance costs outlined should be considered as an upper bound estimate. We believe most of the indirect effects should be driven by MiFIR requirements.

4. Stakeholders

We believe there are three types of stakeholders that could potentially be affected by this Technical Standard, even though most of the effects they may experience should be driven by Level 1 legislation:

Investment firms/Banks/Portfolio managers/CCPs/CSDs/end investors may be affected in their trading/clearing/settlement operations if some of the transactions formerly traded OTC need to be conducted on trading venues or SIs. For those transactions there may be impacts on pre-trade transparency of positions, price and transaction costs. On the other hand, end investors may benefit from higher pre-trade transparency of share transactions taking place in the market.

NCAs may be affected regarding their supervision activities, checking that only the transactions listed by ESMA are excluded from the price formation process. However, we estimate the cost will not be significant, and should be embedded in their regular supervision activities.

Trading venues/SIs may benefit from higher volumes or they may experience a small change in business mix between on-venue and OTC transactions.

5. Technical Options

As the exemption is equally applicable to the type of transactions that may share one or both characteristics mentioned in Article 23(3) of MiFIR, ESMA is proposing only one list of transactions that groups them with no distinction of their characteristics.

After reviewing the responses received to the DP, ESMA is proposing the following list of transactions that do not contribute to the price discovery process.

Technical Option 1: Share transactions excluded from price formation

Policy Objective	Establish the legitimate reasons for a trade to be executed outside of a MiFID venue by determining which transaction are excluded from the price formation process
Proposal	Exclude the following transactions from the trading obligation for shares, when eligible and/or professional counterparties: a. transactions executed in reference to a price that is calculated over multiple time instances according to a given benchmark, such as volume-weighted average price or time-weighted average price; b. transactions that are part of a portfolio trade that involves the execution of 10 or more shares from the same client and at the same time and the single components of the trade are meant to be executed only as a single lot; c. transactions that are contingent on a derivative contract having the same underlying and where all the components of the trade are meant to be executed only as a single lot; d. transactions executed in the context of an investment firm that provides portfolio management services and transfers the beneficial ownership of a share from one fund to another and where no other investment firm is involved;

	e. give-ups or a give-ins; f. transactions executed for the purpose of transferring financial instruments as segregated collateral in bilateral transactions or in the context of a CCP margin and collateral requirements; g. transaction resulting in the delivery of shares in the context of the exercise of convertible bonds, options, covered warrants or other similar derivatives; and h. securities financing transactions.

6. Cost/benefit impact assessment

No mention to costs and benefits was made in any of the responses to the DP. For the technical option considered by ESMA we summarize below a qualitative description of the costs and benefits arising from them.

Technical Option 1: Share transactions excluded from price formation

	Qualitative description
Benefits	Simplifies compliance processes for investment firms and facilitates supervision, enforcement and monitoring for NCAs. Avoids legal uncertainty, making it more difficult to circumvent the trading obligation by providing increased clarity and consistency on what transactions are excluded from price formation. Provides higher pre-trade transparency for institutional and retail investors, as may include details on some transactions now conducted OTC. Also investors can benefit from non-discretionary and non-discriminatory execution provided on-venue for those transactions no longer OTC. Limits unintended effects and costs passed to end investors. Under ESMA's proposed standard, asset managers will still be able to internally cross trades between clients, as this may be the most efficient approach for the end investor. Trading venues and/or SIs may experience higher volumes on share transactions executed on venue (however we expect most of this effect to be caused by MiFIR).
Costs to regulator:	We estimate incremental costs for NCAs will not be significant as any costs arising from supervision and enforcement of the exemptions should mirror

- *One-off* - *On-going*	to a large extent those already arising from implementation of MiFIR. The specific supervision cost of monitoring no other transactions are excluded from the price formation process/transparency obligation may be already included in the existing supervisory practices of NCAs on their investment firms.
Compliance costs: - *One-off* - *On-going*	Compliance costs would arise from considering some current OTC transactions to be price forming (based on ESMA's standards), when those transactions are not price forming in practice and as a result moving them on-venue. It will be difficult to disentangle the effects of MiFIR vs. ESMA's Level 2 requirements. Therefore the costs calculated this way should be an upper bound estimate. They could affect portfolio managers/investment firms currently executing other transactions not included on the list that would have to be moved on venue. We estimate these costs not to be significant as it could be argued that the most significant effects should be attributed to the Level 1 trading obligation. As ESMA's requirements have taken into consideration existing market practices to consider non-price formation trades, and also the feedback received to the DP, we expect compliance costs arising from this standard to be of minimal significance.
Costs to other stakeholders	N/A
Indirect costs	Any indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications of the share transactions to be excluded from price formation. End investors could be affected if it is passed to them the potential higher cost of executing on-venue transactions which are currently executed OTC (through commission and/or administration fees for fund investors). Higher transparency of those share transactions could also impact liquidity provision in some cases. We believe these effects not to be significant. A few investment firms may stop providing some services to clients, reducing the choice available to end investors. It could be also that in some cases it affects best execution. However, all these effects should be attributed to Level 1 legislation.

3.4. Post-trade transparency for trading venues and investment firms in respect of equity and equity like financial instruments

Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[30], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

MiFID introduced transparency requirements, including post-trade transparency requirements for regulated markets (RMs) and multilateral trading facilities (MTFs) offering trading in shares admitted to trading on a regulated market as well as for investment firms when concluding transactions in that same asset class. Based on MiFID experience and considering that trading in depositary receipts, ETFs, certificates, similar financial instruments and in shares traded only on MTFs takes place in largely the same fashion, and fulfils a nearly identical economic purpose, as trading in shares admitted to trading on a regulated market, MiFIR extends pre-trade transparency provisions to the former.

The purpose of the proposed RTS is to further develop the post-trade transparency information to be made available by trading venues and investment firms in this new environment. Those measures include the content and timing of the information to be made public, the identifiers for different types of transactions, the criteria and conditions for deferred publication of transactions and the application of post-trade transparency obligations in respect of certain specific transaction types.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against the MiFID I /MiFIR baseline. Whenever market practices are above what is being required by MiFID I /MiFIR, current market practices will be taken into consideration to assess costs and benefits. In practice, however, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment covering the general aspects of the Directive has been already performed and published by the European Commission[31], and the effects of the Level 2 provisions. In this case, this will be noted in the analysis.

For each draft RTS, the analysis includes five sections. The introduction sets out the background for the draft RTS. The Baseline section explains the starting point or status quo for assessing the incremental rule related to ESMA's proposal while the persons and entities potentially impacted by the draft RTS are identified in the Stakeholders section.

[30] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
[31] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

After a description of the technical proposal or options included in the draft RTS, an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

Draft RTS under Article 7(2)(a) and Article 20(3)(a) of MiFIR – Details of transactions to be made public by trading venues and investment firms

1. Introduction

By enabling investors or market participants to assess the terms of a transaction they are considering and to verify afterwards the conditions in which it was carried, the details of transactions contribute to the efficiency of the overall price formation process and assist the effective operation of "best execution" obligations. They also help to minimise the consequences of fragmentation in trading.

The purpose of identifiers is to complement the information content of post-trade publications by disclosing the technical characteristics of a transaction or the particular circumstances under which a transaction has occurred and further contribute to post-trade transparency objectives.

A list of post-trade information to be made public by investment firms, regulated markets, and MTFs for transactions in shares admitted to trading on a regulated market was provided in Article 27 and Table 1 in Annex I of the MiFID Implementing Regulation. The draft RTS considers whether any adjustment needs to be made to these earlier provisions to better identify some specific transactions, including in light of the revised pre-trade transparency framework.

2. Baseline

From a legal perspective, the legislation to consider is:

i. in respect of shares admitted to trading on a regulated market:

Article 28 (for investment firms), Article 30 (for MTFs) and Article 45 (for regulated markets) of MiFID I, which all require to make at least public "the price, volume and time" of the transactions executed in respect of shares admitted to trading on a regulated market, supplemented by Article 27(1) and Table 1 of Annex II of the MiFID Implementing Regulation.

This MiFID Level 2 measure provides for the details of transactions to be made public[32] by investment firms and trading venues, as well as specific identification where i) the exchange of shares is determined by factors other than the current valuation of the share, ii) the trade was a negotiated trade, and iii) any amendments to previously disclosed information.

[32] i) trading day, ii) trading time, iii) instrument identification, iv) unit price, v) currency, vi) quantity and vii) venue

The CESR's guidelines on Publication and Consolidation of MiFID Market Transparency Data (CESR - 07/043) further recommended the use of the ISO standards format, as far as possible, particularly for new entrants, and of the flags 'D' for determined by other factors, 'N' for negotiated trade, 'A' for amendment and 'C' for cancellation.

ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments :

Article 6(1) of MiFIR, where trading venues are required " to make public the price, volume and time the transactions was executed in respect of shares, depository receipts, ETFs, certificates and other similar financial instruments";

Article 20(1) of MiFIR, where "Investment firms which, either on own account or on behalf of clients, conclude transactions in shares, depositary receipts, ETFs, certificates and other similar financial instruments traded on a trading venue, shall make public the volume and price of those transactions and the time at which they were concluded".

Empowerment/RTS

Under Article 7(2)(a) of MiFIR, ESMA has to "develop draft regulatory technical standards to specify the following, in in such a way as to enable the publication of information required under Article 64 of MiFID II :

(a) the details of transactions that investment firms, including systematic internalisers and market operators and investment firms operating a trading venue shall make available to the public for each class of financial instrument concerned in accordance with Article 6(1), including identifiers for the different types of transactions published under Article 6(1) and Article 20, distinguishing between those determined by factors linked primarily to the valuation of the financial instruments and those determined by other factors".

The draft RTS proposes to retain the content of information on transactions currently required to be made public for shares admitted to trading on a regulated market and to extend it to shares traded only on MTFs and to equity-like instruments. The draft RTS also proposes a more granular list of 14 identifiers to improve price formation in the market and support achieving and monitoring best execution.

In terms of market practices, trading venues offering trading in equity-like instruments and in shares traded only on MTFs currently provide post-trade information. As regards identifiers, an industry-led initiative, initiated by FESE and now under the auspices of FIX Protocol, the Market Model Typology (MMT) initiative has developed a data model and cross reference table which maps trade flags across regulated markets, MTFs and OTC publication arrangements, based on the CESR Technical Advice to the Commission on the MiFID review. The MMT's data model builds upon CESR's recommendations and would need to be expanded, but not fundamentally modified, to match the draft RTS for equity and equity-like instruments.

According to the MMT initiators, post-trade information of 80% of EU/EEA equity trading venues, including of the largest ones, is currently made available using the MMT standards. However, only a very small number of EU regulated markets currently produce their data feed according to the MMT standards. Most of them forward the information produced by their trading systems to data vendors according to their own standards. The data vendor then “translates” the information received according to the mapping table provided by the regulated market into the MMT standards.

Information was gathered about the two main trade publication arrangements for OTC transactions. The contractual arrangements under which one of them operates provides that the investment firm has to report its transaction to the trade publication arrangements using the MMT standards. The other trade publication arrangement offers the firm the option to report the trade according either to the MMT standards or under another format. The transaction is then published by the trade publication arrangement, without any mapping.

The incremental obligation arising from the draft RTS comprises the details of transactions and the identifiers to be made public by trading venues and investment firms in respect of transactions in equity or equity-like instruments compared to the status quo (including the MiFID I/MiFIR baseline described above). Where current market practices are above the MiFID I/MiFIR baseline, they will be taken into consideration for the analysis.

It should be noted that, where the draft RTS creates additional obligations, the cost associated with the incremental rule will be a combination of the effects of the Level 1 text and of the draft RTS. As those effects are very difficult to disentangle, any indication of costs is to be considered as an upper bound.

3. Stakeholders

The stakeholders that may or will be affected by the details of information to be made public for transactions in equity and equity-like instruments are:

Regulated markets and MTFs: Trading venues offering trading in shares traded only on MTFs and in equity-like instrument currently provide post-trade information and, subject to confirmation in the final CBA, the field identifiers are supposed to be close to the ones for shares admitted to trading on a regulated market.

All trading venues in equity and equity-like instruments will have to refine their data feed to flag transactions with more granularity, including transactions executed under the pre-trade transparency waiver.

Beyond the extended scope of post-trade transparency obligation, a key difference between the MiFID and the MiFID II/MiFIR framework is the harmonisation of post-trade transparency standards.

Under MiFID I, neither the implementing measures nor the CESR Guidelines required or recommended that the primary source of information, i.e. regulated market and MTFs, change their systems to harmonised formats and protocol. The Guidelines just encouraged trading venues, when developing new systems or making system changes, to consider the benefits of converging to open industry formats and protocols.

Under the MiFID II/MiFIR framework, CTPs will be consolidating data directly from trading venues. Trading venues will hence no longer be able to rely on data vendors to “map” their formats/standards with the harmonised ones required under the draft RTS and a number of them will have to amend their systems and data standards. This may be a source of significant costs.

Investment firms executing transactions for their own account or on behalf of clients OTC: Investment firms execute transactions in shares traded only on MTFs and in equity-like instruments OTC will need to make the necessary arrangements for those transactions to be made public through an APA.

For all investment firms trading OTC in equity and equity-like instruments, the cost impact associated with the draft RTS is likely to vary depending on whether or not the APA agrees to map an investment firm’s proprietary standards/format against the ones required by the RTS or whether the investment firm, as the primary source of information, will be required by the APA to meet those standards/formats in the original data feed. At this stage, and subject to further research, it is uncertain whether APAs would be willing to “map” trades reported by investment firms, taking into account the potential risk of errors.

It is worth noting that the adoption of the MMT post-trade reporting standards by the FIX trading community should help the development and implementation of the new standard.

As the format for the publication of transactions is identical to the one to be used for the reporting of transactions to competent authorities, where the investment firm would choose to report transactions directly to competent authorities, matching the draft RTS format for trades reported to APA(s) would not be a source of additional costs.

Front and back-offices will be involved in the more granular identification of the transactions to be reported.

It should be noted that systematic internalisers’ transactions will be made public under the SI acronym, as a rule and no longer by way of derogation. The requirement to publish quarterly aggregated information when using the SI acronym disappears and is being replaced by the information to be published by venues on quality of execution to be specified by ESMA under Article 27 of MiFID II.

Publication arrangements (APAs): APAs will have to incorporate OTC transactions in shares traded only on MTFs and in equity-like instruments in their data stream, and implement as well the more granular list of flags. Where APAs require investment firms trade reported through their systems to comply with the formats and standards set out in the draft RTS, the costs for APAs are expected at this stage to be limited. Costs are likely to be more significant where APAs would continue to do the mapping.

Market participants more broadly (including market members/participants, asset/portfolio managers, end investors): More information on the technical characteristics of a transaction or the particular circumstances under which a transaction has occurred, will provide enhanced insight on the price formation process an additional tools for providing, and monitoring, best execution. In particular, transactions identified as contributing to the double volume cap mechanism are likely to attract strong interest.

4. Technical Options

The draft RTS on the information to be made public has two main components, one dealing with the characteristics of the transaction, the other one with flags.

Technical Option 1 deals with the specific details of the transaction to be made public. It creates an additional obligation for investment firms trading OTC in shares traded only on MTFs and in equity-like instruments, and potentially trading venues offering trading in the same asset classes.

Policy Objective	Enhanced post trade transparency
Technical Proposal	Details of the transaction be made public for the purpose of post-trade transparency [See Table below]

Field identifier	**Description**	**Format to be populated by MDRWG**
Trading day	Date when the transaction was executed. For OTC transactions, the date when the parties agree the content of the following fields: quantity, quantity notation, price, price notation, currencies 1 and 2, price multiplier, instrument identification, instrument classification and underlying instrument, where applicable	ISO 8601 date format: YYYY-MM-DD UTC time
Trading time	Time when the transaction was executed. For OTC transactions, the time when the parties agree the content of the following fields: quantity, quantity notation, price, price notation, currencies 1 and 2, price multiplier, instrument identification, instrument classification and underlying instrument, where applicable	ISO 8601 time format hh:mm:ss.0Z where the number of zeros after the ‘seconds’ is determined by the Article 50 MiFID II requirements UTC time
Instrument identification code type	Code type used to identify the financial instrument	I = ISIN, A = AII
Instrument identification	Code used to identify the financial instrument	Where Instrument identification code type is I, ISO 6166 ISIN Where Instrument identification code type is A,

		AII venue + Exchange Product Code (16 alphanumerical characters)
Unit price	Traded price of the transaction excluding, where applicable, commission and accrued interest unless the instrument is traded with a dirty price Where no price is available, a default value shall be used If the agreed price is zero a price of zero should be used.	Up to 20 numerical digits with a decimal separator Where price reported in monetary terms, it shall be provided in the major currency unit Where applicable, values should be rounded and not truncated
Currency	Currency in which the price is expressed.	ISO 4217 Currency Code, 3 alphabetical characters
Quantity	Number of units of the financial instruments.	Up to 20 numerical digits with a decimal separator No negative or nil values Where applicable, values should be rounded and not truncated
Venue of execution	Identification of the venue by a unique code.	MiFID trading venue or non-EEA valid trading market: ISO 10383 segment MIC (4 characters) For financial instruments admitted to trading or traded on a trading venue, where the transaction on that financial instrument is executed over-the-counter: XOFF For financial instruments admitted to trading or traded on a trading venue, where the transaction on that financial instrument is executed on a Systematic Internaliser: SI Where an investment firm does not know it is trading with another investment firm acting as a SI: XOFF For financial instruments where the underlying is a financial instrument admitted to trading or traded on a trading venue and where the transaction on the main financial instrument is executed over-the-counter: XXXX For financial instruments traded on a non-EEA valid trading venue for which a valid MIC is not assigned: NEEA

Technical Option 2 includes the list of flags to be used, where applicable, by trading venues and investment firms. This list of flags creates an additional obligation for trading venues and investment firms in respect of equity and equity-like transactions to be made public, except for the amendment and cancellation flags.

Option 2	Flags to be used, as appropriate [See Table below]		
Flag	**Name**	**Type of execution venue**	**Definition**
'B'	Benchmark trade	RM, MTF, OTC	Transactions executed in reference to a price that is

			calculated over multiple time instances according to a given benchmark, such as volume-weighted average price or time-weighted average price.
‘X’	Agency cross trade	RM, MTF, OTC	Transactions where an investment firm has brought together clients’ orders with the purchase and sale conducted as one transaction and involving the same volume and price.
‘G’	Non-price forming trades	RM, MTF	All types of transactions listed under Article 2 of this Regulation and which do not contribute to the price formation.
‘S’	Special dividend trades	RM, MTF, OTC	Transactions that are either: executed during the ex-dividend period where the dividend or other form of distribution accrues to the buyer instead of the seller; or executed during the cum-dividend period where the dividend or other form of distribution accrues to the seller instead of the buyer.
‘T’	Technical trade	RM, MTF, OTC	Transactions not contributing to the price formation process as per Article 2.
‘L’	Large in scale	RM, MTF	Transactions executed under a pre-trade transparency waiver in accordance with Article 4(1)(c) of Regulation (EU) 600/2014.
‘D’	Deferred publication	RM, MTF, OTC	Transactions that are large in scale compared with normal market size for which deferred publication is permitted under Article 14.
‘R’	Reference price	RM, MTF	Transactions which are executed under systems operating in accordance with Article 4(1)(a) of Regulation (EU) 600/2014.
‘N’	Negotiated transactions in liquid financial instruments	RM, MTF	Transactions executed in accordance with Article 4(1)(b)(i) of Regulation (EU) 600/2014.

'O'	Negotiated trades in illiquid financial instruments	RM, MTF	Transactions executed in accordance with Article 4(1)(b)(ii) of Regulation (EU) 600/2014.
'P'	Negotiated trades subject to conditions other than the current market price	RM, MTF	Transactions executed in accordance with Article 4(1)(b)(iii) of Regulation (EU) 600/2014.
'H'	Algorithmic trades	RM, MTF	Transactions executed as a result of an investment firm engaging in algorithmic trading as defined in Article 4(1)(49) of Directive (EU) 65/2014.
'C'	Cancellations	RM, MTF, OTC	When a previously published transaction is cancelled. The cancellation shall be effected by submitting a new trade report (which must include all the original trade report details).
'A'	Amendments	RM, MTF, OTC	When a previously published transaction is amended. The amendment shall be effected by submitting a new trade report (which must include all the original trade report details) as well as a new trade report (which must include all the original trade report details except for the amended details).

5. Cost/benefit impact assessment

Technical Option 1: Details of transactions to be made public. Additional obligation for investment firms trading OTC and, potentially, for trading venues offering trading in shares traded only on MTFs and in equity-like instruments.

Option 1	Details of information on transactions to be published by investment firms and trading venues
	Qualitative description
Benefits	Harmonised details of information for transactions in equity and equity-like instruments across all EU trading venues and investment firms.
Cost to regulator	Regulators will likely incur additional supervisory costs to monitor compliance with the post-trade transparency obligations in shares

	traded only on MTFs and in equity-like instruments, but this is considered as a Level 1 cost rather than an implementing measure (RTS) cost.
Compliance cost	Depending on current market practices, trading venues may incur one-off cost to amend rule book for equity-like instruments, and include details of transactions in their data feed. Trading venues in all asset classes are likely to incur one-off IT costs to amend systems and use ISO standard formats for publication of transactions. Depending on current market practices, some investment firms may incur similar IT costs, although the costs associated with the obligation to make transactions in shares traded only on MTFs and in equity-like instruments public (MiFIR) and the cost associated with the standard format requirement (draft RTS) are difficult to separate.
Cost to other stakeholder	None
Indirect costs	As systematic internalisers will not be identified in post-trade transparency, investors will not be provided with an overview of all liquidity pools available for an instrument.

Technical Option 2: List of flags to identify technical characteristics of the transaction.

Option 2	Identifier of specific transactions to be published with the details of the transaction, as appropriate.
	Qualitative description
Benefits	Allows for more refined transaction analysis and provides additional tools for execution and monitoring of best execution obligations.
Cost to regulator	
Compliance cost	Trading venues will incur one-off IT costs to amend their systems to introduce requested flags s in primary data feed. This may be a source of significant costs. Investment firms firm will incur IT costs at front-office and back- office level to identify more granular transactions.
Cost to other stakeholder	None
Indirect costs	None

Draft RTS under Article 7(2)(b) of MiFIR – Real time publication of executed transactions

1. **Baseline**

From a legal perspective, the legislation to consider is:

i. in respect of shares admitted to trading on a regulated market:

Article 28(1) (for investment firms), Article 30(1) (for MTFs) and Article 45(1) (for regulated markets) of MiFID I, which all require to make public details of transactions in respect of shares admitted to trading on a regulated market "as close to real-time as possible", supplemented by Article 29 of the MiFID Implementing Regulation.

The MiFID Implementing Regulation specifies that post-trade information "relating to transactions taking place on trading venues and within normal trading hours shall be made available as close to real time as possible (…) and in any case within three minutes of the relevant transaction". The Level 2 measure further clarifies the timing of publication for on-venue transactions after normal trading hours and specifies the concept of "normal trading hours" for OTC transactions.

ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments :

Article 6(1) and Article 20(1) of MiFIR, where trading venues and investment firms are to make transactions public "as close to real time as technically possible".

Empowerment/RTS

Under Article 7(2)(b) of MiFIR, ESMA has to develop draft RTS to specify (…)

(b) the time limit that would be deemed in compliance with the obligation to publish as close to real time as possible including when trades are executed outside ordinary trading hours.

The draft RTS replicates most of the "real-time" provisions of the MiFID Implementing Regulation. However, in line with the CESR technical advice to the Commission on equity markets (CESR/10-208), ESMA proposes to shorten the maximum permissible delay to 1 minute.

The incremental rule is the definition of real time-publication set out in the draft RTS compared either to the MiFID I / MiFIR baseline described above or to current market practices where such market practices are above the MiFID I / MiFIR baseline. As the effects of the Level 1 text and of the Level 2 measures are difficult to separate, any indication of cost is to be taken here again as an upper bound.

2. **Stakeholders**

Regulated markets and MTFs: It is not expected that the shortening of the real time maximum delay to 1 minute will be a source of costs for most trading venues. Further research will however be conducted for the final CBA as regards the potential impact on open-outcry trading platforms.

Investment firms executing transactions for their own account or on behalf of clients OTC: The shorter delay will be challenging to meet for manually executed and reported trades as well as for complex trades, particularly during period of high market volatility and unusually active markets. Complying with the draft RTS may require significant front-office and back office systems upgrade and costs for certain market participants.

3. Technical Options

The technical proposal sets out the various parameters to be taken into account for the definition of real-time publication of transactions not eligible for delays. Beyond the extension of the requirements to transactions in shares traded only on MTFs and in equity-like instruments, the incremental obligation relates to a shortened maximum permissible delay for publication of one minute.

Policy Objective	Improved overall post-trade transparency
Technical Proposal	For the purposes of Article 6(1) and Article 20(1) of MiFIR post-trade information relating to executed transactions shall be made available as close to real-time as **is technically** possible and in any case within **one minute** of the relevant transaction. Information relating to a portfolio trade shall be made available with respect to each constituent transaction as close to real-time as is technically possible having regard to the need to allocate prices to particular shares, depositary receipts, ETFs, certificates and other similar financial instruments. Post-trade information relating to transactions taking place on a trading venue but outside its normal trading hours shall be made public before the opening of the next trading day of the trading venue on which the transaction took place. For transactions that take place outside a trading venue, post-trade information shall be made public: a. if the transaction takes place during normal trading hours of the most relevant market for the share, depositary receipt, ETF, certificate or other similar financial instrument concerned, or during the investment firm's normal trading hours, as close to real time as possible.;

	b. in any case not covered by point (a), immediately upon the commencement of the investment firm's normal trading hours or at the latest before the opening of the next trading day in the most relevant market for that share.

4. Cost/benefit impact assessment

Parameters to be taken into account for the definition of real-time publication of transactions not eligible for delays.

Technical Proposal	Real-time publication of transactions
	Qualitative description
Benefits	Improved timeliness of post-trade transparency and efficiency in price formation process. Fairness of the price formation process for all market participants.
Cost to regulator	None
Compliance cost	Certain market participants will incur one-off and IT costs to improve current arrangements, including where the process of data capture and transmission still rely on manual processing.
Cost to other stakeholders	None
Indirect costs	Indirect costs may incur where the shortened real-time allowance would affect the quality of post-trade information or where it would have an impact on trading activity in unusually active markets.

Draft RTS under Article 7(2)(c) and (d) of MiFIR – Deferred Publication of large transactions

1. Introduction

While real-time publication of transactions is critical for an efficient price formation and fairness for all market participants, the benefits of immediacy may, in some circumstances, be challenged by the related costs for certain market participants. This is in particular the case where an investment firm dealing on own account would take a significant position in a financial instrument and where other market participants, immediately informed of the transaction, would generate an adverse market movement. MiFIR, in line with MiFID I, hence foresees that the post-trade publication of transactions may be deferred. Three parameters have to be set out for a deferred regime: i) the circumstances of the transaction, ii) the size of the transaction and iii) the length of the deferral period. The purpose of this draft RTS is to assess whether there are changes to be made to the parameters set out in the MiFID Implementing Regulation for deferred publication of transactions in shares admitted to trading on a regulated market and to propose deferred publication thresholds and delays for shares traded only on MTFs and equity-like instruments.

2. Baseline

From a legal perspective, the legislation to consider is:

i. in respect of shares admitted to trading on a regulated market, the current Level 2 regime will be taken as baseline:

Article 45(2) for regulated markets, Article 28(2) for investment firms (by reference), and Article 30(8) for MTFs (by reference) of MiFID I which foresee deferred publication of transactions, supplemented by Article 28 of the MiFID Implementing Regulation under which the publication of transactions in share may be deferred if:

(a) the transaction is between an investment firm dealing on own account and a client of that firm; and

(b) the size of the transaction is equal to or exceeds the relevant minimum qualifying size, as specified in Table 4 in Annex II.

ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments :

Article 7(2) for trading venues and Article 20(2) for investment firms (by reference) of MiFIR under which competent authorities may "authorise market operators and investment firms operating a trading venue to provide for deferred publication of the details of transactions based on their type or size. (…)".

Empowerment/RTS

Under Article 7(2)(c) and (d) of MiFIR, ESMA has to develop draft RTS "to specify (...):

(c) the conditions for authorising investment firms, including systematic internalisers and market operators and investment firms operating a trading venue to provide for deferred publication of the details of transactions for each class of financial instruments concerned in accordance with paragraph 1 of this Article and with Article 20(1);

(d) the criteria to be applied when deciding the transactions for which, due to their size or the type, including liquidity profile of the share, depositary receipt, ETF, certificate or other similar financial instrument involved, deferred publication is allowed for each class of financial instrument concerned".

With regard to the empowerment under Article 7(2)(c) of MiFIR, the draft RTS is considering extending the circumstances under which a transaction would be eligible to deferred publication by referring to transactions between an investment firms dealing on own account and "and another counterparty" traded only on MTFs and to equity-like instruments.

As regards deferred publication thresholds and delays to be specified as per Article 7(2)(d) of MiFIR, the draft RTS proposes i) to retain an approach based on ADT classes, with a potential exception for ETFs, ii) to align the deferred publication ADT classes with the pre-trade Large in Scale (LIS) classes and ii) to shorten the maximum delay for publication of the transaction to the end of the trading day, with the overall objective of enhanced transparency.

The draft RTS finally clarifies that "end of the trading day" is to be understood as close to real-time as possible after the end of the closing auction or before the opening of the next trading day.

The incremental rules of the draft RTS is the conditions under which investment firms may defer publication and the deferred thresholds and delays allowed compared with the MiFID I / MiFIR baseline described above. Where current market practices, including on trading venues, are above the MiFID I / MiFIR baseline, those market practices will be taken into consideration for the cost/benefit analysis. As for the other sections of this cost/benefit analysis, any indication of cost is to be taken as an upper bond, give the difficulty to separate the effects of the Level 1 text and of the Level 2 measures.

The clarification provided as to the meaning of "end of the trading day" is not considered as an incremental obligation and is included in the assessment of the deferred publication thresholds and delays tables.

3. Stakeholders

Regulated markets and MTFs: Trading venues will have to adjust IT parameters to the proposed thresholds and delays. Alignment of liquidity bands for pre-trade LIS orders and post-trade deferred publications will however facilitate the implementation of the regime.

Trading venues may be indirectly impacted by the deferred publication thresholds and delays set out in the draft RTS where members/participants would be less willing to deal on own account with, and provide liquidly to, counterparties on venues considering that they face increased market risk.

As regards the circumstances under which a transaction may be eligible to deferred publication, the extension to principal trading with "another counterparty" considered by ESMA could have major consequences on trading venues post-trade transparency. Members/participants are not considered to be trading with "clients" on a trading venue, and as consequence, are not for instance required to meet best execution. Because they are not dealing with clients (except possibly through negotiated trades), the transactions they execute are currently not eligible for deferred publication.

If deferrals were to become available to any investment firm dealing on own account with a counterparty, they would become available to any on-venue transaction where one party would be dealing on own account in sizes above the relevant threshold. Given the deferred publication thresholds proposed in the draft RTS, some pre-trade transparent orders in less liquid classes, not eligible to the LIS waiver, could benefit from a 60 minute deferrals which is a significant change compared to the current situation.

Investment firms dealing on own account with another counterparty outside trading venues: Firms will benefit from the considered extension of deferred publications to transactions between an investment firm dealing on own account and “another counterparty” the investment firm has no client relationship with. The rationale is to cover every situation where the investment firm is at risk, and only situations where the investment firm is at risk, therefore excluding matched principal trades from the benefit of deferred publications. Further research will have to be conducted to assess the magnitude of transactions potentially added, (and excluded) under the option considered in the draft RTS. It also remains to be assessed to what extent non- client counterparties of investment firms will benefit from improved prices as investment firms will benefit from more time to unwind positions.

As regards thresholds and delays, overall, the revised table increases transparency by increasing the number of liquidity bands and reducing the maximum deferral period. However the exact impact of the revised table is to be assessed at a more granular level. Should market participants consider that, for some liquidity classes and transaction sizes, the delays are too short to reasonably expect unwinding a position before the transaction is made public, they may be less willing to provide liquidity to clients and other counterparties. They may also decide to increase spreads as a compensation for increased market risk. Both options would be to the detriment of market participants.

Approved Publication Arrangements (APAs): It is assumed that investment firms will be sending their transactions for publication to APAs immediately after the execution of the transaction, mentioning whether the transaction was done on own account. It will then be for the APA to ensure that the transaction is made public within the maximum permitted delay.

4. Technical Options

(1) Conditions for deferred publications of transactions

Compared to the current situation, the draft RTS creates an additional obligation for firms that used to benefit from deferred publication for matched principal trades and offers new opportunities for firms dealing on own account with counterparties outside a client relationship.

Policy Objective	Potential availability of deferred publication to every transaction in which an investment firm is at risk
Technical Proposal	The deferred publication of information in respect of a transaction may be authorised for a period no longer than the period specified in Tables 6 to 8 in Annex II for the class of share, depositary receipt, ETF,

	certificate or other similar financial instrument and transaction concerned, provided that the following criteria are satisfied: a. the transaction is between an investment firm dealing on own account **other than on a matched principal basis as per Article 4(1)(38) of Directive 2014/65/EU and another counterparty; (…)**

(2) Deferred publication thresholds and delays

Deferred publication thresholds and delays for shares and depositary receipts

Consistently with the recalibration of liquidity classes proposed in the context of the pre-trade waiver for LIS orders, the draft RTS proposes a revised table for shares with 8 liquidity classes against 4 classes as of today) and a maximum deferral period reduced to maximum end of trading day in all circumstances (against end of T+3 for the largest transactions in less liquid shares). The table is also simplified by making reference to set figures for thresholds.

The same table applies to depositary receipts.

Policy Objective	Improving transparency and price formation process while protecting significant risk taking firms from potential market impact
Technical Proposal	The deferred publication of information specified in Article 12 in respect of a transaction may be authorised for a period no longer than the period specified in Tables 6 to 8 in Annex II for the class of shares or depositary receipts provided that the following criteria are satisfied (…): b. the size of the transaction is equal to or exceeds the relevant minimum qualifying size, as specified in Tables 6 to 8 in Annex II as appropriate. The table below shows, for each permitted delay for publication and each class **of shares and depositary receipts** in terms of average daily turnover (ADT), the minimum qualifying size of transaction that will qualify for that delay in respect of a share or depositary receipt of that type.

Class of shares and depositary receipts in terms of the average daily turnover (ADT) in EUR	Minimum qualifying size of transaction for permitted delay	Permitted delay for publication
> 100m	10,000,000	60 minutes
	20,000,000	120 minutes
	35,000,000	End of the trading day

50m – 100m	7,000,000	60 minutes
	15,000,000	120 minutes
	25,000,000	End of the trading day
25m – 50m	5,000,000	60 minutes
	10,000,000	120 minutes
	12,000,000	End of the trading day
5m – 25m	2,500,000	60 minutes
	4,000,000	120 minutes
	5,000,000	End of the trading day
1m – 5m	450,000	60 minutes
	750,000	120 minutes
	1,000,000	End of the trading day
500,000 – 1m	75,000	60 minutes
	150,000	120 minutes
	225,000	End of the trading day
100,000 – 500,000	30,000	60 minutes
	80,000	120 minutes
	120,000	End of the trading day
< 100 k	15,000	60 minutes
	30,000	120 minutes
	50,000	End of the trading day

Deferred publication thresholds and delays for ETFs

Consistently with the pre-trade LIS waiver, ESMA is considering two options for the deferred publication thresholds and delays in respect of ETFs. Both options represent incremental obligations.

Option 1 is based on the same ADT classes as for the LIS pre-trade waiver, in line with the approach taken for equities, depositary receipts and certificates.

Policy Objective	Improving price formation process while protecting significant risk taking firms from potential market impact.
Option 1	Deferred publication thresholds and delays for transactions in ETFs The table below shows, for each permitted delay for publication and each class of ETF in terms of ADT, the minimum qualifying size of transaction that will qualify for that delay in respect of an **ETF** of that type.

Class of ETFs in terms of average daily turnover (ADT) in EUR	Minimum qualifying size of transaction for permitted delay	Timing of publication
ADT < 50 000	500 000	60 minutes
	1 000 000	120 minutes

	2 000 000	End of the day
50 000 ≤ ADT < 200 000	1 000 000	60 minutes
	2 000 000	120 minutes
	3 000 000	End of the day
200 000 ≤ ADT < 500 000	2 000 000	60 minutes
	3 000 000	120 minutes
	5 000 000	End of the day
500 000 ≤ ADT < 2 000 000	3 000 000	60 minutes
	5 000 000	120 minutes
	7 000 000	End of the day
ADT ≥ 2 000 000	5 000 000	60 minutes
	7 500 000	120 minutes
	10 000 000	End of the day

Option 2 is not based on ADT liquid bands and sets out a unique transaction size qualifying for deferred publication until end of the trading day, whatever the liquidity of the ETFs.

Option 2	Alternative option for deferred publication thresholds and delays for transactions in ETFs. Minimum qualifying size of the transaction for all ETFs, regardless of their liquidity: € 5 000 000. Maximum delay: end of the trading day.

Deferred publication thresholds and delays for certificates

Policy Objective	Improving price formation process while protecting significant risk taking firms from potential market impact
Technical Proposal	The table below shows, for each class of certificates in terms of ADT and the minimum qualifying size of transaction and corresponding deferral.

Class of certificates based on average daily turnover (ADT) in EUR	Minimum qualifying size of transaction for permitted delay	Timing of publication
ADT < 50 000	15 000	120 minutes
	30 000	End of the day
ADT ≥ 50 000	30 000	120 minutes
	60 000	End of the day

5. Cost/benefit impact assessment

(1) Conditions for deferred publications

The cost-benefit assessment below is based on the option considered by ESMA in the draft RTS. Compared to the current situation, the draft RTS creates an additional obligation for firms that used to benefit from deferred publication for matched principal trades and offers new opportunities for firms dealing on own account with counterparties outside a client relationship.

Technical Proposal	Deferred publication available to transactions between an investment firm dealing on own account with another counterparty, except for matched principal trades (depending on dealing size)
	Qualitative description
Benefits	Limiting deferred publication to risk taking situations.
Cost to regulator	None, as it is not expected that the revised definition would entail additional supervisory costs.
Compliance cost	Trading venues will incur one-off costs to adjust rule book/procedures to the revised definition. Investment firms may incur non-significant staff training costs regarding the revised definition of eligible transactions.
Cost to other stakeholders	None
Indirect costs	Decreased post-trade transparency for on-venue transactions, and possibly for OTC transactions where, on balance, the deferred publication of transactions with non-client counterparties would not be compensated by real-time publication of matched principal transactions.

(2) Deferred publications thresholds and delays

Deferred publication thresholds and delays for shares and depositary receipts

Technical Proposal	8 ADT liquidity classes, with 60 minute, 120 minute and end-of- day delays
	Qualitative description
Benefits	Thresholds set more accurately to the actual liquidity of the share (and depositary receipt). Alignment of pre-and post- trade ADT/liquidity classes. Overall transparency is increased, with possible exceptions for on-venue transactions.

Cost to regulator	None
Compliance cost	Trading venues will incur one-off (and recurrent for annual updates) IT costs to adjust publication system parameters to the revised table. APAs will incur one-off (and recurrent) IT costs to adjust publication parameters to the revised table.
Cost to other stakeholders	Thresholds and delays that may not allow for unwinding of positions prior to publication of transactions may have an effect on liquidity provision and/or increased spreads.
Indirect costs	Current thresholds for lower ADT classes allow for deferred publication of transactions based pre-trade transparent orders. Investment firms may have to revisit trading strategies for certain ADT classes/transaction sizes to accommodate the revised table.

Deferred publication thresholds and delays for ETFs

Option 1	5 ADT classes with 60 minute, 120 minute and end-of-day delays
	Qualitative description
Benefits	Ensuring the desired degree of pre-trade transparency while protecting large orders from adverse market impact. Achieving a balance between granularity and simplicity. Consistency with the ADT based approach retained for other equity and equity-like instruments.
Cost to regulator	Regulators will incur some additional market surveillance and supervisory costs but those costs are considered to be attributable to the Level 1 text rather than to the Level 2 measures.
Compliance cost	Trading venues will incur one-off (and recurrent) IT costs to adjust system parameters to thresholds and delays. APAs will incur one-off (and recurrent) IT costs to adjust publication parameters to thresholds and delays.
Cost to other stakeholders	Thresholds and delays that may not allow for unwinding of positions prior to publication of transactions may have an effect on liquidity provision and/or increased spreads.
Indirect costs	Investment firms may have to revisit trading strategies for certain ADT classes/transaction sizes to accommodate the table.

Option 2	Single deferred publication threshold of € 5 million with end-of-day delay
	Qualitative description
Benefits	Simplicity
Cost to regulator	None
Compliance cost	Insignificant for trading venues and APAs.
Cost to other stakeholders	Thresholds and delays that may not allow for unwinding of positions prior to publication of transactions may have an effect on liquidity provision and/or increased spreads.
Indirect costs	Investment firms may have to revisit trading strategies for certain transactions.

Deferred publication thresholds and delays for certificates

Technical Proposal	2 ADT classes, with 180 minute and end-of- day delays
	Qualitative description
Benefits	Harmonised thresholds and delays across Member states. Alignment of pre-and post- trade ADT/liquidity classes. Ensuring the desired degree of pre-trade transparency while protecting large orders from adverse market impact.
Cost to regulator	None
Compliance cost	Trading venues and APAs will incur minor one-off (and recurrent) IT costs to adjust publication system parameters to thresholds and delays.
Cost to other stakeholders	To be further identified in the final CBA.
Indirect costs	None

Draft RTS under Article 20(3)(b) of MiFIR: Application of OTC post–trade transparency to certain transactions

1. **Introduction**

Post-trade obligations are a source of costs to investments firms. Those costs are typically outweighed by the benefits of post-trade transparency as regards the efficiency of the price formation process, best execution obligations and fairness for all market participants. However, there may be circumstances where the publication of a transaction may not contribute in achieving the objectives set out above. Therefore MiFIR, in line with MiFID I, foresees that the obligation on investment firms to make public transactions executed outside trading venues maybe waived for certain type of transactions. The purpose of the draft RTS is to assess whether the current list of such transactions set out under MiFID I for shares admitted to trading on a regulated market requires any amendment, including in the light of extended post-trade transparency obligations to shares traded only on MTFs and to equity-like instruments.

2. Baseline

From a legal perspective, the legislation to consider is:

i. in respect of shares admitted to trading on a regulated market:

Article 28 of MiFID I, which foresees implementing measures to clarify the application of post-trade disclosure by investment firms “to transactions involving the use of shares for collateral, lending or other purposes where the exchange of shares is determined by factors other than the current market valuation of the share”,

supplemented by Article 5 of the MiFID Implementing Regulation, where, except for record-keeping of client orders and transactions purposes, the reference to a transaction “does not include any of the following :

(a) securities financing transactions;

(b) the exercise of options or of covered warrants;

(c) primary market transactions (such as issuance, allotment or subscription) in financial instruments falling within Article 4(1)(18)(a) and (b) of Directive 2004/39/EC”.

ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments:

Article 20 of MiFIR, which is an identical recast of Article 28 of MiFID I but for transactions executed outside trading venues.

Empowerment/RTS

Under Article 20(3)(b) of MiFIR, ESMA has to develop draft RTS “to specify (..):

(b) the application of the obligation under paragraph 1 to transactions involving the use of those financial instruments for collateral, lending or other purposes where the exchange of financial instruments is determined by factors other than the current market valuation of the financial instrument”.

The draft RTS proposes to supplement the list set out in the MiFID Implementing Regulation by further excluding from the scope of post-trade disclosure by investment firms transactions that do not have to be reported to competent authorities under Article 12(2) of the Draft RTS on transaction reporting as well as give-ups or give-ins[33] and transfers of financial instruments as segregated collateral.

The potential incremental rule is the list of transactions excluded from the scope of post-trade disclosure by investment firms compared to the MiFID I / MiFIR baseline described above. However, as the list sets out additional exemptions which are extended to shares traded only on MTFs and to equity-like instruments, the draft RTS is considered as removing, rather than creating, obligations.

3. Stakeholders

Investment firm executing transactions outside trading venues: Investment firms will be positively impacted by the draft RTS as internal publication and reporting processes will be streamlined by the consistency maintained or created between the list of transactions not considered as transactions for reporting purposes and the list of OTC transactions exempted from publication obligations in respect of all equity and equity-like instruments.

Compliance will also be streamlined by consistency between the list of OTC transactions determined by factors other than the current valuation of the financial instruments under this Article 20(3) of MiFIR and the list of transactions not contributing to the price discovery process set out in Article 2 of this draft RTS under MiFIR Article 23(3) empowerment on trading obligation for shares.

The draft RTS will likely represent a significant source of cost savings for investment firms.

Market participants: It is not expected that market participants will be negatively impacted by the absence of information on the transactions included in the draft RTS, as those transactions do not provide meaningful information as to the level of genuine interest in a financial instrument and do not contribute to the price formation process. It is worth noting that a proposal for a Regulation of the European Parliament and of the Council on reporting and transparency of securities financing transaction has been made public by the European Commission in January 2014.

4. Technical Options

The list of transactions exempted from post-trade transparency under the draft RTS expands on the MiFID I list and applies to equity and equity-like instruments, while being limited to OTC transactions. The newly added transaction types appear in bold letters below.

Policy Objective	Focussing post-trade transparency on useful and meaningful information for price formation and best execution purposes.

[33] Transactions where an investment firm passes a client trade to, or receives a client trade from another investment firm for the purpose of post-trade processing.

Technical Proposal	The obligation in Article 20(1) of Regulation (EU) 600/2014 shall not be applied to the following: **a. transactions included under Article 3(3) of the draft RTS on transaction reporting;** b. securities financing transactions; c. the exercise of options, of covered warrants or convertible bonds; d. primary markets transactions (such as the issuance, allotment or subscription, placements and the exercise of pre-emption rights); **e. give-ups or give-ins;** **f. transfers of financial instruments as segregated collateral in bilateral transactions or in the context of a CCP margin and collateral requirements.**

5. **Cost/benefit impact assessment**

Technical Proposal	List of OTC transactions exempted from post-trade transparency obligations
	Qualitative description
Benefits	Avoid unnecessary operational challenges and costs for investment firms. Avoid polluting post-trade data with non-meaningful information. Consistency with transactions not reportable to competent authorities. Consistency with transactions not subject to trading obligations for shares.
Cost to regulator	None
Compliance cost	Investment firms trading OTC may incur some staff training costs and some one-off IT costs to adjust internal systems to the revised list but at this stage, those costs are expected to be non-significant.
Cost to other stakeholders	None
Indirect costs	None

Draft RTS under Article 20(3)(c) of MiFIR: Transactions between investment firms

1. Introduction

In order for post-trade information to be accurate, reliable and meaningful, it is as crucial for each transaction to be published only once. This is of particular concern for transactions concluded OTC where both parties to the transaction could potentially made the transaction public and OTC data currently available in respect of transactions in shares admitted to trading on a regulated market are typically considered as overestimated. The MFID Level 2 measures may not have fully achieved their objective in this area and the draft RTS proposes to revisit and simplify them.

2. Baseline

From a legal perspective, the legislation to consider is:

i. in respect of shares admitted to trading on a regulated market :

Article 27 of MiFID setting out post-trade transparency obligations for investment firms, supplemented by Article 27(4) of the MiFID Implementing Regulation, under which: "Where the transaction is executed outside the rules of a regulated market or an MTF, one of the following investment firms shall, by agreement between the parties, arrange to make the information public:

(a) the investment firm that sells the share concerned;
(b) the investment firm that acts on behalf of or arranges the transaction for the seller;
(c) the investment firm that acts on behalf of or arranges the transaction for the buyer;
(d) the investment firm that buys the share concerned.

In the absence of such an agreement, the information shall be made public by the investment firm determined by proceeding sequentially from point (a) to point (d) until the first point that applies to the case in question.

The parties shall take all reasonable steps to ensure that the transaction is made public as a single transaction. For those purposes two matching trades entered at the same time and price with a single party interposed shall be considered to be a single transaction".

ii. in respect of shares traded only on MTFs, depository receipts, ETFs, certificates and other similar financial instruments:

Article 20(1) of MiFIR where "Investment firms which, either on own account or on behalf of clients, conclude transactions in shares, depositary receipts, ETFs, certificates and other similar financial instruments traded on a trading venue, shall make public the volume and price of those transactions and the time at which they were concluded".

Empowerment/RTS

Under Article 20(3)(c) of MiFIR, ESMA has to develop draft RTS "to specify (..)

(c) the party to a transaction that has to make the transaction public in accordance with paragraph 1 if both parties to the transaction are investment firms".

3. Stakeholders

Investment firms concluding transactions OTC: Where it is uncertain which firm is in charge of making an OTC transaction public, and to ensure that the transaction is actually made public, it currently happen that both the buyer and the seller makes the transaction public. Some specific transactions (e.g. matched principal trades) also raised to questions as to how they should be published. Greater clarity and simplicity as to the determination of the party in charge of the post-trade obligation should facilitate compliance by investment firm and limit the risk of double reporting.

Market participants: Market participants globally, will benefit from more accurate post-trade data. Such data will be of particular interest to assess the impact of the trading obligation for shares, in contrast with equity-like instruments.

4. Technical Options

Determination of the party to an OTC transaction in charge of post-trade transparency obligations and clarification of obligations for matching trades.

Policy Objective	Improved post-trade transparency through more accurate OTC data
Technical Proposal	1. Where a transaction between two investment firms is concluded outside the rules of a trading venue, either on own account or on behalf of clients, the investment firm that sells the financial instrument concerned shall be responsible for making the transaction public through an APA. 2. By way of derogation to the previous paragraph, if only one of the investment firms party to the transaction is a systematic internaliser in the given instrument, that firm shall report the transaction, informing the seller of the action taken. 3. Investment firms shall take all reasonable steps to ensure that the transaction is made public as a single transaction. For those purposes two matching trades entered at the same time and for the same price with a single party interposed shall be considered to be a single transaction.

5. Cost/benefit impact assessment

Determination of the party to an OTC transaction in charge of post-trade transparency obligations and clarification of obligations for matching trades.

Technical Proposal	Seller to make a transaction public through an APA, except where only one party to the transaction is a systematic internaliser. Matching trades with a single party interposed to be considered as one transaction.
	Qualitative description
Benefits	More straightforward
Cost to regulator	None
Compliance cost	Investment firms will likely incur some one-off IT costs to adjust their back-office systems to revised arrangements for determination of the party in charge of making the transaction public. Similar one-of costs would incur in respect of matching trades.
Cost to other stakeholders	None
Indirect costs	None

3.5. Liquid market definition for non-equity financial instruments

3.6. Pre-trade transparency for non-equity instruments

3.7. Post-trade transparency requirements for non-equity intruments

3.8. Temporary suspension of transparency requirements

3.9. Exemptions from transparency requirements in respect of transactions executed by a member of the ESCB

Exemptions to MiFIR scope (Article 1(8) of MiFIR)

1. **Executive Summary**

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFID II baseline. Whenever market practices are above what is required by MiFID II, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[34] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at ensuring that members of the ESCB can carry out their monetary, foreign exchange and financial stability policy operations without those policy operations being within the transparency requirements, how notification should take place and the transactions that would qualify for that transparency exemption.

The stakeholders identified are regulated markets/market operators/investment firms, ESCB members and National Competent Authorities (NCAs).

The next section covers the different technical options and the options to be considered in the RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

The Market in Financial Instruments Regulation (MiFIR) establishes uniform requirements that apply to a number of areas, including pre and post trade transparency of non-equities. It also determines who is subject to those provisions, and who is exempted from them and in which circumstances.

ESMA understands that the purpose of the exemption in the case of the ESCB is to ensure that members of the ESCB can carry out their monetary, foreign exchange and financial stability policy operations without those policy operations being within the transparency requirements set by MiFIR. However, in cases where they undertake other investment operations outside of their statutory functions, those transactions should be disclosed in the interest of transparency in the market for those types of transactions, and subsequent contribution to price discovery.

3. Baseline

MiFIR Article 1(6) and 1(7) establish that disclosure obligations related to pre and post-trade transparency in non-equities as well as pre-trade and post-trade disclosure obligations for systematic internalisers (SIs) in non-equities shall not apply to regulated markets, market operators and investment firms when the counterparty is a member of the ESCB, and when that transaction is entered into when performing monetary, foreign exchange and financial stability policy operations and the ESCB has notified the counterparty that the transaction is exempt. These exemptions do not apply to transactions entered by any member of the ESCB in performance of their investment operations.

[34] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

MiFIR Article 1(8) asks ESMA to develop in close cooperation with the ESCB draft RTS to specify the monetary, foreign exchange and financial stability policy operations, and the types of transactions to which Article 1(6) and 1(7) apply.

The purpose of this document is to set out the CBA in respect of the incremental obligation of ESMA's RTS against the MiFIR baseline mentioned above.

4. Stakeholders

The stakeholders that are relevant for this standard are:

Regulated markets/market operators/investment firms may incur additional costs but the extent of those costs will depend on the final wording of the RTS. Any costs that could arise for trading venues or market participants from having to separate transactions exempted from disclosure should be attributable to MiFIR and not to this technical standard. However, how and to what extent those transactions are separated in practice, particularly in electronic order books, will entail costs that could be attributed to ESMA's RTS. There seems to be a trade-off between costs incurred, protection to ESCB operations and fair and orderly trading. If the exemption were to be extended to pre-trade transparency across all execution systems (electronic and manual), trading venues may need to establish arrangements and systems allowing transactions where one counterparty is a member of the ESCB to be exempted from pre-/post-trade transparency in some cases but not in others. However, this is established by MiFIR and not by this RTS.

ESCB members should not incur additional costs as the operations and types of transactions identified by ESMA as exempted should take into consideration existing practices, except those related to notification procedures. However, they may need to notify trading venues and their counterparties when the transactions that they are about to carry out are subject to transparency requirements.

NCAs may be marginally affected as may need to take into consideration those transactions excluded from disclosure when supervising regulated markets, market operators and investment firms. However, the obligation and incremental cost is established by MiFIR and not by this RTS.

5. Technical options

We summarise below the options considered by ESMA in this technical standard, in relation to MiFIR Article 1(8):

1. transactions to which the exemption should apply; and

2. transactions to which the exemption should not apply.

Technical Option 1: Transactions to which the exemption should apply

Policy Objective	Ensure that members of the ESCB can carry out their monetary, foreign exchange and financial stability policy operations without those policy operations being within the transparency requirements set by MiFIR.
Proposal	The transparency exemption applies to those transactions where the counterparty is a member of the ESCB, the transaction entered into by that member 'in performance of monetary, foreign exchange and financial stability policy' and when those transactions are: (a) carried out for monetary policy, including operations conducted in accordance with Articles 18 and 20 of the Statute or operations under equivalent national provisions for members of the ESCB in Member States whose currency is not the euro; (b) foreign-exchange operations, operations conducted for the management of foreign reserves and reserve management services provided by a member of the ESCB to central banks in other countries to which the exemption has been extended; (c) operations conducted in pursuit of financial stability policy.

Technical Option 2: Transactions to which the exemption should not apply

Policy Objective	Ensure the non ESCB counterparty knows when it is interacting with the ESCB and the transparency exemption does not apply:
Proposal	The transparency exemption shall not apply to transactions entered into with a member of the ESCB where that member has entered into the transaction for the performance of an operation that is unconnected with that member's performance of one of the tasks above, including a transaction entered into by that member of the ESCB: a. for the management of its own funds; b. for administrative purposes or for the staff of the member of the ESCB which include transactions conducted in the capacity as administrator of a pension scheme for its staff; or c. for its investment portfolio pursuant to obligations under national law.

6. Cost/benefit impact assessment

The extent of the actual costs and benefits will be determined by the exact wording of the RTS. Any costs that could arise for trading venues or market participants from having to separate transactions exempted from disclosure should be attributable to MiFIR and not to this technical standard. However, how and to what extent those transactions are separated in practice, particularly in electronic order books, will entail costs that could be attributed to ESMA's RTS. In practice there will be difficulties in disentangling when Level 1 compliance costs end and Level 2 costs start. The indirect effects however, should be attributed mostly to the Level 1 provisions.

There seems to be a trade-off between costs incurred, protection to ESCB operations, and fair and orderly trading. If the exemption were to be extended to pre-trade transparency across all execution systems (electronic and manual), trading venues may need to establish arrangements and systems allowing transactions where one counterparty is a member of the ESCB to be exempted from pre-/post-trade transparency only in the cases where the ESCB member performs its monetary, foreign exchange and financial stability policy operations.

Technical Option 1: Transaction to which the exemption should apply

This aim of this provision is to allow the members of the ESCB to carry out their monetary, foreign exchange and financial stability policy operations without those policy operations being within the transparency requirements set by MiFIR. The wording of the RTS reflects the types of transactions typically carried by ESCB members in pursuit of their statutory functions. While counterparties (or trading venues) may bear incremental costs because of the need to separate those transactions where the counterparty is a member of the ESCB carrying out their monetary, foreign exchange and financial stability policy operations from those transactions that are unconnected with that member's performance of these tasks, the RTS per se should not entail incremental benefits or costs as the obligation is already established by MiFIR Article 1(6). Members of the ESCB should have no additional costs or benefits either as the wording of the RTS will mirror the current status quo.

Technical Option 2: Transactions to which the exemption should not apply

	Qualitative description
Benefits	ESCB operations when not conducted in performance of statutory functions are reported to the market for transparency purposes. This should allow the markets and investors to obtain a better overview of all the transactions that are being carried out in the fixed income market, which may contribute to the price discovery process.
Costs to regulator: - *One-off* - *On-going*	There may be some supervision costs for NCAs from monitoring that these transactions with ESCB members for other purposes rather than their statutory functions, are properly included by market operators and investment firms from transparency requirements. However, again those costs are a result of the requirements laid out in the Level 1 MiFIR text.

Compliance costs: - *One-off* - *On-going*	Investment firms and market operators may need to set up systems and controls to separate these transactions (reportable and subject to transparency requirements) from those also carried out by ESCB members which are not subject to transparency. Members of the ESCB may incur some costs related to the notification to the other party that these transactions are subject to transparency, the extent of which will depend on the final wording of the RTS. However, those costs are driven by MiFIR and not by this RTS.
Costs to other stakeholders	None identified
Indirect costs	Most of the indirect effects should be attributable to MiFIR Level 1 provisions.

3.10. Double volume cap mechanism and the provision of information for the purposes of transparency and other calculations

Double volume cap mechanism (Article 5(9) of MiFIR)

1. **Executive summary**

Pursuant to Article 10(1) of the Regulation establishing ESMA[35], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft RTS and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft RTS.

The purpose of the proposed draft RTS is to allow ESMA to comply with the double volume cap requirements established by MiFIR by specifying the methods to collate, calculate and publish the data to use as well as how to publish the percentages of trading carried out under those waivers across the EU per trading venue.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFID II baseline. Whenever market practices are above what is being required by MiFID, current market practices will be taken into consideration to

[35] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[36] covering the general aspects of the Directive and Regulation has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aim at establishing how ESMA could comply with the MiFIR Article 5 requirements.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's draft RTS, which can be either the MiFID II requirements, or the existing practices of regulated markets when they are above MiFID II.

The stakeholders identified are trading venues (TVs), CTPs, ESMA and NCAs.

The next section covers the different options to be considered in the draft RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the draft RTS.

2. Introduction

In order to ensure that the use of waivers from pre-trade transparency does not unduly harm price formation, MiFIR introduces in Article 5 two caps to limit the amount of trading that receives pre-trade waivers. The calculation of these two volume caps uses the following:

- as numerator the volume of trading in a specific liquid financial instrument (i) executed under systems matching orders where the price is determined using a reference price (Reference Price Waiver - RPW) and (ii) executed using the negotiated transaction waiver specified under MiFIR Article 4(1)(b)(i) (Negotiated Trade Waiver – NTW); and

- as denominator, the total volume of trading executed (i) on all trading venues across the Union (first cap) or (ii) on a specific trading venue (second cap).

The first volume cap is calculated trading venue by trading venue and set at 4% of the overall amount of trading across all TVs in the EU. The second volume cap is calculated across all TVs operating under one or both of the relevant waivers and is at the level of 8% of the overall amount of trading across all TVs in the EU.

This double volume cap mechanism is to be implemented and supervised on the basis of ESMA publications regarding the volume of trading under the waivers and an empowerment for draft RTS enabling ESMA to obtain the data for making such publications.

The analysis that follows is of a qualitative nature, more in depth analysis will be conducted for the final CBA.

[36] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

3. Baseline

The relevant legal text is MiFIR Article 5, which establishes the double volume cap mechanism. This cap does not apply to non-liquid equity or equity-like instruments. Article 5(4) establishes that ESMA has to publish:

- the total volume of trading per financial instrument in the prior 12 months in the EU;
- the percentage of trading in a financial instrument carried out across the EU under those waivers on each trading venue in the same period;
- the methodology to calculate those percentages.

The impact assessment of such policy decisions covering the general aspects of the Directive and Regulation has been already performed and published by the European Commission as part of their impact assessment of MiFID II[37].

ESMA is asked by MiFIR Article 5(9) to specify the *method* (including flagging of transactions) to collate, calculate and publish the transaction data to provide an accurate estimate of the volume for trading per financial instrument and the *percentages* of trading that use those waivers across the EU per trading venue.

The purpose of this document is to CBA the incremental obligation of ESMA's draft RTS against the MiFIR baseline described above. In practice, we will be able to attribute some of the costs to Level 1 legislation in those cases where ESMA does not impose an incremental obligation to the Level 1 text, so the costs arising from ESMA's standards in this case should be null or of minimal significance. In those cases where ESMA's standards do create a new obligation, it may be difficult to determine what part of the cost will be attributable to MiFIR and what part to ESMA's specification of the elements of MiFIR Article 5(9). Here we will compare ESMA's requirements with current market practices. As ESMA is trying to strike the right balance between a cost effective proposal and supporting calculation requirements and accuracy, we expect these costs not to be significant.

4. Stakeholders

We believe the stakeholders that could potentially be affected by this RTS are Regulators (ESMA and NCAs), trading venues and CTPs.

ESMA may experience incremental one-off IT and systems costs to develop appropriate capacity to store the volume of data to be received and resultant calculations for the double volume cap. ESMA may also experience on-going IT and maintenance costs to perform and publish the total volume of trading and the percentage of which is done through pre-trade waivers on a rolling 12 month period.

[37] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

NCAs may experience some incremental IT and systems costs if they decide to collect the data on behalf of ESMA, transmitting them to ESMA themselves.

Trading venues and CTPs may incur costs depending on how the information collection takes place and how that affects their IT systems.

5. Technical options

According to MiFIR Article 5(9) ESMA is considering Technical Options in the following areas:

1. volume traded via waiver facilities;
2. frequency of the calculations and publication of information;
3. consolidation and calculation of actual volumes by ESMA;
4. publication of information by ESMA.

Technical Option 1: Volume traded via waiver facilities

Policy Objective	To determine how ESMA should collate, consolidate and perform the calculations required by MiFIR regarding double volume cap.
Proposal	**To collect volume under trade waivers:** Each TV operating a reference price or relevant negotiated trade waiver facility has to submit the total volume of trading executed via each waiver facility during the relevant 12 months period to its NCA. The volume of individual transactions should be calculated as price of the instrument x number of units and the total volume should be obtained by collating all individual transactions (single-counted) sent by the different venues and, if necessary, converted into euros. **To measure the volume traded in the EU on-venue market as a whole**, to collect data from two sources: i. TVs to submit the total volume of all trading during the relevant 12 months period to their NCA. Requests for submitting such data would be sent to TVs in parallel with the requests for volumes executed via the waiver facilities; ii. CTPs to submit the entire on-venue trading volume per financial instrument to validate the data submitted by TVs.

Technical Option 2: Frequency of the calculations and publication of information

Policy Objective	To determine when the obligation to submit trading data should start, what period it should cover and how frequent the data collection should be.
Proposal	TVs and CTPs to submit their first report to their respective NCA by 3 January 2017, which will include trading data for the previous 12 months (from 3 January 2016 to 31 December 2016) and will be published by ESMA within five working days. From that date on, TVs and CTPs to submit twice a month trading volumes to their NCA: 1. on the 1st day of the month for the 2nd half of the prior month (days 16-month end); 2. on the 16th day of the month for the 1st half of the current month (days 1-15). The NCA to forward the data to ESMA by 13.00 CET on the next working day.

Technical Option 3: Consolidation and calculation of actual volumes by ESMA

Policy Objective	To determine how ESMA should consolidate and perform the calculations required by MiFIR regarding double volume cap.
Proposal	To establish technical arrangements, such as templates to be completed by stakeholders in a format that allows seamless aggregation of volumes across venues, in order to allow data to be consolidated on a timely basis, with proper procedures for identification and correction of errors in place.

Technical Option 4: Publication of information by ESMA

Policy Objective	To determine how ESMA should publish the calculations required by MiFIR regarding double volume cap.
Proposal	ESMA to make available information for the operation of the volume cap and monitoring of the thresholds on its website free of charge and in a machine-readable format .

6. Cost/benefit impact assessment

For the technical options considered by ESMA we summarize below a qualitative description of the costs and benefits arising from them.

Technical Option 1: Volume traded via waiver facilities

	Qualitative description
Benefits	Enables ESMA/NCAs to collect the necessary information required by MiFIR/MiFID (for example to determine liquidity, SIs classification, to properly calibrate and recalibrate thresholds required by MiFIR/MiFID) and to check its accuracy by collecting data from TVs and CTPs and twice a month. Adding the last 15 days to the series of data minimizes costs to firms, and simplifies the submission to NCAs.
Costs to regulator: - *One-off* - *On-going*	ESMA and NCAs may experience one-off IT and systems costs to develop appropriate capacity to collect, monitor, validate and store the volume of data to be received for the double volume cap. Regulators may need different IT processes to aggregate data from different TVs and CTPs if data not fully standardized between them. Both regulators may also experience on-going IT and maintenance costs to do this on a rolling 12 month period. However, the majority of the costs should be driven by Level 1 MiFID/MiFIR obligations. Requesting data from both TVs and CTPs will increase storage costs (same data requested twice) and will create staffing and system costs to compare and validate the information received, and will also need procedures for resolution of discrepancies or fixing of errors found.
Compliance costs: - *One-off* - *On-going*	TVs and CTPs may incur costs to comply with this standard. The amount of costs will depend on how the data collection actually takes place and whether it requires changes in TVs IT systems to provide the information to ESMA in a way that can later be consolidated. Those compliance costs will include one-off IT expenses related to the creation of the template and to submit the template requested to NCAs. While the full extent of costs should be driven by the final wording of the RTS, as ESMA is not introducing new obligations compared to MiFID/MiFIR and is trying to take into consideration existing practices as much as possible, we assume most of the costs arising from this standard should be of minimal significance. The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations.

Costs to other stakeholders	N/A
Indirect costs	Requesting just the next 15 days will minimize the costs to firms, however, it may pose challenges for NCAs and ESMA to monitor and check accuracy if that is not accompanied with a log of corporate actions or other relevant events to take into account in interpreting the data received. Any other indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.

Technical Option 2: Frequency of the calculations and publication of information

	Qualitative description
Benefits	Enables ESMA/NCAs to collect the necessary information required by MiFIR/MiFID (for example to determine liquidity, SIs classification, to properly calibrate and recalibrate thresholds required by MiFIR/MiFID) and to check its accuracy by collecting data twice a month. Adding the last 15 days to the series of data minimizes costs to firms, and simplifies the submission to NCAs. Requesting data regularly twice a month, instead of sometimes monthly and sometimes twice a month (when close to threshold), should minimize costs to firms as data requests are fully predictable and can be fully automated.
Costs to regulator: - *One-off* - *On-going*	ESMA and NCAs may experience one-off IT and systems costs to develop appropriate capacity to collect, monitor, validate and store the volume of data to be received for the double volume cap. Both regulators may also experience on-going IT and maintenance costs to do this on a rolling 12 month period. However, the majority of the costs should be driven by Level 1 MiFID/MiFIR obligations. Requesting data twice a month will create compliance costs arising from staffing costs related to checking, validation and treatment and resolution of discrepancies found in the data collected. There will be as well compliance IT costs from transmission of large volumes of data to ESMA twice a month. The transmission cost should be attributable to Level 1, however to do it twice a month should be an incremental obligation of this standard.

Compliance costs: - *One-off* - *On-going*	TVs and CTPs, may incur costs to comply with this standard. The amount of costs will depend on how the data collection actually takes place and whether it requires changes in TVs IT systems to provide the information to ESMA in a way that can later be consolidated. Those compliance costs will include one-off IT expenses related to the creation of the template to submit to NCAs as well the biweekly running of the IT programs to create and submit the report to the NCA.
Costs to other stakeholders	N/A
Indirect costs	Requesting just the next 15 days will minimize the costs to firms, however, it may pose challenges for NCAs and ESMA to monitor and check accuracy if that is not accompanied with a log of corporate actions or other relevant events to take into account in interpreting the data received. Any other indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.

Technical Option 3: Consolidation and calculation of actual volumes by ESMA

	Qualitative description
Benefits	Simplifies timely consolidation of data across different venues guaranteeing data accuracy and completeness.
Costs to regulator: - *One-off* - *On-going*	We estimate most of the costs arising for ESMA/NCAs to be related to IT systems and storage capacity, as well as staffing costs to monitor, validate and correct errors. The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations.
Compliance costs: - *One-off* - *On-going*	There could be costs for trading venues and CTPs related to resolution of discrepancies or correction of errors identified by NCAs/ESMA.
Costs to other stakeholders	N/A
Indirect costs	Any indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.

Technical Option 4: Publication of information by ESMA

	Qualitative description
Benefits	Simple and cost efficient way of disseminating information that can be automated by the users receiving it.
Costs to regulator: - *One-off* - *On-going*	We estimate most of the costs arising for ESMA/NCAs to be related to IT systems and web publication. We assume most of the costs arising from this standard should be of minimal significance. The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations.
Compliance costs: - *One-off* - *On-going*	TVs, APAs and CTPs may incur minimal costs to process the information published by ESMA. The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations.
Costs to other stakeholders	N/A
Indirect costs	Any indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.

Providing information for the purposes of transparency and other calculations (Article 22(4) of MiFIR)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[38], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to establish the content of national competent authorities' (NCAs) data requests, their frequency, time to respond to them, format of those requests, type of data to be stored and minimum storage time.

[38] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFIR/MiFID Level 2 baseline. Whenever market practices are above what is being required by MiFID, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[39] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at allowing ESMA/NCAs to make the calculations, calibrations and re-calibrations required by MiFIR in a way that would be cost efficient and would support calculation accuracy.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which can be either the MiFIR/MiFID requirements, or the existing practices of regulated markets when are above MiFID.

The stakeholders identified are trading venues in a specific financial instrument, APAs and CTPs, ESMA and NCAs.

The next section covers the different technical options and the options to be considered in the RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

One of MiFIR's objectives is to improve the availability and quality of data available to regulators following MiFID II implementation. These data will be used to improve the classification of financial instruments and to calibrate/recalibrate thresholds. To perform the necessary calculations both NCAs and ESMA must be able to obtain robust data of a high quality for each asset class to which MiFIR applies.

Therefore Article 22 of MiFIR enables regulators to request information from trading venues, APAs and CTPs in the context of carrying out MiFIR calculations. This information should be interpreted in the context of how ESMA will determine liquid instruments and how it will establish thresholds for the pre- and post-trade transparency requirements for equity, equity-like and non-equity instruments.

ESMA is asked by MiFIR Article 22(4) to specify the content and frequency of data requests, formats, timeframes for responding, type of data that must be stored and for how long.

The analysis that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014. The technical options proposed by ESMA in this CP may be different than those proposed in the DP as they have

[39] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

been informed by the feedback received since the publication of the DP. No mention to quantification of costs and benefits was made in the responses to the DP.

3. Baseline

The relevant legal text is MiFIR Article 22, which establishes that competent authorities may request information from trading venues, APAs and CTPs to determine requirements for pre and post trade transparency, trading obligation regimes and to also to determine whether an investment firm is a SI. Other articles refer to setting parameters and thresholds for other calculations (LIS, ADT, etc.).

The Level 1 text already imposes a number of specific parameters regarding the determination of a liquid market for financial instruments under Article 2(1)(17) of MiFIR (definition of a liquid market). Similar criteria also apply to the determination of whether an instrument is sufficiently liquid for the purposes of the trading obligation for derivatives. The parameters that Level 1 already asks for are:

Non equities:

- number of transactions in instruments over a specified period of time;
- volume executed;
- number and type of market participants active;
- size of spreads.

Equities and equity-like:

- traded daily;
- free float;
- average daily number of transactions;
- average daily volume executed.

MiFID establishes that for equity and equity-like instruments the recalculation and reclassification of instruments based on their liquidity is be conducted on an annual basis, with data requests also made to trading venues, APAs and CTPs annually. Article 21 of the Commission Regulation (EC) No 1287/2006, establishes an annual frequency for reviewing the list of systematic internalisers. Article 22 establishes the same annual frequency to publish the list of all liquid shares.

ESMA is asked by MiFIR Article 22(4) to specify for trading venues, APAs and CTPs the *content* and *frequency* of data requests, *formats*, *timeframes* for responding, *type of data* that must be *stored* and for *how long*.

The purpose of this document is to CBA the incremental obligation of ESMA's Regulatory Technical Standards against the MiFIR baseline described above. In practice, we will be able to attribute some of the costs to Level 1 legislation in those cases where ESMA does not impose an incremental obligation to the Level 1 text, so the costs arising from ESMA's standards in this case should be null or of minimal significance. In those cases where ESMA's standards do create a new obligation, it will be very difficult to determine what part of the cost will be attributable to MiFIR and what part to ESMA's specification of the elements of MiFIR Article 22(4). Here we will compare ESMA's requirements with current market practices. As ESMA is trying to adopt the right balance between a cost effective proposal and supporting calculation requirements and accuracy, we expect these costs not to be significant.

4. Stakeholders

We believe there are two types of stakeholders that could potentially be affected by this Technical Standard:

NCAs/ESMA may experience incremental one-off IT and systems costs to develop appropriate capacity to store the volume of data to be received and resultant calculations within the format specified. They may also experience on-going IT and costs maintenance costs to analyse, store and retrieve the information collected. The extent of the costs will depend on how standardised/automated the data/requests are, how frequent and how different this information is from what is currently submitted to them (i.e. transaction reports) and in which format.

Trading venues in a specific financial instrument/ APAs and CTPs may experience one-off IT and systems costs to modify the content and formats of data requests, to automate them or to be able to respond within the required timeframes. They may also experience on-going IT and costs maintenance costs to store the information requested by ESMA/NCAs for the time required. The extent of the costs will depend on how standardised the data/requests are, how frequent and how different this information is from what is currently submitted to regulators and/or industry standards and in which format it has to be stored/delivered. While the extent of the costs will be driven by the final drafting of the standard, we anticipate these costs not to be significant as the ESMA standard will try to be as cost efficient as possible, mirroring when applicable MiFIR/MiFID II requirements and taking into account existing practices, standards and information already submitted to regulators.

5. Technical Options

ESMA is asked on MiFIR Article 22(4) to propose technical options on the following areas:

1. content of data requests;
2. frequency of requests and time to respond;
3. formats;

4. type of data stored and minimum storage period.

After reviewing the responses received to the DP, ESMA is proposing the following for the Technical Options mentioned above.

Technical Option 1: Content of data requests

Policy Objective	Establish the content of the data requests to be required by NCAs to make the calculations, calibrations and re-calibrations required by MiFIR in a way that would be cost efficient and would support calculation accuracy
Proposal	1. The reports to be submitted to the NCAs by trading venues, APAs and CTPs shall include: (a) all the information and data required to calculate the thresholds and parameters in relation to the list of items described in Article 1 (MiFIR specifications - liquid market, pre and post transparency thresholds, etc.); (b) any other information and data that might be required by competent authorities or ESMA for the purpose of performing, monitoring, or adjusting the requirements described in Article 1. 2. The information contained in the reports submitted to competent authorities shall be provided in accordance with the criteria and methodologies defined in the Regulations [on Transparency for equity and equity-like instruments / on Transparency for non-equity instruments / on Liquid Market for equity and equity-like / on Definition of SI]. 3. Where available, the information provided by trading venues, APAs and CTPs shall comply with the templates specifically developed by ESMA to facilitate the calculations and publications of thresholds and other parameters described in Article 1.

Technical Option 2: Frequency of data requests and time to respond

Policy Objective	Establish the frequency of the data requests to be required by NCAs to make the calculations, calibrations and re-calibrations required by MiFIR in a way that would be cost efficient and would support calculation accuracy, as well as the time to respond to those requests.
Proposal	Trading venues, APAs and CTPs shall submit periodic reports at pre-set dates or pre-defined frequency, and develop automated processes to

	ensure that the reports reach the relevant NCA at the dates established in the regulatory technical standards for equity and non-equity transparency without undue delay. Responses to ad hoc requests shall be submitted to NCAs within four weeks after the initial requests.

Technical Option 3: Formats

Policy Objective	Establish the format of the data requests to be required by NCAs to make the calculations, calibrations and re-calibrations required by MiFIR in a way that would be cost efficient and would support calculation accuracy.
Proposal	Trading venues, APAs and CTPs to send the information requested in a format generally accepted and used in the market.

Technical Option 4: Type of data stored and minimum storage period

Policy Objective	Establish the type of data that should be stored by trading venues for the purposes of MiFIR data calculations
Proposal	Trading venues, APAs and CTPs shall store the types of data which meet the content of data request described in Article 2 of this regulation for at least two years.

6. Cost/benefit impact assessment

No explicit mention to quantifiable costs and benefits was made in any of the responses to the DP. For the technical options considered by ESMA we summarise below a qualitative description of the costs and benefits arising from them.

Technical Option 1: Content of data requests

	Qualitative description
Benefits	Enables NCAs to collect the necessary information required by MiFIR/MiFID (for example to determine liquidity, SIs classification as well as to properly calibrate and recalibrate thresholds required by MiFIR/MiFID). Using regular templates should minimise the costs to firms as it would support automation.

Costs to regulator: - *One-off* - *On-going*	We estimate most of the costs arising for ESMA/NCAs to be related to staffing, IT systems and storage capacity. There will be one-off and ongoing IT systems and staffing costs to process the templates requested to firms to determine the thresholds and recalculations established by Level 2 standards. The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations, which already ask to report the information requested by ESMA, or have been already considered and included in the CBA of the related RTS that establish methodologies and request information to be provided (non-equity transparency, etc.).
Compliance costs: - *One-off* - *On-going*	Trading venues, APAs and CTPs may incur one-off costs to adapt their information to the templates designed by NCAs/ESMA to comply with this standard. There will be one-off and ongoing IT systems and staffing costs to set up and run the templates requested to firms to determine the thresholds and recalculations established by Level 2 standards. However, as ESMA is not introducing new obligations in this RTS and takes into account information already stored, existing or submitted to regulators, and already required by MiFIR/MiFID II, needed to monitor/adjust the MiFIR/MiFID II requirements, or requested by a different RTS based on a methodology proposed by ESMA, we assume most of the costs arising from this standard should be of minimal significance. The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations.
Costs to other stakeholders	N/A
Indirect costs	Any indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.

Technical Option 2: Frequency of data requests and time to respond

	Qualitative description
Benefits	Enables NCAs to collect the necessary information required by MiFIR/MiFID (for example to determine liquidity, SIs classification as well as to properly calibrate and recalibrate thresholds required by MiFIR/MiFID). Minimises costs for firms by allowing a longer time to respond for ad-hoc requests.
Costs to regulator: - *One-off*	We estimate most of the costs arising for NCAs to be related to staffing, IT systems and storage capacity to deal with the periodic and ad-hoc requests established in the timeframe provided. However, as ESMA is not

- *On-going*	introducing new obligations in this RTS and takes into account information already stored, existing or submitted to regulators, or information already requested by other RTS, we assume most of the costs arising from this standard should relate to the increased staffing processing costs from the higher periodicity of the information to be received by NCAs (bi-weekly vs. monthly). The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations, which already ask to report the information requested by ESMA, or have been already considered and included in the CBA of the related RTS (i.e. non-equity transparency, etc.).
Compliance costs: - *One-off* - *On-going*	Trading venues, APAs and CTPs may incur costs to comply with this standard, and deal with the periodic and ad-hoc requests. However, as ESMA is not introducing new obligations in this RTS and takes into account information already stored, existing or submitted to regulators and already required by MiFIR/MiFID II, needed to monitor/adjust the MiFIR/MiFID II requirements, or requested by a different RTS based on a methodology proposed by ESMA, we assume most of the costs arising from this standard should be of minimal significance. The majority of the costs should be driven by Level 1 MiFID/MiFIR obligations, which already ask to report the information requested by ESMA, or have been already considered and included in the CBA of the related RTS (i.e. non-equity transparency, etc.).
Costs to other stakeholders	N/A
Indirect costs	Any indirect effects that could be identified would be already caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.

Technical Option 3: Formats

	Qualitative description
Benefits	Enables NCAs to collect the necessary information required by MiFIR/MiFID (for example to determine liquidity, SIs classification as well as to properly calibrate and recalibrate thresholds required by MiFIR/MiFID)
Costs to regulator: - *One-off* - *On-going*	NCAs may incur costs of harmonising different formats used in the market and used by different trading venues, APAs and CTPs.

Compliance costs: - *One-off* - *On-going*	Trading venues, APAs and CTPs should incur no additional costs as they should be able to use the formats currently in place in the market.
Costs to other stakeholders	N/A
Indirect costs	None

Technical Option 4: Type of data stored and minimum storage period

	Qualitative description
Benefits	Enables NCAs to collect the necessary information required by MiFIR/MiFID (for example to determine liquidity, SIs classification as well as to properly calibrate and recalibrate thresholds required by MiFIR/MiFID) and to check that information retroactively for a period of time (2 years)
Costs to regulator: - *One-off* - *On-going*	None
Compliance costs: - *One-off* - *On-going*	The costs arising from this standard should be of minimal significance given the obligation being already created at Level 1 and existing market practice.
Costs to other stakeholders	N/A
Indirect costs	Any indirect effects that could be identified would be aleady caused by the Level 1 legislation as opposed to ESMA's specifications on this technical standard.

3.11. Trading obligation

Interaction of trading obligation with Third Country Counterparties (Article 28(5) of MiFIR)

1. **Executive Summary**

Pursuant to Article 10(1) of the Regulation establishing ESMA[40], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft RTS and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft RTS.

The purpose of the proposed draft RTS is to establish the types of contracts with third country counterparties that are subject to the obligation to trade on regulated markets, MTFs and OTFs, as well as the cases where the trading obligation is necessary and appropriate to prevent evasion of the trading obligation rules.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFIR/EMIR baseline. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[41] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at establishing the relationship of third countries to the trading obligation. The objective is to mitigate the effects of third country firms' trading activities that could threaten financial stability in the EU, to make sure that market participants do not evade the trade obligation rules, and also to align to EMIR's clearing obligation whenever possible.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which can be either the EMIR requirements, or MiFIR.

The stakeholders identified are trading venues, particularly those focused on derivatives contracts, financial and non-financial third country firms with branches in the Union, financial firms within the Union providing guarantees to third country entities operating in OTC derivatives and national competent authorities (NCAs).

The next section covers the different technical options and the options to be considered in the RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

[40] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

[41] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

Following the financial crisis and G-20 decisions, Regulation (EU) No 648/2012 (EMIR) was enacted in the EU. This regulation established clearing and reporting obligations with the objectives of increasing transparency, reducing counterparty and operational risks. EMIR also covered the clearing obligation of third country firms trading in the EU, to prevent that risks resulting from OTC derivative contracts entered into by counterparties outside of the Union could be imported in the Union, and to prevent evasion of rules and obligations provided by EMIR.

According to EMIR, any derivative class or sub class must be subject to the clearing obligation, must be traded on at least one trading venue and considered sufficiently liquid to trade only 'on venue' before being subject to the trading obligation. Therefore the trading obligation is closely related to and should take into close consideration the already existing requirements established by EMIR for the clearing obligation.

In relation to EMIR's clearing obligation, ESMA/2013/1657 defined which contracts had a direct, substantial and foreseeable effect within the Union, and also the cases where it is necessary or appropriate to prevent the evasion of rules or obligations provided for in EMIR.

Under EMIR, there are two cases in which transactions between two non-EU counterparties may have a direct, substantial, and foreseeable effect within the European Union. The first case is when OTC derivatives contracts entered into by a third country counterparty benefit from a guarantee issued by an EU guarantor that is a financial counterparty. The second case relates to transactions between two non-EU entities operating through EU branches if both entities would be financial counterparties if they were established in the European Union.

ESMA is asked in MFIIR Article 28(5) to establish when a third country counterparty should be subject to the trading obligation mandated by MiFIR Article 28, and to be consistent with EMIR whenever possible.

The analysis that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014. The technical options proposed by ESMA in this CP may be different than those proposed in the DP as have been informed by the feedback received since the publication of the DP. No mention to quantification of costs and benefits was made in the responses to the DP.

3. Baseline

MiFIR Article 28 establishes the obligation to trade on regulated markets, MTFs, OTFs or third country trading venues (where an effective equivalence system exists). Article 28(2) indicates that the trading obligation also applies to counterparties entering into a transaction in a derivative class subject to the trading obligation with third country financial institutions and other third country entities that would be subject to the clearing obligation if they were established in the EU. Article 28(4) empowers the Commission to determine that a trading venue is suitable for use under the terms of the trading obligation.

MiFIR Article 28 also outlines the relationship of the trading obligation with third countries for which no equivalence assessment has been made.

Article 24(5) requires ESMA to define which derivatives contracts involving third country counterparties have a ‘direct, substantial and foreseeable effect within the Union’. Article 28(2) also obliges ESMA to monitor the derivatives market in general and report on situations which might give rise to systemic risk or regulatory arbitrage.

In relation to EMIR’s clearing obligation, ESMA/2013/1657 defined which contracts had a direct, substantial and foreseeable effect within the Union, and also the cases where it is necessary or appropriate to prevent the evasion of rules or obligations provided for in EMIR. This was later reflected in Delegated Regulation 285/2014. The criteria established in Regulation 285/2014 are exactly the same the ones established in this RTS.

ESMA is asked to draft regulatory technical standards on MiFIR Article 28(5) specifying the types of contracts with third country counterparties that are subject to the trading obligation, as well as the cases where the trading obligation is necessary and appropriate to prevent avoidance of the trading obligation. This RTS, where possible and appropriate, should be identical to the one adopted under Article 4(4) of EMIR which establishes the clearing obligation.

4. Stakeholders

This RTS establishes some extraterritoriality provisions, affecting the following stakeholders:

- Trading Venues, particularly those focused on derivatives contracts;
- financial and non-financial third country firms with branches in the Union;
- financial firms within the Union providing guarantees to third country entities operating in OTC derivatives;
- NCAs.

Trading venues may need to devote resources to identify any rule specific elements of the trading obligation (i.e. crossing obligations), and will benefit from higher volumes traded on venue. They may need to hold systems and controls to determine whether third country parties clearing through them should be also subject to the clearing obligation. In addition, they may decide to create new exchange traded derivative products, if they think they will be captured by the trading obligation, however we assume they will only do that if they think the opportunity could be profitable for them.

Third country firms with branches in the Union may have to establish a monitoring function, as well as recordkeeping within their compliance function in order to comply with the obligations of this RTS, including the collection of representations, in case not already subject to EMIR.

Financial firms within the Union providing guarantees to third country entities operating in OTC derivatives may have to monitor the size of the guarantee provided to those third country firms in line of the thresholds established in this RTS, as well as the liability arising from it, compared to their own OTC exposures. They may have also to reassess complying with the thresholds established either when the liability increases or the exposure decreases when that takes place or on a monthly basis, if not already subject to EMIR. While that should be true for the firm overall, there could be that trading desks monitor obligations independently of clearing desks, without communication to each other and the costs this RTS would create would be incremental (at least the procedures to link the two departments together to monitor jointly clearing and trading obligations related to this RTS).

5. Technical Options

After reviewing the responses received to the DP, ESMA is proposing the following for the Technical Options mentioned above:

1. contracts with direct, substantial and foreseeable effect within the EU;

2. definition of guarantee;

3. cases where it is necessary or appropriate to prevent the evasion of rules or obligations established by MiFIR.

Technical Option 1: Contracts with direct, substantial and foreseeable effect within the EU

Policy objective	To establish a framework to determine which transactions with third country counterparties have a 'direct, substantial and foreseeable effect' within the EU that is enforceable and offers legal certainty for financial counterparties
Proposal	The following OTC derivative contracts are considered to have a direct, substantial and foreseeable effect within the Union: 1. those when at least one third country entity benefits from a guarantee (as defined in EMIR) provided by a financial counterparty established in the Union which covers all or part of its liability resulting from that OTC derivative contract, to the extent that the guarantee meets both following conditions: (a) it covers the entire liability (or part of it) of a third country entity for an aggregated notional amount of at least EUR 8 billion, (b) it is at least equal to 5 per cent of the sum of current exposures in OTC derivative contracts of the financial counterparty established in the Union issuing the guarantee;

	2. those where the maximum initial guarantee, originally issued for less than EUR 8 billion, is increased, unless the liability arising from them is below that threshold; 3. those concluded before a guarantee is issued or increased, and subsequently covered by a guarantee that meets the conditions set out in points (a) and (b); 4. those where the two entities established in a third country enter into the OTC derivative contract through their branches in the Union and would qualify as financial counterparties if they were established in the Union. The guarantor needs to reassess the conditions set out in points (a) and (b) in the event of an increase in the liability or a decrease of the current exposure. Such assessment shall be done on the day of the increase of liability for the condition set out in point (a) and on a monthly basis for the condition set out in point (b). The following contracts are not considered to have a direct, substantial and foreseeable effect within the Union: 1. when the guarantee is issued for a maximum amount which is below the threshold set out in point (a); 2. when the liability arising from those contracts is below EUR 8 billion, even though the maximum guarantee issued exceeds that amount.

Technical Option 2: Definition of guarantee

Policy objective	Establish which types of guarantee fall within the definition of 'guarantee' for the purposes of the trading obligation
Proposal	"guarantee" means an explicitly documented legal obligation by a guarantor to cover payments of the amounts due or that may become due pursuant to the OTC derivative contracts covered by that guarantee and entered into by the guaranteed entity to the beneficiary where there is a default as defined in the guarantee or where no payment has been effected by the guaranteed entity. Counterparties are not expected to conduct verifications of the representations received and may rely on such representations unless they are in possession of information which clearly demonstrates that those representations are incorrect (same as EMIR implementation).

Technical Option 3: Cases where it is necessary or appropriate to prevent the evasion of rules or obligations established by MiFIR

Policy objective	Establish the cases where the trading obligation is deemed necessary for OTC derivatives in order to prevent the circumvention of rules and obligations established by MiFIR.
Proposal	An OTC derivative contract shall be deemed to have been designed to circumvent MiFIR if the way in which it was concluded is considered to have as its primary purpose the avoidance of the application of any provision of that Regulation. Those are contracts where their primary purpose is to defeat the object, spirit and purpose of any provision of MiFIR that would otherwise apply, including when it is part of an artificial arrangement or artificial series of arrangements. Artificial arrangements are those that intrinsically lack business rationale, commercial substance or relevant economic justification.

6. Cost/benefit impact assessment

No explicit mention to quantifiable costs and benefits was made in any of the responses to the DP. For the technical options considered by ESMA we summarize below a qualitative description of the costs and benefits arising from them.

Technical Options 1-3

Benefits	To establish the same criteria as EMIR for determining the clearing obligation of third country firms, minimizing compliance costs for firms already subject to EMIR, and at the same time possibilities of circumvention of MiFIR trading obligations. It will allow covering all contracts that have a particular strong nexus with the Union as they are concluded through Union branches. To establish a framework within the EU that is enforceable and offers legal certainty for financial counterparties. Derivatives trading venues may see an increase in volume trading through them, as well as increased revenues.
Costs to regulator: - *One-off*	NCAs may have increased staffing supervision costs arising from the need to monitor compliance with the RTS provisions, part of which may be

- *On-going*	driven by MiFIR trading obligation requirements.
Compliance costs: - *One-off* - *On-going*	Trading venues may experience compliance costs from monitoring obligations of third country firms operating in the EU as established by this RTS. Third country firms with branches in the Union may experience increased compliance costs arising from one-off and ongoing staffing, systems and controls and recordkeeping in order to comply with the obligations of this RTS, including the collection of representations, in case not already subject to EMIR. If they are, this type of compliance costs arising from this RTS should be minimal. These type of firms may also incur IT development, systems and staffing costs to adapt their trading functions to trade some of the derivatives captured by the trading obligation on-venue, and it could be the case that they may experience higher trading costs on venue than OTC. Financial firms within the Union providing guarantees to third country may experience similar compliance costs, unless already subject to EMIR. In cases where clearing is handled in a different department than trading, with no communication between both areas, the costs arising from this RTS may be incremental, at least the cost of monitoring jointly clearing and trading obligations related to this RTS. Compliance costs for this RTS will be ultimately dependent on what is established in another RTS that may determine the categories of derivatives that may be subject to the clearing obligation.
Costs to other stakeholders	None
Indirect costs	Extraterritorial provisions may impact firms' business practices and business models outside the EU, and could drive some firms to move some of their trading outside of the EU. In practice the proposals are heavily dependent on the third country equivalence decisions to be published by the European Commission. Substituted compliance may be an issue given the difference in EU/US regulations on derivatives and the requirement to apply the stricter rule principle. Trading costs may increase when moving from OTC to on-venue, bid-ask spreads may widen or compress for the transactions that would be

	captured by this RTS. Higher costs may be passed to their customers.

4. Microstructural Issues

4.1. Organisational requirements for investment firms (Article 17 of MiFID II)

Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[42], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt draft RTS by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft RTS and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft RTS.

The purpose of the proposed draft RTS is to establish the requirements that should be met by the systems, procedures, arrangements and controls of investment firms engaged in algorithmic trading to address the risks that may arise in financial markets from the increased use of technology.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFID II baseline. Whenever market practices are in line or above what is being required by MiFID, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[43] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's RTS, which can be either the MIFID II requirements, or the existing practices of regulated markets, MTFs and OTFs when are above MIFID II.

The stakeholders identified are investment firms engaged in algorithmic trading (including providers of direct electronic access), National Competent Authorities (NCAs) and operators of regulated markets, MTFs and OTFs.

[42] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

[43] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

The next section covers the different technical options, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

Introduction

Article 17 of Directive 2014/65/EU (MiFID II) establishes a number of requirements with respect to the business of investment firms engaging in algorithmic trading. ESMA is empowered under article 17(7)(a) of MiFID II, to draft RTS further specifying the organisational requirements to be met under the different mandates covered by Article 17.

The assessment that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014 as well as responses to qualitative interviews. The technical proposals proposed by ESMA in this Consultation Paper may differ from those proposed in the DP published in May, since they have been informed by the feedback subsequently received.

Baseline

While MiFID I did not explicitly established any provision regarding systems and controls for automated trading, this issue was addressed by ESMA in its Guidelines on Systems and Controls in an Automated Trading Environment for trading venues, investment firms and competent authorities published in 2012, including reference to the topics covered by this CBA.

These Guidelines were adopted by NCAs in practically all jurisdictions in the EU. In line with that, it should be expected that most market participants have implemented these Guidelines in their regular practice since then.

Apart from that, the relevant legal text is MiFID II Article 17 which sets out a number of requirements to investment firms with respect to their systems and controls, the implementation of market making strategies, the provision of direct electronic access and the provision of clearing services.

As a consequence, for the purposes of this CBA we have assumed that the baseline described in the Guidelines will be current market practice for investment firms.

Stakeholders

Investment firms engaged in algorithmic trading (including DEA providers and clearing firms)

Investment firms engaged in algorithmic trading would need to comply with additional requirements in the areas of governance, staffing and training. In particular, firms will have to revise objectives of current training strategies, as well as to extend them in scope and to make them more customised for different types of staff members. Those requirements also aim to improve the information flow among different functions of the firm and to increase accountability of the board over key operational decisions.

Investment firms must also ensure that their trading systems are fully tested, properly monitored, resilient, have sufficient capacity, and are subject to appropriate trading thresholds and limits. A reassignment of responsibilities, together with more developed supervisory practices, will have an impact, especially in terms of revision of internal procedures and having employees ready to take new responsibilities. Full testing of systems used for algorithmic trading should now encompass both initial and on-going testing of firms' systems as well as conformance testing and the implementation of effective change management procedures.

Investment firms must undertake the necessary measures for maintaining real time and accurate trade and account information, having in place automated alert mechanisms and taking prompt remedial action warranted by signs of disorderly trading or market abuse. Firms will also have to invest in IT, and in particular in new software able to reflect the new testing and monitoring responsibilities for the use of algorithms. Overall, more cross-functional efforts will be required.

The DEA provider is responsible for ensuring that clients using that service comply with the requirements of MiFID II and the rules of the trading venue. The controls applied to these clients should be equivalent, regardless of whether the type of access that is provided is direct market access (DMA) or sponsored access (SA). This may entail additional human resources that are able to deal with those monitoring responsibilities. For clearing firms, outlining minimum criteria to be considered during the assessment of prospective clients will ensure a greater level of consistency amongst firms acting as general clearing members (GCMs).

National competent authorities (NCAs)

NCAs will have to supervise complex procedures and process more detailed information. They would be required to have enough technical expertise and capacity to process this information flow. Greater information, nonetheless, will require them to have procedures, IT systems and knowledge to process new types of information (like incident reports or information about material breaches) and to adapt that information to their current supervisory practices. As a result, NCAs may need an upfront investment to scale up their IT capability and human capital. The upfront investment would make supervision more effective and drastically reduce costs of on-going monitoring.

Trading venues

The operators of regulated markets, MTFs and OTFs would need to provide support to the implementation of testing environments, and the annual review, which are partially mirrored in the Level 2 requirements under Article 48 of MiFID II. In addition, some resilience functionality (like a kill button) may indirectly impact the trading venue by producing a sudden stop in trading activity of an individual member, which can be significant in some instances. However, since the Level 2 requirements for this technical standard that can have an impact on trading venues mostly mirror those under Article 48 of MiFID II, the impact of those requirements on trading venues is already captured by the CBA related to organisational requirements for trading venues. Please, refer to that section for more details.

Technical Options

The following section lists the key clusters of obligations in the RTS that may produce an incremental obligation over the Level 1 legislation and existing market practices, taking into account the implementation by the industry of the ESMA Guidelines on Systems and Controls. The incremental part of the obligation is highlighted in bold.

(1) Governance and the role of compliance staff

Depending on the nature, scale and complexity of their business, investment firms have in place governance arrangements ranging from very complex structures with multiple layers of control to streamlined structures with a few persons in key functions. The draft RTS expanded the Guidelines in four areas: communication procedures and processes, segregation of functions, role of the compliance staff and outsourcing of the compliance function. The baseline for the assessment of the incremental obligations is the MiFID II Level 1 legislation, together with 2012 ESMA guidelines and industry practices, where relevant.

Technical Option 1: Governance and general requirements

Policy Objective	*Ensuring that investment firms have in place a clear and formalised governance framework, which sustains the decision-making process and the operational structure.*
Proposal	*Article 2* **Governance, and general requirements** (1) Investment firms shall, within their overall governance and decision making framework, apply a clear and formalised governance process regarding the development, procurement, outsourcing, and monitoring of their algorithmic trading systems and trading algorithms. The governance process shall ensure the following: a) that commercial, technical and operational risk, and compliance issues are considered when making key decisions. In particular, it must embed compliance and risk management principles; b) that the firm has clear lines of accountability, including procedures and processes for the sign-off for the development, deployment, subsequent updates of trading algorithms and resolution of problems identified through monitoring. This includes having effective procedures and processes for the communication of information within the investment firm, **such that relevant issues can be escalated bottom-up, and instructions can be implemented top-down, in an efficient and timely**

	manner; and c) **that the firm ensures an appropriate segregation of trading functions and middle and back office functions and responsibilities in such a way that unauthorised trading activity cannot be concealed**.

Technical Option 2: Role of compliance staff in the governance process

Policy Objective	*Ensuring that the compliance function, either internal or external, is well suited to allow the investment firm comply with its regulatory obligations.*
Proposal	*Article 3* **Role of compliance staff in the governance process** **(1)** Compliance staff shall be responsible for providing clarity on the investment firm's regulatory obligations, and the policies and procedures to ensure that use of the trading systems and algorithms complies with the investment firm's obligations, and that any compliance failures are detected and corrected. Compliance staff shall have a general understanding of the way in which trading systems and algorithms operate. Compliance staff are not required to have detailed technical knowledge of the firm's trading system or algorithms operation **but shall be in continual contact with persons with such detailed technical knowledge. Investment firms shall also enable compliance staff to have, at all times, direct contact to the persons who may access the kill functionality and to those who are responsible for the trading system or single algorithm(s).** **(2) Where an investment firm outsources its compliance function, or elements thereof, to an external compliance consultant, the investment firm shall engage with, and provide information and access to, the external compliance consultant as it would with its own compliance staff. The investment firm shall reach an agreement with such compliance consultants, ensuring that:** **i) data privacy is guaranteed; and** ii) **auditing of the compliance function by internal and external auditors or by the firm's NCA is not constricted.**

Cost/benefit impact assessment

Technical Option 1: Governance and general requirements

	Qualitative description
Benefits	It ensures that relevant information flows within the investment firm in a timely and effective manner. It prevents investment firms from engaging in unauthorised trading activity requires investment firms to manage such risks.
Costs to regulator: - *One-off* - *On-going*	Low recurring costs associated with periodic review of the internal arrangements to comply with the RTS obligations.
Compliance costs: • *One-off* • *On-going*	*Low cost.* For the investment firms that do not have in place comprehensive communication processes as well as clear separation of functions, these incremental rules may involve a minimal one-off cost related to changes in the internal procedures, with no or very low recurring costs to update these procedures over time.
Costs to other stakeholders	*None.*
Indirect costs	*None.*

Technical Option 2: Role of compliance staff in the governance process

	Qualitative description
Benefits	Compliance staff should be able to better prevent, detect and correct compliance failures if in close contact with the trading personnel. It provides incentives for investment firms to enter into agreements with external compliance service providers only if under very specific terms with regard to protection of data and availability for auditing.
Costs to regulator: - *One-off* - *On-going*	*Low recurring costs* associated with periodic supervision of the role of the different functions within the firm.
Compliance costs: • *One-off* • *On-going*	*Low costs.* For the investment firms in which the compliance staff does not interact on a regular basis with the trading staff or those who have not concluded a detailed agreement with their external compliance services providers, these incremental rules may involve a minimal one-off cost related to changes in internal procedures to contract clauses, with no or very low recurring costs to update these procedures over time.
Costs to other stakeholders	*Low costs.* It is in the best interest of external compliance consultants to engage actively with investment firms and allow them to comply with their regulatory requirements.
Indirect costs	*None.*

(2) Staffing and training

Regarding staff training programs, the draft RTS have clarified that such programs should be organized in a format that ensures an effective outcome for the group of persons involved. Also, the wording has been refined to give more focus to ensuring that staff has a clear knowledge of regulatory requirements regarding market abuse. In addition, investment firms shall have procedures to ensure that staff exercising the risk management and compliance functions has the knowledge, skill and authority to follow up information provided by automatic alerts.

At present, investment firms organize training programmes depending on organisational needs, i.e. targeted groups (for beginners, intermediate, advanced) at different frequencies depending on needs. There are also services provided by firms specialised in independent assessment of the effectiveness of market abuse controls for investment firms, e.g. Market Abuse Healthcheck. These health checks enable firms to assess whether their controls are relevant, sufficient and meet current regulatory requirements and industry guidelines.

Technical Option 3: Staff policies

Policy Objective	*Ensuring that staff across different functions within the investment company has adequate skills.*
Proposal 1	*Article 4* **Staff policies** (1) An investment firm shall have procedures and arrangements, including recruitment and training, to determine their requirements regarding staff resources and to employ an adequate number of staff with the necessary skills to manage their trading systems and trading algorithms. This shall include employing staff who have knowledge of relevant trading systems and algorithms, the monitoring and testing of such systems and algorithms, the trading strategies that the firm deploys through its trading systems and algorithms, and the investment firm's legal and regulatory obligations. (2) An investment firm shall define the mix of skills and maintain procedures to ensure that recruitment and training provides staff with relevant skills. The investment firm shall ensure that, in addition to technical skills, critical functions, such as compliance, shall be represented by staff with an adequate seniority , offering appropriate challenge as necessary within the governance framework.

Technical Option 4: Staff training on order entry

Policy Objective	*Ensuring that the relevant staff has adequate training on order entry so that the firm's trading activity does not affect fair and orderly trading on the trading venues it accesses and complies with the requirements imposed by the relevant trading venues and NCAs.*

Proposal 1	*Article 5* **Staff training on order entry** (1) An investment firm shall ensure that staff involved in the process of order entry have adequate training on order entry procedures. These procedures shall be kept up-to-date so that the investment firm's trading activity does not affect fair and orderly trading on the trading venues it accesses,and so that it will comply with the requirements imposed by the relevant trading venues and the competent authority. This shall be achieved through at least one of the following: on-the-job training, classroom-based training, online training, written exams or a combination thereof. **The training program shall set clear expectations of the competencies to be mastered by staff involved in the process of order entry (notably to ensure that only duly authorised staff may enter orders into the investment firms' systems), and these competencies shall be appropriately evaluated.**

Technical Option 5: Staff understanding of market abuse and disorderly training conditions

Policy Objective	*Ensuring that the staff has adequate skills in order to prevent market abuse including attempts of market abuse.*
Proposal 1	*Article 6* **Staff understanding of market abuse and disorderly trading conditions** (1) An investment firm shall provide initial and ongoing refresher training on what constitutes market abuse, and attempts of market abuse, for all staff involved in the process of order entry. The training shall be tailored to the experience levels and responsibilities of the staff it is being delivered to. **The training program shall set clear expectations of the knowledge level to be mastered by these staff, and this knowledge level shall be appropriately evaluated**. (2) An investment firm shall have procedures to ensure that staff exercising the **risk management and compliance functions** have sufficient knowledge of trading and trading strategies, in addition to regulatory requirements, including relevant Union and national legislation, rulemaking and guidance, skill and authority to: a. **follow up information provided by automatic alerts**; and, b. challenge staff responsible for trading when the trading activity gives rise to suspicions of disorderly trading or market abuse including attempts of market abuse.

Cost/benefit impact assessment

Technical Option 4: Staff training on order entry

	Qualitative description
Benefits	Improving the order submission process and minimising the risks of erroneous order transmission.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with the on-going supervision and monitoring of compliance with the new obligations
Compliance costs: • *One-off* • *On-going*	*Low costs.* This incremental obligation may involve a low one-off cost related to small changes to training objectives and clarification of roles and responsibilities, especially for the staff involved in the evaluation of the effectiveness of the training programme.
Costs to other stakeholders	*None.*
Indirect costs	*None.*

Technical Option 5: Staff understanding of market abuse and disorderly training conditions

	Qualitative description
Benefits	Minimising risk of bad or damaging practices caused by a lack of knowledge about market abuse and disorderly trading. Minimising internal failures in risk management and controls and associated spill over effects.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with the supervision and monitoring of compliance with the new rules.
Compliance costs: • *One-off* • *On-going*	*Low costs.* The incremental obligation may involve a low one-off cost related to small changes to training objectives and knowledge evaluation and adjustment of the internal procedures with regard to follow up of automatic alerts.
Costs to other stakeholders	*None.*
Indirect costs	*None.*

(3) IT outsourcing and procurement

Baseline

The draft RTS introduce new obligations with regard to having in place a stricter governance process around any software and hardware when either procured or outsourced and additional clauses in the agreements concluded with the third part providers/vendors on audit rights for firms and NCAs, access to relevant technical documentation, e.g. access to the source code on request or by entering into a code escrow agreement, and confidentiality arrangements. However, the extent of the potential incremental cost will be driven by what is the current market practice. Some large investment firms are at present in the position to negotiate with their third part providers/vendors, while others encounter major difficulties to do so. The baseline for the assessment of the incremental obligations is the MiFID II Level 1.

Technical options

The following section lists the key clusters of obligations in the RTS that may produce an incremental obligation over the Level 1 legislation and market practices. The incremental part of the obligation is highlighted in bold.

Technical Option 6: IT outsourcing and procurement

Policy Objective	*Making appropriate arrangements in order to ensure the quality, security and reliability of the software and hardware when either procured or outsourced.*
Proposal	*Article 7* **IT outsourcing and procurement** (1) **When outsourcing or procuring any software or hardware, which is used in trading activities, an investment firm shall ensure that their requirements, including legal, regulatory, IT security and IT continuity requirements, are met by the vendor.** a) **In the case of outsourcing, these requirements shall include audit rights for the firm and the relevant competent authority. Firms shall ensure an effective governance process around any such outsourcing, including the monitoring and review of compliance by third party providers with the Service Level Agreements that the firm has agreed with these providers.** b) **In the case of procurement these requirements include the right for the firm and its competent authority to assess the development, maintenance, quality assurance and testing processes of the vendor, as well as having access to relevant technical documentation. Confidentiality concerns of the vendor may be addressed in the same agreements. When procuring IT development, investment firms shall make appropriate arrangements to ensure that the quality of the delivered software meets the requirements stipulated by the firm. When procuring software and hardware, investment firms shall adopt appropriate testing and review measures to assess the security and reliability of the procured goods.** (2) **Investment firms shall ensure that documentation**

	regarding the procured or outsourced hardware and software is provided, which allows the investment firm to (i) understand their detailed functioning and (ii) satisfy itself so as to enable the firm to comply with its regulatory and other obligations.

Cost/benefit impact assessment

Technical Option 6: IT outsourcing and procurement

	Qualitative description
Benefits	It provides incentives to investment firms to take special precautions when it comes to any hardware/software procured/outsourced and to develop in-house expertise on the hardware/software procured/outsourced.
Costs to regulator: - *One-off* - *On-going*	*Low recurring costs* associated with the supervision and monitoring of compliance with the new obligations.
Compliance costs: - *One-off* - *On-going*	*Low costs.* The new obligations of having in place a stricter governance process and additional clauses in the agreements concluded with the third part providers/vendor are likely to bring one-off (one-time investments) and ongoing costs of minimal significance. This may require assigning new supervisory tasks to the relevant personnel or even having a unit within the investment firms responsible for monitoring and controlling the service provider/vendor and be in close contact to the staff that will make use of the hardware/software.
Costs to other stakeholders	*Low costs*. It is in the best interest of third party providers/vendors to engage actively with investment firms and allow them to comply with their regulatory and other obligations.
Indirect costs	*None.*

Resilience of investment firms (Article 17(1) of MiFID II)

Testing of algorithms and systems and change management

The draft RTS expanded the Guidelines and introduced new obligations with regard to non-live test environments, restricted deployment of algorithms, stress-testing scenarios, sign-off and review procedures in relation to change management and testing.

The baseline for this section is based on the implementation of the ESMA Guidelines, Article 17 of MiFID II and industry's best practice such as FIA best practices.

For illustrative purposes only, several representative excerpts selected from industry initiatives were reproduced in this section.

Testing methods

Investment firms already perform a variety of testing methods such as: unit testing, functional non-functional testing, regression testing, acceptance testing, and exchange-based conformance testing. Firms running complex trading strategies very often make use of a dedicated back testing environment, often independent of the venue's testing platform. Conformance testing is already widespread practice across the industry as trading firms are typically required to pass it with the party providing access when implementing a new direct access system or when a platform provider deems it necessary because of a fundamental change in platform functionality[44] or "*Exchange-Based Conformance Testing* to confirm a system's functionality while interacting with an exchange[45].].

Non-live testing

The draft RTS mandate non-live testing on a venue by venue basis. Larger trading venues predominantly provide non-live trading environments while for smaller trading venues this form of testing is considered to be operationally more challenging. For example, some exchanges offer members a separate connection to a testing environment packaged within a number of services such as the Customer Development Service, Application Certification, High Volume Testing and Participant Test Weekends, in addition to the use of specific test segments on the trading system.

Restricted deployment

The algorithms are usually rolled out in a controlled manner in a live trading environment.

Stress testing scenarios

ESMA guidelines did foresee stress testing but they did not give details on how this should be done and the periodicity of such a testing. This requires further assessment of practices to identify current market practice.

Review and validation of systems

Currently, large investment firms discharge annual validation reports. However, current market practice requires further assessment.

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[44] FIA Market Integrity Framework: Best Practices to Preserve Market Integrity, page 9

[45] This process is often guided by a script of tests provided by the exchange and is performed in an exchange-provided testing environment to simulate the production trading environment. FIA Software Development and Change Management Principles, page [5]"The following practices are integral to a trading firm's change management process: Authorisation—Any changes to the production environment should be subject to review by a responsible party within the organization. The depth of the review performed should align with the magnitude of the proposed change. Auditability—Trading firms should establish procedures for communicating requirements, changes and functionality related to their proprietary software and technical infrastructure. Trading firms should also maintain a historical audit trail of material changes made to their proprietary software, allowing them to accurately determine: when a change was made, who made the change, the nature of the change."(FIA Software Development and Change Management Principles, page 5.

Change management

With regard to change management, the draft RTS replicates best practices within the industry.

Technical Options

The following section lists the key clusters of obligations in the RTS that may produce an incremental obligation over the Level 1 legislation and market practices. The incremental part of the obligation is highlighted in bold.

Technical Option 7: Segregation of functions

Policy Objective	*Ensuring orderly markets through the independent and separate functioning of production and testing environments avoiding unintended release of algorithms that have not been sufficiently tested.*
Proposal	*Article 8* **General** **An investment firm shall ensure that software, hardware and network infrastructure which is critical to the separate and independent functioning of the production and testing environments is kept segregated at all times**.

Technical Option 8: Conformance testing

Policy Objective	*Ensuring that firms accessing a venue meet pre-determined quality and security standards before engaging in trading activities.*
Proposal	*Article 9* **Conformance testing** (1) An investment firm shall pass conformance testing: a. with the trading venue where it is a direct member or participant; and b. **with its DEA provider where the investment firms accesses the trading venue through direct electronic access**. Such conformance testing shall take place when implementing a new access to a trading venue's system or when there is a change in trading venue's DEA functionality. **Investment firms shall be required to determine when they must recertify due to a change within their system or substantial hardware changes.**

Technical Option 9: Initial testing

Policy Objective	*Defining testing methodologies for trading systems and algos to verify whether they are resilient in normal and stressed market conditions and whether the trading system is compatible with the regulatory objectives of the firm and the rules of the venue.*
Proposal 1	*Article 10* **Initial testing** (1) An investment firm shall, prior to the initial deployment, or update of a trading system, algorithm or strategy, make use of clearly delineated development and testing methodologies. These methodologies should address process design and execution, division of responsibilities, allocation of sufficient resources, escalation procedures, and sign-off by a responsible party within the investment firm. (2) The testing methodologies for algorithms and trading strategies, shall include performance simulations/back testing, and, for members or participants of a trading venue, non-live testing within a trading venue testing environment. These methodologies shall ensure that, the operation of the trading system, algorithm or strategy is compatible with the investment firm's regulatory obligations as well as the rules of the trading venues they access, that embedded compliance and risk management controls work as intended (including generating error reports automatically), and that the trading system, algorithm or strategy does not contribute to disorderly trading, and can continue to work effectively in stressed market conditions. (3) Investment firms shall adapt trading algorithm tests (including non-live tests within the trading venue testing environments) to the strategy the firm will use the algorithm for (including the markets to which it will send orders and the structure of these markets). Investment firms shall undertake further testing if there **are substantial changes** to the venue in which the system, algorithm or strategy is to be used.

Technical Option 10: testing within a non-live environment

Policy Objective	*Ensuring orderly markets through the independent and separate functioning of production and testing environments avoiding unintended release of algorithms that have not been sufficiently tested.*

Proposal 1	*Article 11* **Testing within a non-live environment** (1) An investment firm that is a members or participant of a trading venue, and an investment firm accessing the trading venue through a sponsored access arrangement shall, for the purpose of testing to prevent disorderly trading, test its trading strategies and algorithms in non-live trading venue testing environments. (2) **Investment firms that are not accessing a trading venue as a member or participant, but through a Direct Market Access (DMA) service, shall make use of such non-live trading venue testing environments where this is appropriate to the nature, scale, and complexity of their business and the risks that their trading algorithms or systems may pose to the orderly trading on the relevant trading venue**. (3) When testing their trading strategies, algorithms and systems in a non-live trading venue testing environment, the investment firm shall retain responsibility at all times for assessing the testing results and for making the required changes to the relevant algorithm, trading strategy or system as appropriate

Technical Option 11: Control roll-out of algorithms

Policy Objective	*Ensuring orderly markets by restricting the deployment of an algorithm in a controlled manner, permitting switching it off in case it does not behave as expected in a live trading environment..*
Proposal 1	*Article 12* **Controlled deployment of algorithms** (1) Investment firms shall deploy **new trading algorithms, well-functioning algorithm used on other trading venues, and material changes to previous architecture**, in a live environment, in a controlled and cautious fashion by setting limits on the deployment. (2) Limits shall be placed on the number of financial instruments being traded, **the price,** value and number of orders, the strategy positions and the number of markets to which orders are sent.

Technical Option 12: Annual testing

Policy Objective	*Promoting orderly markets by ensuring regular monitoring of investment firms' own systems and policies, according to the nature of the trading activity against the requirements set out in the regulation.*
Proposal 1	*Article 13* **Annual stress testing** An investment firm shall test their systems, procedures and controls at least on **an annual basis** to ensure they are capable of withstanding significant and extraordinary market pressures or

	external events. Such ongoing tests should be appropriate to the nature of the trading activity that the investment firm carries out, and shall at least consist of: i. initiating, running and stopping a large number of algorithms in parallel, and at least as many algorithms as the firm used on its most active day of trading over the previous 6 month period; ii. running high messaging volume tests using at least twice the highest volume of messaging by the firm over the previous 6 month period; iii. running high trade volume tests using at least twice the highest volume of trading by the firm over the previous 6 month period; and, iv. performing penetration tests and vulnerability tests to safeguard their systems against cyber-attacks.

Technical Option 13: Annual review and validation of trading systems and algorithms

Policy Objective	*Promoting orderly markets by ensuring regular monitoring of investment firms' own systems and policies, according to the nature of the trading activity against the requirements set out in the regulation.*
Proposal 1	*Article 14* **Annual review and validation of systems** (1) An investment firm shall **run an annual validation process** whereby it shall review and evaluate its trading systems and trading algorithms, and the associated governance, accountability and sign-off framework and associated business continuity arrangements. **(2) The risk control function shall lead the elaboration of the validation report as well as staff that have relevant technical knowledge. Compliance functions shall be made aware of the results of these validation reports. The validation report and the operational set-up stemming from it must be audited by the firm's internal audit function or by an independent third party audit.** **(3) The validation report and supporting documents, approved by the investment firm's senior management, will be available to the relevant national competent authority upon request.** **(4) In this validation process, investment firms shall assess their compliance with Article 17 of Directive 2014/65/EU on markets in financial instruments taking into account the nature, scale and complexity of their business. Accordingly, they shall establish and maintain more stringent organizational**

	requirements where appropriate. **(5) In undertaking this self-assessment, investment firms shall at least take into account the elements provided in Annex 1.** (6) Investment firms shall act on the basis of these **review processes and validation reports** to remedy deficiencies identified. The review process, and validation reports, shall be produced independently and assessed through internal audits, **the involvement of any other department whose responsible person is appointed and replaced by senior management** or by outsourcing it to third parties. Reviews of trading strategy performance shall, in equal measure, include an assessment of the impact on market integrity and resilience as well as on profit and loss resulting from the deployment of the strategy

Technical Option 14: Change management

Policy Objective	*Defining a procedure for the proper review and allocation of responsibilities concerning specific changes to the trading systems.*
Proposal 1	**Ad hoc" change management** **(1) Any "ad hoc" changes to the production environment shall be subject to review and sign-off by senior management within the investment firm. The depth of the review shall be appropriate to the magnitude of the proposed change. This review shall also establish whether further testing is needed, and what type of testing shall be carried out.** **(2) Investment firms shall establish procedures for communicating requirements and changes in the functionality of their systems. Investment firms shall also keep records of any material changes made to their proprietary software, allowing them to accurately determine:** i. **when a change was made;** ii. **who made the change;** iii. **who approved the change; and,** iv. **the nature of the change.**

<u>*Cost/benefit impact assessment*</u>

Technical Option 7: Segregation of functions

	Qualitative description

Benefits	Avoidance of accidental release of testing algorithms in a live trading environment, contributing to orderly markets.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with the supervision and monitoring of compliance, as the obligation requires changes to internal functions that can be rapidly reviewed in the on-going supervisory practice of investment firms.
Compliance costs: - *One-off* - *On-going*	*Low costs.* The new obligation of keeping segregated at all times components of the software, hardware and network infrastructure which are critical to the separate and independent functioning of the production and testing environments is likely to bring one-off (one-time investments and changes in internal procedures) and ongoing costs (staff with monitoring responsibilities) of minimal significance.
Costs to other stakeholders	*None.*
Indirect costs	*None.*

Technical Option 8: Conformance testing

	Qualitative description
Benefits	A positive outcome of the test would mean that no technical/functional issues are expected to arise as a result of that investment firm's connectivity to the trading venue. The firms accessing the market through DEA must demonstrate a sufficient level of technical and operational readiness for market entry.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with the processing of the information contained in the certificates of conformance.
Compliance costs: - *One-off* - *On-going*	DEA users will be also subject to conformance testing by their DEA providers. This is likely to bring one-off costs related to the participation in this process of the relevant staff and the infrastructure needed. The obligation to re-certify is strongly related to the change management obligation (Art. 15 of draft RTS). A change within the trading system and substantial hardware changes will trigger the need to re-certify, which gives rise to additional on-going costs.
Costs to other stakeholders	*Low costs*. Trading venues and DEA providers must subject their direct members or participants and DEA users to conformance testing and issue certificates of (un)successful conformance testing.
Indirect costs	Higher costs may be passed on to end clients, for example through higher bid ask spreads.

Technical Option 9: Initial testing

	Qualitative description
Benefits	It may avoid that the trading system, algorithm or strategy creates disorderly trading conditions.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with the supervision of testing practices. Nonetheless, monitoring these practices may require rather technical expertise.
Compliance costs: - *One-off* - *On-going*	*Low costs.* The incremental obligation of undertaking further testing if there are substantial changes to the venue would entail on-going costs related to adjustment of the proprieties of the system, algorithm or strategy and the staff supervising the entire process. However, no significant costs are anticipated to arise from this incremental obligation, as it seems to be mostly aligned with market practice.
Costs to other stakeholders	Trading venues are required to provide environments that facilitate initial testing. This is covered under a separate RTS focusing on trading venues under MIFID II Article 48.
Indirect costs	Higher costs may be passed on to users, for example through higher bid ask spreads.

Technical Option 10: testing within a non-live environment

	Qualitative description
Benefits	Contribution to the orderliness of the market by avoiding deployment of algorithms insufficiently tested. In particular, the incremental obligations: • Take into account the fact that market microstructure differs greatly across markets, by considering how an algorithm/strategy may perform within a particular market microstructure. • Single out investment firms that are not accessing a trading venue as a member or participant, but through a DMA service.
Costs to regulator: - *One-off* - *On-going*	*Low* costs associated with supervision and monitoring of compliance with the rules.
Compliance costs: - *One-off* - *On-going*	The fees currently charged by the trading venues for use of non-live testing environments represent a recurring cost for the investment firms. Additional recurring costs are related to the staff involved in the assessment of the testing outcomes and in charge of making changes to the relevant algorithm, trading strategy or system as a result of the testing. The investment firms that are not accessing a trading venue as a member or participant, but through a DMA service shall make use of the non-live testing environments provided that it is justified by the nature, scale, and complexity of their business and their risk profile. This incremental obligation will entail one-off (procedures to prepare the algorithm to be tested) and on-going costs (staff responsible for the initial assessment of whether testing within a non-live environment is necessary or not and

	monitoring the entire process once started).
Costs to other stakeholders	Article 48 (6) requires trading venues to provide environments that facilitate such testing. Concerns around availability and quality, therefore, should be addressed by this requirement. To develop such an environment would be a significant undertaking for a trading venue – in terms of hardware, software and human resources. However, it is noted that the draft RTS on co-location and fee structures foresees that trading venues should be able to recover the costs of providing such testing environments.
Indirect costs	*Quality:* To be effective, non-live trading environments offered by trading venues should be as close to real market situations as possible and be provided on a reasonable commercial basis. Achieving some consistency of test environment quality and availability across trading venues would help improve testing. Higher costs may be passed to users, for example through higher bid ask spreads

Technical Option 11: Control roll-out of algorithms

	Qualitative description
Benefits	Contribution to the orderliness of the market by avoiding full deployment of algorithms that may react differently in live market conditions by identifying any (potential) distortion that the algorithm may create, which was not identified in the test environment. In particular, it enables the firm to check that an algorithm performs as expected in a live environment and to introduce changes if it does not.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with monitoring that the correct procedures are in place, since the NCA cannot necessarily monitor the actual deployment of every algorithm in the marketplace.
Compliance costs: - *One-off* - *On-going*	The controlled deployment of algorithms should be used by investment firms on an algorithm regardless of whether it is new, the same that was successfully deployed in another trading venue or it has gone through a modification of a material change in its architecture. The incremental costs that could arise are mainly one-off and related to setting of limits to be activated once the algorithm is connected to the trading venue. The extent of the costs depends on the market practices.
Costs to other stakeholders	Trading venues may be affected if the restricted deployment would result in some instances in unusually priced and/or sized orders, quotes or trade reports being entered.
Indirect costs	Higher costs may be passed to users, for example through higher bid ask spreads.

Technical Option 12: Annual testing

	Qualitative description
Benefits	Contribution to the orderliness of the market by regularly monitoring that the electronic trading systems of an investment firm will perform as requested in the Regulation under conditions of market stress. In particular: • It ensures that investment firms have in place systems, procedures and controls capable of withstanding significant and extraordinary market pressures or external events. • It may aid firms in identifying and assessing undesirable interactions between their algorithms.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with revision of the annual stress test where the NCAs request it from the investment firm.
Compliance costs: - *One-off* - *On-going*	There may be initial one-off costs related to the development of the testing solutions taking into account different scenarios in relation to the number of algorithms, messaging volume, trade volume, cyber-attacks (staff, data, hardware and software). Investment firms will incur on-going costs from running the tests on a yearly basis.
Costs to other stakeholders	*None.*
Indirect costs	Higher costs may be passed on to users, for example through higher bid ask spreads.

Technical Option 13: Annual review and validation of trading systems and algorithms

	Qualitative description
Benefits	Contribution to the orderliness of the market by regularly monitoring that the electronic trading systems, arrangements and algorithms of an investment firm will perform as requested in the Regulation. In particular, it addresses potential areas of conflicts of interest by assigning different functions within the investment firms with specific responsibilities in the review and validation processes.
Costs to regulator: - *One-off* - *On-going*	*Low costs.* Reviews and validation reports will be made available to NCAs upon request. This is likely to bring costs relating to the storing, processing and follow-up on the information provided by the investment firms.
Compliance costs: - *One-off* - *On-going*	*Modest to fair costs.* At present, large investment firms discharge such annual reports. However, it must be noted that the annual review process and validation reports (on-going costs) take vast amounts of time and resources to undertake, involves coordination amongst relevant functions within the investment firm for the self-assessment exercise and may result in changes to internal procedures and operational set-up. The internal risk function will be assigned a new area of control. The validation report must

	be audited by the firm's internal audit function or by an independent third party audit and approved by the senior management.
Costs to other stakeholders	It is in the best interest of the third-party providers to engage actively with investment firms when auditing their validation reports.
Indirect costs	Higher costs may be passed to users, for example through higher bid ask spreads.

Technical Option 14: Change management

	Qualitative description
Benefits	Contribution to the orderliness of the market by ensuring that adequate change management procedures are in place. In particular: • It mitigates the risks stemming from any material changes to previously deployed systems. • It helps firms in identifying changes which may dictate the need for further testing to be undertaken • It creates an audit trail with respect to any changes implemented, especially for supervisory purposes.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with the supervision and monitoring of compliance with the obligations.
Compliance costs: - *One-off* - *On-going*	*Modest costs*. Each firm is required to have robust and tailored change management procedures, keep records of any material changes and subject to review and sign-off by senior management any changes to the production environment. This necessitates investment in software solutions designed to track the changes automatically and accurately as well as storage facilities (one-off costs). However, the most important component is represented by the recurring costs associated with the staff involved in change management.
Costs to other stakeholders	None.
Indirect costs	None.

Means to ensure resilience

The draft RTS expanded the Guidelines and introduced new obligations with regard to real time monitoring, kill functionality, prevention and identification of potential market abuse, business continuity arrangements, pre-trade controls on order entry and post-trade controls, security and limits to access.

The baseline for the assessment of the incremental obligations is Article 17 of MiFID II, together with ESMA guidelines and industry best practices.

For illustrative purposes only, several representative excerpts selected from industry initiatives were reproduced in this section.

Large investment firms currently purchase drop copies from the trading venues and also have in place state of art real-time monitoring and alert solutions[46].

Most investment companies have in place kill switches ("red buttons") at different trading desks[47].

Automated alert systems designed to flag market abuse have also become widespread across the industry[48], including alerts in relation to market abuse[49]. The same applies to trade reconciliation, business continuity arrangements, back-up execution facilities, pre- and post-trade controls, security and limits to access, where the industry's best practice already covers most of the proposals put forward by the draft RTS.

Technical Options

The following section lists the key clusters of obligations in the RTS that may produce an incremental obligation over the Level 1 legislation and market practices. The incremental part of the obligation is highlighted in bold.

Technical Option 15: Real time monitoring

Policy Objective	*Ensuring the resilience of trading systems and the orderliness of the markets via:*

[46] ETSs or associated firm systems should have functionality to accept drop-copies from trading venues and clearing firms. Drop copies are copies of orders that allow a firm to compare the trading venue or clearing firm view of trades and positions with the systems' internal view. This helps to assure that all systems are performing as expected and maintaining accurate and consistent views of trades and positions. The drop-copy data may also be used by risk managers to view their firm's risk exposure independently of the trading system." (FIA Market Integrity Framework: Best Practices to Preserve Market Integrity, page 12)

[47] "Trading systems could have a manual kill button that, when activated, disables the system's ability to trade and cancels all resting orders." (FIA Market Integrity Framework: Best Practices to Preserve Market Integrity, page 10).

[48] "Unless algorithms are specifically designed to prevent market abuse, firms may want to implement automated alert systems to flag behaviour likely to trigger suspicion of market manipulation. Such alert systems should be in place for all orders transmitted, including orders that are executed, modified or cancelled. Market data is not necessarily required to flag suspicious trading activity. For this reason, firms should store all orders transmitted, but may decide not to retain market data. […] Firms should consider whether to supplement their internal policies and procedures with an alert system designed to monitor for instances of potential market manipulation. A firm that determines such an alert system is appropriate, may benefit from using certain statistics or metrics to flag behaviour warranting further review such as message counts, repetitive orders, and small or large orders.
Automation is a tool that can be used by firms in addition to manual monitoring procedures. Thresholds for automated alerts should be determined by relevant staff based on experience and knowledge of how a firm's ETS works. It is also suggested, but not required, to weight the alerts, so that staff can focus on evaluating alerts with a high weighting. Of course, as mentioned above, reviewing personnel should assess, based on the facts and circumstances, whether the metrics appropriately identified intentional manipulative conduct or inadvertently captured legitimate trading behavior. Firms should have procedures in place to ensure that orders and transactions that are investigated and that could constitute market manipulation are reported to the competent authorities as soon as possible." (FIA Market Integrity Framework: Best Practices to Preserve Market Integrity, pages 7-8)

[49] "Depending on the nature of the activities of a firm and the markets in which the firm trades and is registered, a firm should consider the value of implementing alert systems as part of its compliance program. The purpose of an alert system is to detect activity that may require further investigation by internal staff and is an important component of an effective anti-manipulation scheme. Any alert system will necessarily be over-inclusive, flagging some number of entirely valid orders or trades. Reports that are generated by alert systems should be available for review by responsible staff on the following trading day or according to the schedule set out in their internal review procedures." (FIA Market Integrity Framework: Best Practices to Preserve Market Integrity, page 7)

	- *the ability to access accurate information about orders and trades; and* - *Having adequate staff in place to react in case the investment firm´s order flow (including the clients´order flow) is creating disorderly trading conditions.*
Proposal	*Article 16* **Real-time monitoring** **(1)** Investment firms shall, during the hours they are sending orders to trading venues, monitor in real time all trading activity that takes place through its systems (including that of its clients) for signs of disorderly trading, including from a cross-market, **cross-asset class, or cross-product** perspective (**where practicable in cases where the firm engages in such activities).** This monitoring shall be conducted by staff who understands the firm's trading flow and **who have the training, experience and tools that enable them to monitor and control the trading systems and troubleshoot and respond to operational and regulatory issues in a timely manner.** These staff members shall have the authority to take remedial action when necessary, and shall be accessible to the firm's competent authority, and to the trading venues on which the firm is active**, as well as (where applicable) to relevant staff at its DEA provider, clearing member, or central counterparty (CCP).** **(2) In addition to monitoring by the actual trader in charge of the algorithm, such monitoring shall be undertaken by one or more independent risk control functions within the firm.** **(3)** Investment firms shall maintain real-time and accurate trade and account information **which is complete, accurate and consistent,** and **they shall reconcile as soon as practicable (and in real time where it is possible) their own electronic trading logs with records regarding their current outstanding orders and risk exposures (drop copies) provided by the trading venue to which they send orders, by their broker or DEA provider, by their clearing member or CCP, by their data providers, or by other relevant business partners. An investment firm shall have the capability, especially in the case of intra-day trade of derivatives, to calculate the outstanding exposure of the traders and clients in real time at appropriate levels of aggregation.** (4) **The monitoring systems at investment firms shall have real-time alerts that assist staff in identifying which algorithm and when it is not behaving as expected. When alerts are made, the investment firm shall have a process in place to take prompt remedial action including, as necessary, an orderly withdrawal from the market. The monitoring systems shall also provide alerts in relation to algorithms and DEA orders triggering circuit breakers implemented by the trading venue.**

Technical Option 16: Kill functionality

Policy Objective	*Safeguarding the orderly functioning of the market by pulling out all outstanding orders from the market.*
Proposal	*Article 17* **Kill functionality** (1) **Investment firms shall have the ability, as an emergency measure, to immediately cancel all of the firm's outstanding orders at all trading venues to which the firm is connected by means of a kill functionality**. (2) Additionally, the investment firm shall separately have a capability to cancel outstanding orders at individual trading venues, or originating from individual traders, trading desks, or, where applicable, clients. This implies that the investment firm shall be in the position to know which algorithms correspond to the traders and, if applicable the clients.

Technical Option 17: Monitoring for the prevention and identification of potential market abuse

Policy Objective	*Protecting market integrity.*
Proposal	*Article 18* **Monitoring for the prevention and identification of potential market abuse** **(1)** An investment firm shall monitor all trading activity that takes place through its systems (including that of its clients) for signs of potential market abuse. Investment firms shall implement alert systems to flag behaviour likely to give rise to suspicions of market abuse (in particular market manipulation), including activities on a cross-market, **cross-asset class, or cross-product basis (where practicable in cases where the firm engages in such activities).** Such alert systems shall be in place for all orders transmitted, including orders that are executed, modified or cancelled. **To this end, investment firms shall have in place adequate, sufficiently scalable systems, including** having automated alert systems in relation to at least the indicators of manipulative behaviour **relating to false or misleading signals and to price securing as specified by Annex 1.A of Regulation (EU) No. 596/2014 on market abuse and, where appropriate given the nature, scale and complexity of the firm's trading activity, visualisation tools.** (2) The investment firm's monitoring system shall be adaptable **to changes in the firm's regulatory obligations and its trading behaviour, including its own trading strategy or that of its clients, the type and volume of instruments traded, the size and complexity of its order flow, and the markets accessed.** The monitoring system shall be subject to regular review (**at least once a year, or more frequently if necessary**) in order to assess whether the monitoring system itself and the parameters and filters

	that it employs are still adequate to the firm's trading behaviour and regulatory obligations. (3) Using a sufficiently detailed level of time granularity, **the monitoring system shall be able to generate operable alerts at the beginning of the next trading day, or (only in cases where manual processes are involved) at the end of the next trading day. The monitoring system shall allow for setting or adjusting the scenario and filter parameters in order to minimize false positive and false negative results. In order to ensure adequate follow-up to alerts, the monitoring system shall be used in parallel with a workflow creation and management system**. (4) Staff responsible for monitoring the firm's trading activities for the purposes of this Article shall report any trading activity which is potentially not compliant with their firm's policies and procedures or with the firm's regulatory obligations to the individual(s) responsible for such compliance. (5) Investment firms shall have arrangements to identify orders and transactions that require a Suspicious Transaction and Order Report to competent authorities in relation to market abuse (in particular market manipulation) and to submit these reports **without delay. If initial enquiries are undertaken, a report shall be made as soon as possible if the enquiries fail to generate a satisfactory explanation for the observed behaviour**. (6) An investment firm shall maintain **accurate, complete, and consistent trade and account information by reconciling their own electronic trading logs with records provided by their brokers, clearing members, CCP, data providers, or other relevant business partners as soon as practicable**. (7) If an investment firm uses DEA it shall be able to report to its DEA provider the name of the client and/or trader who is responsible for the order.

Technical Option 18: Accessibility and competence of monitoring staff

Policy Objective	*Ensuring that the investments firms have in place streamlined procedures so that the staff supporting electronic trading operations can react in timely manner and prevent disorderly trading conditions from materialising.*
Proposal	*Article 19* **Accessibility and competence of monitoring staff** **(1) An investment firm shall ensure that the staff involved in supporting electronic trading operations (including back and middle office staff) have the necessary authorisations with the relevant trading venues, brokers, DEA providers, clearing members, CCPs, data providers, independent software vendors (ISVs), and other relevant business partners to provide the appropriate level of support.** (2) Investment firms shall have procedures in place to ensure

	accessibility to its competent authority, the relevant trading venues and, where applicable, DEA providers. **Communication channels shall be identified and tested with the aim of ensuring that in an emergency, the correct people with the correct level of authority may reach each other in a timely fashion in order to ensure a fair and orderly market. In addition, an out-of-trading hours contact procedure shall also be put in place**.

Technical Option 19: Business continuity arrangements

Policy Objective	*Investment firms should be in the position to deal effectively with disruptive incidents and ensuring a timely resumption of trading.*
Proposal	*Article 20* **Business continuity arrangements** (1) Investment firms shall demonstrate that they have adequate and effective business continuity arrangements in relation to their trading systems to address disruptive incidents including, but not limited to, system failures. (2) Business continuity arrangements of investment firms shall be able to effectively deal with disruptive incidents and ensure a timely resumption of trading. The arrangements shall cover at least the following: (a) governance for the development and deployment of the arrangements; (b) consideration of an adequate range of robust, challenging, but credible scenarios relating to the operation of their trading systems which require specific continuity arrangements including at the minimum: **system failures, communication disruptions and loss of key staff whether due to technical or operational problems, market or credit events, natural disasters or environmental emergencies, IT security issues or deliberate interference with trading systems, or human error;** (c) back-up of business critical data (including compliance) that flows through their trading systems; (d) duplication of hardware components to permit continuous operation in case of a failover; (e) procedures for relocating to, and operating the trading system from, a back-up site, where having such a site is appropriate to the nature, scale and complexity of the algorithmic trading activities of the investment firm; (f) staff training on the operation of the business continuity arrangements and individuals' roles; (g) business continuity arrangements that are bespoke to each of the venues that it accesses; (h) kill functionality usage policy; and, **(i) arrangements for the investment firm to trade all existing orders manually.**

	(3) Investment firms shall review their business continuity arrangements **on an annual basis and modify the arrangements in light of the review.**

Technical Option 20: Pre-trade controls on order entry and post-trade controls

Policy Objective	*Contribution to orderly markets and ensuring a consistent approach with regard to pre and post-trade controls across the industry.*
Proposal	*Article 21* **Pre-trade controls on order entry and post-trade controls** (1) Investment firms shall have appropriate pre-trade controls on order entry, which shall be reinforced by appropriate, real time post-trade controls. (2) Investment firms' order management systems should prevent orders from being sent to trading venues that are outside of pre-determined parameters covering price and volume, and should have controls in place to prevent unintentional submission and repetition of orders. (3) Investment firms shall establish and enforce **appropriately calibrated pre-trade risk limits that are appropriate for the investment firm's capital base, clearing arrangements, trading style, risk tolerance and experience, which includes, but is not limited to, variables such as length of time since being established and its reliance on third party vendors**. (4) The pre-trade controls as referred to in paragraph (1) shall apply to all instrument types (shares, equity-like, and derivatives products) unless stated otherwise, and shall at least include at least and as appropriate to the specific trading strategy and product: a. **Price collars**, which automatically block or cancel orders that do not meet set price parameters (differentiated as necessary for different financial instruments), both on an order-by-order basis and over a specified period of time; b. **Maximum order value** (fat-finger notional limits) for shares and equity-like instruments, which prevent orders with uncommonly large order values from entering order books. Limits should be set in notional value with the ability to be set per product; and c. **Maximum order volume,** which prevent orders with an uncommonly large order size from entering the order books. Limits should be set in shares or lots; d. **Repeated automated execution throttles**, which control the number of times a strategy was already applied. If a configurable number of repeated executions was applied, the system should be disabled until a human re-enables it; e. **Outbound message rates on a strategy specific basis**, which monitor the number of order messages their trading systems send to a trading venue in a given period of time; and, f. **Maximum messages limit**, which prevent sending an excessive number of messages to order books and prevent jeopardising the integrity of the trading system.

	(5) The post-trade controls as referred to in paragraph (1) shall at least include as a minimum and as appropriate to the specific trading strategy and product: **a. Maximum long/short positions and overall strategyfor derivatives products, which restrict trading beyond a specified position threshold, with limits to be set in units appropriate to the asset class and product type.** (6) Investment firms shall be able to automatically block or cancel orders from a trader if they are aware that a trader does not have permission to trade a particular financial instrument. Investment firms shall be able to automatically block or cancel orders where they risk compromising the firm's own risk thresholds. Controls shall be applied, where appropriate, on exposures to individual clients, financial instruments, traders, trading desks or the investment firm as a whole. (7) Investment firms shall have procedures and arrangements for dealing with orders which have been automatically blocked by the investment firm's pre-trade controls but which the firm nevertheless wishes to submit. Such procedures and arrangements shall be on a temporary and exceptional basis. (8) Where the pre-trade controls are overridden in relation to a specific trade, this shall only occur with the full knowledge and an active approval of relevant staff responsible in risk management. **(9) Investment firms shall continuously monitor on a real time basis the post-trade controls it has in place. In cases where a post-trade control is triggered, the firm shall undertake appropriate action, including but not limited to, adjusting or shutting down the relevant trading algorithm or trading system.**

Technical Option 21: Security and limits to access

Policy Objective	*Preventing unauthorised access and loss of confidential information by having in place appropriate arrangements for physical and electronic security.*
Proposal	*Article 22* **Security and limits to access** (1) Investment firms shall have an appropriate IT strategy process which ensures that the investment firm develops and implements an IT strategy with defined IT objectives and IT measures that are in line with (i) the business and risk strategy of the firm as well as its operational activities and the risks to which the firm is exposed, (ii) a reliable IT organisation (including IT service, IT production, and IT development), and (iii) effective IT security management. (2) Investment firms shall set up and maintain appropriate arrangements for physical and electronic security that allows the minimisation of any risks related to the unsecure access to the

	working environment and loss of information confidentiality. (3) Investment firms shall promptly inform its competent authority of any material breaches in the physical and electronic security measures undertaken. An **incident report shall be provided to its competent authority indicating the nature of the incident, the measures adopted to cope in an emergency and the initiatives taken to avoid similar incidents from recurring.** (4) Investment firms shall develop and implement appropriate IT security measures to ensure the confidentiality, integrity, authenticity, and availability of data, and the reliability and robustness of systems, thus including arrangements that allow the minimization of the risks of attacks against the information systems. **(5) Investment firms shall undertake adequate penetration tests and vulnerability scans to safeguard against cyber-attacks, which are to be at least every six months, or more frequently or on an ad-hoc basis as appropriate. The firm shall implement appropriate safeguards against internal attackers (which may include effective identity and access management).** Firms shall ensure that they are able to identify all persons who have critical user access rights to IT systems (these persons may include systems administrators or traders with special privileges). **The number of such persons is to be sufficiently restricted and their access to IT systems is to be monitored to ensure traceability at all times (e.g. via logging and two factor authentication for users with critical user rights).**

Cost/benefit impact assessment

Technical Option 15: Real time monitoring

	Qualitative description
Benefits	*Contributing to the resilience and orderliness of the markets. In particular, the incremental obligations shall provide the following benefits:* • It will allow firms to spot any inconsistencies between their perceived and their actual trading behaviour and risk exposures in a timely manner and take prompt remediate actions, if necessary. • The usage of drop copies will serve for both the identification of disorderly trading and financial risk management purposes. • It sets out multi-layered controls and rigorous approach to market surveillance, e.g. the monitoring should be performed both by the actual trader in charge of the algorithm and by one or more independent risk control functions within the firm.
Costs to regulator: - *One-off* - *On-going*	*Modest costs* associated with ensuring constant supervision about the compliance with real-time monitoring function (including cross-product and cross-market) of the firm.
Compliance costs: - *One-off* - *On-going*	*Modest costs*. The incremental obligations described above are likely to bring one-off costs related to investments in real-time monitoring, in cross-asset and cross-product where practicable, and alert solutions (either

	developed internally or purchased from third parties). They may also create recurring costs related to the staff in charge of monitoring the trading systems and assisted by the automated solutions.
Costs to other stakeholders	*Modest costs*. Drop copies should be provided by the trading venue to which investment firms send orders, by their broker or DEA provider, their clearing member or CCP, their data providers, or other relevant business partners. Most trading venues sell drop copies to their members or participants but it would be an additional one-off cost to those which do not provide such service.
Indirect costs	*Quality.* Drop copies are currently not always widely available, affordable, consistent in format, of sufficient quality, or delivered timely. The content and method of delivery for drop copy feeds also varies. Higher costs may be passed to users, for example through higher bid ask spreads.

Technical Option 16: Kill functionality

	Qualitative description
Benefits	Effective "kill button" procedures may contribute to adequate risk management and safeguarding of the orderly functioning of the market.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with monitoring the order flow and procedures for the use of this functionality.
Compliance costs: - *One-off* - *On-going*	*Low costs*. All investment firms must have kill functionalities and use them as a last resort in truly exceptional circumstances. Most investment companies have already in place kill switches ("red buttons") at different trading desks (one-off costs), so the impact of the incremental component of these rules may be very limited. The recurring costs are those associated with training the staff on the use of the functionality and are estimated to be very low.
Costs to other stakeholders	*Trading venues* may be affected when traders activate this functionality.
Indirect costs	*Quality.* Kill switches can be dangerous to operate because it can be difficult for a human operator to distinguish legitimate from non-legitimate systems activity, particularly in turbulent markets. The decision to kill or halt activity should be made with due precision and optimal information about the risks involved.

Technical Option 17: Monitoring for the prevention and identification of potential market abuse

	Qualitative description
Benefits	• It minimises the risk that the automated trading activity gives rise to market abuse (in particular market manipulation).

	• It sets out specific rules and procedures to prevent, identify and report instances of possible market abuse. • The monitoring should take place where practicable, meaning where there is genuine technical or operational ability to undertake such monitoring. • It differentiates between fully automated reports and reports that need manual handling. • It enables NCAs to monitor firms' compliance with their relevant obligations in the field of market abuse.
Costs to regulator: - *One-off* - *On-going*	*Modest cost.* There may be an increase in suspicious transaction reports to be received by NCAs as a consequence of the incremental obligation proposed in the Regulation*. As a* result, NCAs are likely to face additional costs deriving from further enquiries made in order to find a satisfactory explanation for the observed behaviour (recurring costs).
Compliance costs: - *One-off* - *On-going*	Investment firms must have in place automated alert systems to flag behaviour likely to trigger suspicion of market manipulation. Firms are free to develop their own automated surveillance alerts or to contract with a third party provider, as long as these are fit for purpose (one-off costs). The recurring costs are arising from staffing involved in the monitoring process in the area of market abuse (at least once a year, or more frequently if necessary), which has to be also at the disposal of NCAs and from submitting reports without delay.
Costs to other stakeholders	*None.*
Indirect costs	*Quality*. There are certain constraints in undertaking cross-asset class and cross-product surveillance.

Technical Option 18: Accessibility and competence of monitoring staff

	Qualitative description
Benefits	It allows for a prompt response in an emergency and eliminates bottlenecks in the decision-making process.
Costs to regulator: - *One-off* - *On-going*	*Low cost* associated with the supervision of those procedures.
Compliance costs: - *One-off* - *On-going*	*Low cost*. The incremental obligation will entail a minimal one-off costs related to the changes in internal procedures to ensure accessibility to relevant third parties and to establish reliable communication channels, as well as on-going costs related to staff responsible for monitoring such processes.
Costs to other stakeholders	*Low costs* affecting Trading venues, brokers, DEA providers, clearing members, CCPs, data providers, independent software vendors (ISVs), and other relevant business partners.

Indirect costs	*None.*

Technical Option 19: Business continuity arrangements

	Qualitative description
Benefits	Contribution to market stability by allowing investment firms to return to 'business as usual' by timely resuming trading following unexpected incidents.
Costs to regulator: - *One-off* - *On-going*	*Low recurring costs* associated with the monitoring of the existence of such arrangements.
Compliance costs: - *One-off* - *On-going]*	*Low recurring costs*. The draft RTS specify a minimum range of disruptive scenarios to be considered by the investment firms. Business continuity arrangements (BCAs) will have to be reviewed on an annual basis. The costs arising from these incremental obligations are one-off costs related to the investment in infrastructure (hardware, software, connectivity) for those firms which do not follow industry's best practice. Additionally there will be recurring costs associated with the cross-functional efforts (relevant personnel) to be undertaken in order to draft, test and review the BCAs and react in a timely manner if disruptive scenarios are to materialise.
Costs to other stakeholders	*Low recurring costs.* Trading venues will have to review business continuity arrangements submitted by their members/participants.
Indirect costs	*None.*

Technical Option 20: Pre-trade controls on order entry and post-trade controls

	Qualitative description
Benefits	• Contribution to orderly markets by preventing orders that are outside of pre-determined parameters from being sent to trading venues through pre-trade controls. It will also help to prevent a detrimental race to the bottom in terms of pre- and post-trade trade risk management. • Contribution to investment firms' risk management through post-trade controls. • Competition. It creates a level playing field in terms of controls amongst users and providers of DEA as well as direct members of trading venues.
Costs to regulator: - *One-off* - *On-going*	*Modest costs* associated with the monitoring of the systems in place to run pre and post-trade controls.
Compliance costs: - *One-off*	*Low to modest costs.* As the responsibility for setting the actual levels of the pre-trade risk limits and the post-trade control procedures lies with the

- *On-going*	investment firms, the incremental obligations are likely to bring both one-off costs related to integrating parameters in the programming of the algorithm as well as on-going costs related to running those controls.
Costs to other stakeholders	*Modest costs for DEA users*. These limits may be subject to contractual obligations, e.g. where a DEA provider requires its clients to set their control limits at predefined levels.
Indirect costs	*None identified*

Technical Option 21: Security and limits to access

	Qualitative description
Benefits	It reduces the IT risk stemming from the algorithmic trading activities of the investment firm.
Costs to regulator: - *One-off* - *On-going*	*Low to modest costs* related to the processing of the information contained in the incident reports.
Compliance costs: - *One-off* - *On-going*	*Low to modest costs.* The incremental obligations with regard to IT security measures will entail one-off costs related to investments in identity and access management solutions, such as logging and two factor authentification for users with critical user rights, as well as on-going costs related to running penetration tests and vulnerability scans to safeguard against cyber-attacks.
Costs to other stakeholders	*None.*
Indirect costs	*None.*

Direct Electronic Access (Article 17(5) of MiFID II)

The draft RTS have expanded the Guidelines and added new obligations on the due diligence process, ongoing review of DEA clients and systems and controls of DEA providers.

The baseline for the assessment of the incremental obligations is the Article 17(5) of MiFID II, together with 2012 ESMA guidelines and industry practices. At present, DEA providers across the EU conduct due diligence on prospective DEA users, including a thorough review of governance structure, training programs, security policies, operational set up, procedures for responding to errors, competency of staff, regulatory status and licenses, algorithm testing policies, and the creditworthiness of the client. This is in addition to meeting Know-Your-Customer (KYC) and Anti-Money Laundering (AML) requirements where applicable.

Technical Option 22: Due diligence on prospective DEA users

Policy Objective	*DEA providers will have both the controls and the incentives to ensure that their clients' algorithms do not contribute to disorderly trading.*
Proposal 1	*Article 24* **Due diligence by DEA providers on prospective DEA clients** Investment firms offering DEA shall conduct due diligence on their prospective DEA clients, as appropriate to the risks posed by the nature of these clients, the scale and complexity of their prospective trading activities and the service being provided. **Such a process should include an assessment of the level of expected trading and order volume and the nature of connectivity to the relevant trading venues. At a minimum, the process should cover such matters as**: a. All the regular due diligence specified in the know-your-client (KYC) and anti-money laundering requirements; b. The governance and ownership structure; **c. Overview of the types of strategies to be undertaken by the DEA user;** d. **Access controls over order entry. Where the DEA provider allows clients to use third-party trading software for accessing trading venues it shall ensure that the pre-trade controls contained in this trading software are at least equivalent to the pre-trade controls set out in this Regulation**; e. The operational set-up and the systems and controls of the DEA client; f. The allocation of responsibility for dealing with actions and errors; g. The financial standing of the DEA client; h. The historical trading pattern / behaviour of the DEA client; i. The ability of the client to meet their financial obligations to the firm; and, j. If sub-delegation is to be permitted then the DEA provider shall ensure that their DEA client has a due diligence framework in place which is at least equivalent to their own; The type of DEA provided, i.e. DMA or SA.

Technical Option 23: Ongoing review of DEA clients

Policy Objective	*Contribution to orderly markets by ensuring that the initial due diligence to prospective DEA clients remains appropriate on an annual basis.*

Proposal 1	*Article 25* **Ongoing review of DEA clients** (1) Investment firms shall review their due diligence assessment processes on at least **an annual basis. In addition, investment firms acting as a DEA provider shall carry out annual risk-based reassessment of the adequacy of their clients' systems and controls, in particular taking into account changes to the scale, nature or complexity of their trading activities or strategies, and/or changes to their staffing, ownership structure, trading or bank account, regulatory status, or financial position.**

Technical Option 24: Systems and controls of DEA providers

Policy Objective	*Contribution to orderly markets by ensuring that DEA providers have effective control over the trading flow of their clients, the DEA users.*
Proposal 1	*Article 26* **Systems and controls of DEA providers** **(1) DEA providers shall monitor intraday, and on a real-time basis, the credit and market risk to which they are exposed as a result of the clients' trading activity so that the DEA provider can adjust the pre-trade controls on orders (as well as the credit and risk limits) as necessary.** (2) DEA providers shall apply pre- and post-trade controls on the order flow of their clients in accordance with article 21 of this Regulation. DEA clients shall never be able to send an order to a trading venue without the order passing through the pre-trade controls of the DEA provider. **(3)** The pre- and post-trade controls to be applied by DEA providers shall never be those of a DEA client. DEA providers may use pre- and post-trade controls which are the proprietary controls of that DEA provider, or third-party controls bought in from a vendor, provided by an outsourcer, or offered by the trading venue. In each of these circumstances the DEA provider shall remain responsible for the effectiveness of those controls and shall ensure that, at all times, he is solely entitled to set or modify any parameters or limits that apply to these pre- and post-trade controls. **DEA providers that allow clients to use third-party controls for accessing trading venues shall determine pre-trade risk limits and ensure that those pre-trade and post-trade controls are at least equivalent to the obligations set out in this article. The DEA provider shall monitor the performance of the pre-trade controls on an ongoing basis.** (4) The initial pre-trade controls on order submission (as well as the initial credit and risk limits) which the DEA provider applies to the trading activity of their DEA clients shall be based on their initial due diligence assessment, and periodic review of the client. **The**

	controls applied to these clients should be equivalent regardless of whether the type of access provided is direct market access or sponsored access. (5) DEA providers shall have in place the ability to: a. Monitor any orders sent to their systems by DEA users; b. Automatically block or cancel orders from a DEA client if they are aware of a financial instrument that a DEA client does not have permission to trade. **The investment firm must use an internal flagging system to identify and to block single clients or a small group of clients;** and, **c.** Automatically block or cancel orders of a DEA client when they breach the DEA provider's risk management thresholds. **Controls shall be applied to exposures to individual clients, financial instruments or groups of clients.** d. Stop orders flow transmitted by their DEA users; e. Suspend or withdraw DEA services to any clients where DEA provider is not satisfied that continued access would be consistent with their rules and procedures for fair and orderly trading and market integrity; **f. Carry out, wherever DEA provider deems it necessary, a review of the internal risk control systems of a DEA user.** **(6) DEA providers shall have procedures that monitor the trading systems and support staff in the event of a trading system error. The procedures shall aim at evaluating, managing and mitigating market disruption and firm-wide risk, and shall identify people to be notified in the event of an error resulting in violations of the risk profile, or potential violations of trading venue rules.** **(7)** DEA providers shall at all times have the ability to identify the different clients that submit orders through their systems by **assigning unique IDs.** (8) DEA providers shall in accordance with Article 25 of Regulation (EU) No 600/2014 on markets in financial instruments and amending Regulation (EU) No 648/2012, keep at the disposal of the competent **authority the relevant data relating to all orders including the orders submitted by their DEA clients (such as modifications or cancellations), the alerts generated by their monitoring systems and the modifications made to their filtering process.**

Cost/benefit impact assessment

Technical Option 22: Due diligence on prospective DEA users

	Qualitative description

Benefits	• It provides assurance to the DEA provider that it can safely provide DEA to its client. • It contributes to orderly markets by ensuring that prospective DEA users are suitable for that.
Costs to regulator: - *One-off* - *On-going*	*Low costs.* NCAs will have to scrutinise that an investment firm is able to meet the requirements of providing DEA, in particular to manage the risks attached.
Compliance costs: • *One-off* • *On-going*	*Low to modest costs.* The incremental obligations with regard to due diligence entail one-off (dedicated software solutions) and on-going costs (human resources) related to assessing the level of expected trading and order volume, the nature of connectivity to the relevant trading venue, the types of strategies to be undertaken by the DEA users and access controls over order entry.
Costs to other stakeholders	*Modest costs.* DEA users will be subject to a comprehensive pre-assessment and should provide evidence of meeting the criteria.
Indirect costs	*None.*

Technical Option 23: Ongoing review of DEA clients

	Qualitative description
Benefits	• It allows the DEA provider to have a comprehensive, dynamic understanding of its clients. • It provides assurance to the DEA provider that the conditions to safely provide DEA to its client remain. • It contributes to orderly markets by ensuring that DEA users meet the conditions required.
Costs to regulator: • *One-off* • *On-going*	*Low costs* associated with the supervision and monitoring of firms' standard due diligence processes for the assessment of clients' adequacy.
Compliance costs: • *One-off* • *On-going*	*Low to modest costs*. The incremental obligations will entail on-going costs related to staff involved in the annual review of the due diligence processes and reassessment of the adequacy of the clients' systems and controls.
Costs to other stakeholders	It is in the best interest of DEA users to make themselves available for the monitoring of the DEA providers.
Indirect costs	*None.*

Technical Option 24: Systems and controls of DEA providers

	Qualitative description
Benefits	Contribution to orderly markets by ensuring that orders submitted to trading venues shall meet pre-determined parameters; It allows the DEA providers to have control over the trading flow of the DEA clients, regardless of whether the type of access provided is direct market access or sponsored access.
Costs to regulator: • *One-off* • *On-going*	*Modest costs* associated with the supervision and monitoring of compliance with the obligations, which may be limited in periodic review of internal controls performed by DEA providers.
Compliance costs: • *One-off* • *On-going*	Costs may arise from the following obligations: i) monitoring intraday, and on a real-time basis, the clients' trading activity, ii) applying pre-trade and post-trade controls to individual clients, financial instruments or groups of clients, iii) using an internal flagging system to identify and to block single clients or a small group of clients, iv) having in place procedures aimed at evaluating, managing and mitigating market disruption and firm-wide risk, v)assigning unique IDs to their clients, vi) recording relevant data related the orders submitted by their DEA clients, vii) following up the alerts generated by their monitoring systems. These obligations would entail both one-off and on-going costs related to significant changes to internal rules and procedures, assigning new responsibilities to the risk management and control functions within the investment firms, substantial investments in technical, storing and processing capabilities, operational resources including technological interfaces/connectivity.
Costs to other stakeholders	*Modest costs.* DEA users will have to adapt their procedures according to the requirements of their DEA providers.
Indirect costs	*None.*

Firms acting as general clearing members (Article 17(6) of MiFID II)

In the absence of Guidelines or coverage in the MiFID I legislation, the baseline is represented by MiFID II, in particular Article 17(6) and Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories (EMIR).

Prospective clearing client and on-going review

The decision of accepting a client or not is typically driven by a combination of risk and commercial factors. Most clearing firms already have in place client acceptance policies covering the minimum criteria listed in the RTS. The acceptance procedures within a clearing firm are based on decisions based on multiple factors such as client type, size, activities, jurisdiction, legal structure, regulatory status, geographic location, credit standing, portfolio or needs. Even though a client may be ticking all boxes of the objective criteria that a clearing firm is applying, it may not be accepted by the clearing firm based on its own principles regarding sound risk management. Such a decision will always involve a qualitative analysis that requires a degree of confidentiality.

In general, reviews are decided depending on the outcome of a risk assessment (i.e. credit rating, type of business cleared, nature of client, volume of business cleared). The criteria and the nature of the client will impact the frequency of the review. In practice, client relationship management requires clearing firms to be in contact with their clients almost every day. Many of the criteria relate to the "business as usual" relationship between GCMs and clients and are monitored continuously – e.g. trade processing, payment/settlement, collateral. However, collateral reviews are less frequent if the client does not trade actively. An annual review is made of criteria such as legal agreements, business strategy, financials, etc. Many clearing firms have in place triggers to prompt immediate reviews, e.g. change in trading behaviour, failed payment, rating change, restructuring, etc. Otherwise it would not be possible to act promptly in case of a breach of limits or in case of requirements not being fulfilled.

Position limits and margining

The capacity to monitor limits on a real time basis depends upon the sophistication of the clearing firms' systems. Where the clearing firm is also the DEA provider, pre-trade and post-trade risk controls allow the firm to monitor the client's activity in real-time. Where the clearing firm is not the DEA provider, the clearing firm relies on post-trade risk controls that are updated as soon as trades are received by the clearing firm. Most clearing firms have post-trade intra-day risk systems that monitor client positions in real-time where required depending on client type, activity, and markets cleared, or once a day depending on the choices that a client has made with regard to where, how, through whom to execute, and when to allocate a trade. In practice, smaller clients that execute few trades are usually monitored once a day since the costs of real feeds would be too costly to be passed on the client. However, larger clients with higher volume bring higher risks and therefore a clearing firm monitors these clients on a near to real time basis. In certain cases, it may not be possible to achieve real time but rather close to real time monitoring. For example, a real time view may not always be achievable as clearing members do not always have full transparency on a real time basis regarding the end client allocation of trades pre-clearing.

GCMs (clearing firms) and non-clearing members (i.e. direct clearing members, but with no clients) already disclose some of their membership criteria. However, certain elements of criteria that may relate to the assessment of risk, such as margin algorithms, are disclosed at the GCM's discretion. This practice is common for CCPs as well; a CCP also discloses some of its membership criteria to clearing members, including balance sheet requirements, credit worthiness, technical capabilities and ownership and governance disclosure; however, transparency of margin algorithms are disclosed at the CCP's discretion.

Technical Option 25: Due diligence

Policy Objective	*Ensuring clearing services are only applied to persons who are suitable and meet clear criteria and that appropriate requirements are imposed on those persons to reduce risks to the firm and to the market.*
Proposal	*Article 28* **Determination of suitable persons** **(1)** Investment firms acting as a clearing firm shall make an initial assessment of any prospective clearing client according to the nature, scale and complexity of the prospective client's business. **Each potential client must be assessed against, at least, the following criteria:** a. credit strength including consideration of any guarantees; b. internal risk control systems; c. intended trading strategy; d. payment systems and arrangements that enable clients to effect timely transfer of assets/cash (as margin) required by the clearing firm in relation to the clearing services it provides; e. systems and/or access to information that helps clients to respect any maximum trading limit agreed with the clearing firm; f. any collateral provided to the clearing firm by the client; g. operational resources including technological interfaces/connectivity; and, h. any involvement in any breach of financial markets integrity, including market abuse, financial crime and money laundering activities.

Technical Option 26: Position limits and margining

Policy Objective	*Allowing investment firms to mitigate and manage their counterparty, liquidity, operational and any other risks.*
Proposal	*Article 29* **Position limits and margining** (1) Investment firms acting as a clearing firm shall set and communicate appropriate trading/position limits with their clients in order to mitigate and manage their own counterparty, liquidity, operational and any other risks. **(2) Investment firms acting as a clearing firm shall monitor their clients' positions against these limits on real-time basis and have appropriate pre- and post- trade procedures for managing the risk of breaches.** (3) Investment firms acting as a clearing firm shall document such

	procedures in writing and maintain records of compliance.

Cost/benefit impact assessment

Technical Option 25: Due diligence

	Qualitative description
Benefits	• Outlining minimum criteria will ensure a greater level of consistency amongst firms acting as GCMs. Assessments may be more stringent on a per client basis. • It provides clarity over what the regulators expect to be assessed during the due diligence process.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with the periodic supervision of procedures to perform a due diligence of prospective clients.
Compliance costs: • *One-off* • *On-going*	*Low costs*. Investment firms will incur a recurring cost of minimal significance related to assessing prospective clients against a minimum set of criteria.
Costs to other stakeholders	Low costs. It is in the best interest of the clients of the GCMs to engage actively with GCMs in the due diligence process.
Indirect costs	*None.*

Technical Option 26: Position limits and margining

	Qualitative description
Benefits	• Setting binding position limits for clients is a valuable tool to limit credit and liquidity risk. • Real time monitoring is necessary in order to ensure effective enforcement of limits and margin requirements. • Without real-time monitoring of client's positions there is a risk that clients could create significant credit risk for a GCM without the GCM being fully aware.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with monitoring the existence of these limits and their actual functioning.
Compliance costs: • *One-off* • *On-going*	*Low costs.* The capacity to monitor limits on a real time basis depends upon the sophistication of the clearing firms' systems (one-off costs) and the staff assigned with monitoring and follow-up responsibilities (on-going costs).
Costs to other stakeholders	*None or very low.*
Indirect costs	*Quality. U*nwanted execution and submission of trades to clearing may pose a risk to CCPs and the overall market.

Technical Option 27: Client disclosures

	Qualitative description
Benefits	It allows firms to maintain commercial flexibility over whom they accept as a client.
Costs to regulator: - *One-off* - *On-going*	*Low costs* associated with the supervision and monitoring of compliance with the disclosure obligations*.*
Compliance costs: • *One-off* • *On-going*	*Low costs.* While clearing companies already comply with many of the disclosure requirements under EMIR, it remains to be defined what represents "reasonable commercial terms" in relation to the levels of segregation offered to clients.
Costs to other stakeholders	*None.*
Indirect costs	*None.*

References

ESMA Guidelines - *Systems and controls in an automated trading environment for trading platforms, investment firms and competent authorities* (2012)

FIA EPTA (European Principal Traders Association): *Market Integrity Framework: Best Practices to Preserve Market Integrity, Software Development and Change Management Principles, Recommendations for Risk Controls for Trading Firms*(2012)

4.2. Organisational requirements for trading venues (Article 48 of MiFID)

Rules and requirements for trading venues allowing or enabling electronic trading through its systems (Article 48(12)(a) of MiFID II) with respect to proportionality, governance, compliance function within the governance process, staffing and outsourcing

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[50], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such

[50] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to further specify the requirements to ensure trading systems of regulated markets are resilient and have adequate capacity under Article 48(12)(a). This includes organisational requirements in relation to proportionality, governance, the compliance function within the governance process, sufficient staffing and outsourcing, if required.

This document provides an interim qualitative cost-benefit analysis of the incremental obligations arising from the proposed RTS covering the above requirements. Whenever market practices are in line or above what is now proposed, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment [51] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, the Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which will be the MiFID requirement, ESMA Guidelines 2012/122 or current market practice where it exceeds previous legislation. The stakeholders affected are identified as trading venues (considering as such operators of a regulated market and investment firms operating an MTF or OTF), outsourcing providers and National Competent Authorities (NCAs). After a summary description of the different draft technical proposals in the RTS and how relevant stakeholders would be affected, an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

For the final CBA we will expand the initial research conducted to try to establish a more detailed view of the cost and benefit implications of the RTS.

2. Introduction

Recent developments in automated high speed trading have highlighted the potential risks involved in financial markets today.

Article 48 of MiFID II requires regulated markets to have in place effective systems, procedures and arrangements to ensure its trading systems are resilient, have sufficient capacity to deal with peak order and message volumes, are able to ensure orderly trading under conditions of severe market stress, are fully tested to ensure such conditions are met and are subject to effective continuity arrangements to ensure continuity of its services if there is any failure of its trading systems.

[51] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

Article 48(12)(a) of MiFID II mandates ESMA to draft RTS to further specify the requirements to ensure trading systems of regulated markets are resilient and have sufficient capacity.

The analysis that follows is of a qualitative nature. The technical options proposed by ESMA in this CP are broadly in line with the ESMA Guidelines on Systems and Controls in an Automated Trading Environment published in 2012. No mention to quantifiable costs and benefits was made in the responses to the DP.

3. Baseline

While MiFID I did not explicitly established any provision regarding systems and controls for automated trading, this issue was addressed by ESMA in its Guidelines on Systems and Controls in an Automated Trading Environment for trading venues, investment firms and competent authorities published in 2012 including reference to the topics covered by this CBA (proportionality, governance, compliance function within the governance process, staffing and outsourcing).

Proportionality was applied for both trading venues and investment firms when the Guidelines established that the systems and controls should take into account the nature, scale and complexity of their business.

Guideline 1 referred to the governance of trading venues in the following terms: The governance process is crucial to comply with regulatory obligations. Trading platforms should, within their overall governance and decision-making framework, develop, procure (including outsourcing) and monitor their electronic trading systems through a clear and formalised governance process. The governance process must ensure that all relevant aspects of the decision-making process including commercial, technical, risk and compliance are given due weight. In particular, it must embed compliance and risk management principles. The governance process must also have clear lines of accountability, including procedures for the sign-off for development, initial deployment, subsequent updates and resolution of problems identified through monitoring. There should also be appropriate procedures for the communication of information.

Compliance function was also identified in Guideline 1 when saying that "in the governance process compliance staff should be responsible for providing clarity about the market operator or firm's regulatory obligations and the policies and procedures that seek to ensure that the use of the trading systems comply with the market operator or firm's obligations and that any failures to comply are detected. This requires compliance staff to have an understanding of the way in which the trading systems operate but not knowledge of the technical properties of the trading systems".

Staffing was also considered a critical element to achieve the objectives of the Guidelines. To that end, Guideline 1 clarified that trading platforms should have procedures and arrangements, including recruitment and training, to determine their staffing requirements and then to ensure they employ sufficient number of staff with the necessary skills and expertise to manage their electronic trading systems. This will include employing staff with knowledge of relevant electronic trading systems, the monitoring and testing of such systems and the sort of trading that will be undertaken by members/participants of the regulated market or users of the multilateral trading facility and of the regulated markets' or multilateral trading systems' regulatory obligations.

There were no other references on outsourcing of trading venues other than the one with respect to their governance above.

These Guidelines were adopted by NCAs in practically all jurisdictions in the EU. In line with that, it should be expected that most market participants have implemented these Guidelines in their regular practice since then.

As a consequence, for the purposes of this CBA we have assumed that the baseline described in the Guidelines will be current market practice for regulated markets and MTFs (there are no OTFs yet).

4. Stakeholders

The relevant stakeholders to consider are trading venues, outsourcing providers and NCAs.

Most incremental requirements impact directly ***trading venues****.* However, trading venues are expected to be largely compliant with a significant majority of the governance requirements. Not only has good governance, it has also become a commercial imperative. However there will be costs incurred for those trading venues that have not adapted their structures according to the Guidelines.

Regarding the outsourcing requirements there will be different impacts:

Trading venues will be subject to a tighter set of requirements and may have to revise some of their existing outsourcing agreements; and

Outsourcing providers will be required to put in place stricter governance processes around any software and hardware when either procured or outsourced. There are also additional clauses expected in the agreements concluded with third part providers/vendors on audit rights for firms and NCAs, access to relevant technical documentation (e.g. access to the source code on request or by entering into a code escrow agreement), and confidentiality arrangements. However, the extent of the potential incremental cost will mostly be driven by the negotiating power of the interested parties as some large trading venues may be in a better position to negotiate than others.

National Competent Authorities will be required to process greater quantities of more detailed information, necessitating sufficient technical expertise and ressources to meet their supervisory responsibilities. As a result, some NCAs may require further investment in human capital and/or IT services.

5. Technical Options

ESMA's proposed draft RTS expands the initial proposals in the Guidelines and creates the following incremental obligations in the above mentioned areas:

- Proportionality: systems self-assessment once a year based on a list of parameters;
- Governance: segregation of functions and management approval for certain matters: compliance self-assessment, measures to expand capacity or resolution/remedy of issues detected;
- Compliance: contact, access and seniority;
- Staffing: sufficient seniority and appropriate challenge; and
- Outsourcing: restrictions (operational functions, terms and conditions, authorisation requirements), due diligence (selection, management, monitoring and termination), specific requirements (service provision) and reporting obligations to NCAs (services provided to other venues, critical operations).

(1) Proportionality assessment on the basis of a set of parameters

Policy Objective	Trading venues should have in place systems and controls proportional to their potential to create or contribute to disorderly trading conditions in the market.
Proposal 1	Trading venues must elaborate a report where they assess their degree of compliance with Article 48 of MiFID II taking into account the nature, scale and complexity of their business in the following cases: • before the deployment of any trading systems; and • under annual review, • where appropriate, more stringent organisation requirements should be established and maintained.
Proposal 2	Trading venues must complete self-assessments which must be approved by senior management and then sent to their relevant NCA. The self-assessment must take into consideration the nature and complexity of the underlying business, including the following, as a minimum: • Types and regulatory status of the instruments traded • Trading venues' role in the financial system • Scale of the potential impact of the venue including; o number of algorithms operating on the venue; o messaging and execution volumes and capacity; o percentage of algorithmic trading; o percentage of HFT activity; o number of members and participants; o number of members providing DEA access and the conditions under which DEA is offered; o ratio of unexecuted orders to executed transactions (OTR);

	o number and percentage of remote members; o number of co-location or proximity hosting sites provided; o number of countries and regions in which the trading venue operates; and o operating conditions for mechanisms to manage volatility. • Complexity, in terms of: o classes of instruments traded; o trading models available; o transparency waivers used; o venue's trading systems; o structure of the trading venue; o connectivity and technology locations; o trading infrastructure; o level of outsourcing; and o frequency of changes.

The proportionality principle already inspired the ESMA Guidelines enabling different ways of implementing those Guidelines depending on the level of automated trading that affected the trading venue or investment firm in particular. As a result, the majority of the policy proposals above will be mostly in place but not yet fully implemented across the board. Therefore, while the anticipated costs may be minimal for the industry overall the RTS provisions may affect differently different trading venues. We will conduct further analysis for the final CBA to understand the level of current industry practices vis a vis the incremental requirements of these RTS.

Initial research has indicated that best practice has already adopted improved procedures and documentation – for example quarterly reviews of suppliers – in order to demonstrate to existing and potential members the robustness of the trading venue.

(2) Governance

Policy Objective	The trading venues' governance process and structure should effectively contribute to meet the objectives of MiFID II.
Proposal 1	Trading venues should have in place clear and formalised governance procedures and processes which should include; • Appropriate segregation of functions to ensure effective supervision.
Proposal 2	Senior management must sign-off; • compliance self-assessments both before deployment and periodic

	self-assessment; and • Any measures/adjustments as a result of expansion plans, or following an event or to remedy any shortcomings.

As previously indicated, clear and formalised governance processes were introduced under ESMA Guidelines and industry's best practice has already adopted robust and well documented governance procedures and processes.

(3) Compliance Function

Policy objective	Trading venue's compliance staff should effectively contribute to meet the MiFID II objectives.
Proposal 1	Compliance staff has to be in continuous contact with staff having relevant technical knowledge and those responsible for the trading system operating the venue.
Proposal 2	Where the trading venue uses external compliance, those consultants should have a similar level of access as if they were the venue's own staff.
Proposal 3	In addition, the general requirement for trading venues to employ staff with sufficient seniority to effectively comply with its obligations applies to the compliance function.

The Guidelines already had requirements about the compliance function which were consistent with the current proposals. The additional specificity of these requirements may lead to additional costs for trading venues when re-considering their own compliance functions since all venues may not currently be compliant.

(4) Staffing

Policy objective	The staff of trading venues should be able to manage their trading systems without posing additional risks to the market.
Proposal 1	Trading venues to employ staff with sufficient seniority to effectively perform its functions, and able to offer appropriate challenge as necessary within the governance framework.

Market practice has evolved to the point where some firms now consider a critical factor in a trading venue's business model that its systems are monitored adequately. The level to which existing trading venues currently monitor their business differs from venue to venue. The number of staff required to monitor and take action relates to the extent to which they have been able to automate the monitoring process. The proposals in the draft RTS introduce some very specific monitoring obligations, which may lead to incremental costs for some trading venues when re-considering their own compliance functions since all venues may not currently be compliant.

(5) Outsourcing requirements

a. A number of restrictions on outsourcing have been placed:
    1. Clarification that it can only affect operational functions;
    2. The terms and conditions with the members and participants cannot be altered;
    3. The trading venue should still meet the requirements to be authorised in accordance with MiFID II;
b. Due diligence in the selection, management, monitoring and termination of outsourcing.
c. Specific requirements in respect of the provision of the services;
d. Reporting obligation to the national competent authorities:
    1. Where the service provider is providing the same service to other trading venues;
    2. Where the trading venue intends to outsource critical operational functions. In this case, outsourcing cannot take place without the approval of the national competent authority.

Policy Objective	Trading venues choosing to outsource elements of the technology, operation or compliance functions should not compromise the orderly running of the venue and should remain capable at all times to take control of the outsourced functions.
Proposal 1	Whenever trading venues chose to outsource any element of their operations they remain fully responsible for all of their obligations under EMIR and MiFID II and no management responsibility can be delegated.
Proposal 2	Venues must exercise due skill, care and diligence when entering into any element of the outsourcing process. The respective rights and obligations of the trading venue and the service provider must be set out in a legally binding contract and at all times the following conditions must be satisfied: • Service provider (SP) must be capable and authorised by law to carry out services effectively; • The Trading Venue (TV) must have metrics to assess standard of performance and have ability to intervene if functions are insufficiently executed; • TV must retain the necessary expertise to supervise; • SP must be required to disclose any material development that may

	impact their ability to carry out the functions; • TV can terminate contract without any impact on venue function • SP to cooperate with the NCAs of TV; • TV, auditors and relevant CAs must have access to data and premises; • TVs must ensure all confidential data, information and software is protected; • SP must have full business continuity contingency plans and participate in periodic testing of back up facilities. These conditions must be met regardless of which functions have been outsourced and whether the SP is located in a different country.
Proposal 4	Reporting obligation to the NCAs: • Where the service provider is providing the same service to other trading venues; • Where the trading venue intends to outsource critical operational functions. In this case, outsourcing cannot take place without the approval of the NCA.

Many of the above concepts were anticipated by the ESMA Guidelines – where trading platforms should, within their overall governance and decision-making framework, develop, procure (including outsourcing) and monitor their electronic trading systems through a clear and formalised governance process. However the draft RTS introduce new obligations to have a stricter and formalised governance process. Again current market practice indicates that many of the above requirements may already be in place to a certain extent.

6. Cost/benefit impact assessment

In the previous section three incremental obligations from the Level 2 text have been identified. This section assesses benefits and costs of these incremental obligations, which cover two sets of requirements in the following areas:

1. Organisation Requirements including Governance (Articles 3-6 of the draft RTS)
2. Outsourcing (Article 7 of the draft RTS).

The following sections will assess the impact of each individual option vis-à-vis the baseline scenario identified above. They include the list of positive and negative impacts, either direct (e.g. regulatory compliance costs/administrative burden) or indirect (e.g. widening of bid/ask spread). The text should also explain where there is uncertainty about the impact.

Please note that, at this stage, the section on costs and benefits is of a qualitative nature. A more detailed analysis of costs and benefits will be part of the final report that will be published with the technical standards.

Please note costs are ranked (in size) as: “none”, “low”, “modest”, “fair”, “high”.

(1) Proportionality assessment on the basis of a set of parameters

	Qualitative description
Benefits	Ensuring that trading venues have arrangements in place to effectively contribute to maintain orderly markets. In some cases, that principle may take trading venues beyond the minimum described in the RTS, as this takes into consideration the particular characteristics of their different business models.
Costs to regulator: • *One-off* • *On-going*	*Low:* National competent authorities may have to revise the self-assessments made periodically by the trading venues and also those made before the deployment of a new system.
Compliance costs: • *One-off* • *On-going*	*Low:* many of obligations are currently already deemed best practice. For the final CBA, further detailed research will be required to determine what has been actually implemented and compare to what extent the RTS provisions are already used in practice.
Costs to other stakeholders	None identified
Indirect costs	None identified

(2) Governance

	Qualitative description
Benefits	Ensuring the contribution of the governance process of trading venues to orderly markets.
Costs to regulator: • *One-off* • *On-going*	*Low:* NCAs may need additional resources to monitor trading venues' governance in this area.
Compliance costs: • *One-off* • *On-going*	*Low:* many of obligations are currently already deemed best practice. For the final CBA, further detailed research will be required to determine what has been actually implemented and compare to what extent the RTS provisions are already used in practice.
Costs to other stakeholders	None identified

Indirect costs	None identified

(3) Compliance Function and staffing

	Qualitative description
Benefits	Ensuring that the compliance function has the means to effectively monitor whether trading venues meet the new requirements.
Costs to regulator: • *One-off* • *On-going*	*Low:* NCAs will need to have in place systems and processes to monitor trading venues' compliance function but this should already be part of their trading venues supervision efforts.
Compliance costs: • *One-off* • *On-going*	*Low:* many of obligations are currently already deemed best practice. For the final CBA, further detailed research will be required to determine what has been actually implemented and compare to what extent the RTS provisions are already used in practice.
Costs to other stakeholders	None identified
Indirect costs	None identified

(4) Outsourcing requirements

	Qualitative description
Benefits	Outsourcing of operational functions should not pose additional risks to the markets.
Costs to regulator: • *One-off* • *On-going*	*Low ongoing costs:* Requirement for NCAs to provide written authorisation for TV's wanting to outsource critical or important operational functions and monitoring of information provided on request, which will create some ongoing costs for NCAs in their authorisation departments.
Compliance costs: • *One-off* • *On-going*	*Low to modest one-off and ongoing costs:* There will be initial costs to review existing outsourcing agreements to see if they meet new requirements and whether contracts need to be renegotiated, there may also be one-off costs involved in renegotiating the contracts. Trading venues will also need sufficient staffing levels in order to supervise any outsourcing requirements as defined in the draft RTS and to maintain the continuity and quality of its services in case of suspension of the services by the external provider.

	When selecting outsourcing providers there will be potentially an increase in due diligence, administration and documentation around the selection process. Firms will also need to seek approval of their relevant NCA regarding their intention to outsource. The level of costs involved will depend on whether this obligation is retrospective in nature or not.
Costs to other stakeholders	Outsourcing agents may have increased responsibility which may not be absorbed under existing contracts.
Indirect costs	Legal costs for contractors having direct access to trading venue's employees as if they were the trading venues own compliance staff. The possible increase in both cost and complexity of outsourcing agreements may be passed on to clients

Regulated Markets with Resilient trading systems and adequate capacity (Article 48.1 of MiFID II)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[52], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to further specify the requirements to ensure trading systems of regulated markets are resilient and have adequate capacity under Article 48(1). This includes that trading venues should have sufficient capacity to deal with peak order and message volumes and their ability to ensure orderly trading under conditions of severe market stress, ensuring that the systems are fully tested and the obligation to have effective business continuity arrangement in case of failure. This includes as well the requirement in Article 48(4) to have in place effective systems, procedures and arrangement to reject orders that exceed pre-determined volume and price thresholds or which are clearly erroneous, the capacities to halt or constrain trading in Article 48(5) and the trading venues'

[52] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

obligation with respect to the adequate testing of the algorithms of their members or participants.

This document provides an interim qualitative cost-benefit analysis of the incremental obligations arising from the proposed RTS covering the above requirements. Whenever market practices are in line or above what is now proposed, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment [53] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, the Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which will be either the MIFID requirement, ESMA Guidelines 2012/122 or current market practice where it exceeds previous legislation. The stakeholders affected are identified as trading venues (considering as such operators of a regulated market and investment firms operating an MTF or OTF), outsourcing providers and National Competent Authorities. After a summary description of the different draft technical proposals in the RTS and how relevant stakeholders would be affected, an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

Article 48(1), (4), (5) and (6) of MiFID II sets out a number of requirements to trading venues directly related to their capacity and resilience. Article 18(5) of MiFID II expands the requirements contained in Article 48 to multilateral trading facilities (MTF) and organised trading facilities (OTF).

As a result of this requirement, Article 48(12)(a) of MiFID II mandates ESMA to draft RTS to further specify the requirements in order to ensure trading systems meet the regulatory obligations.

The analysis that follows is of a qualitative nature. The technical options proposed by ESMA in this CP are broadly in line with the ESMA Guidelines on Systems and Controls in an Automated Trading Environment published in 2012.

3. Baseline

While MiFID I did not explicitly established any provision regarding systems and controls for automated trading, this issue was addressed by ESMA in its Guidelines on Systems and Controls in an Automated Trading Environment for trading venues, investment firms and

[53] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

competent authorities published in 2012[54] including reference to the topics covered by this CBA:

- Capacity and resilience of trading venues
  - Due Diligence for members or participants of trading venues
  - Testing the capacity of members or participants to access trading systems
  - Testing members algorithms to avoid disorderly trading conditions
  - Trading venue's capacity
  - Ongoing monitoring and periodic review of the performance and capacity of the trading systems
- Means to ensure resilience of trading venues
  - Prevention of disorderly trading conditions
  - Pre-trade controls

These Guidelines were adopted by NCAs in practically all jurisdictions in the EU. In line with that, it should be expected that most market participants have implemented these Guidelines in their regular practice since then.

Capacity and resilience of trading venues was addressed in the guidelines in the following areas:

Due Diligence for members or participants of trading venues was covered under Guideline 3 where trading platforms were required to perform adequate due diligence on applications to become a member/participant or user.

The obligation to test trading systems was referred to in Guideline 1 where trading platforms should prior to deploying an electronic trading system, and prior to deploying updates, make use of clearly delineated development and testing methodologies. The use of these methodologies should seek to ensure that, amongst other things, the operation of the electronic trading system is compatible with the regulated market's and multilateral trading facility's obligations under MiFID and other relevant Union or national law, that compliance and risk management controls embedded in the systems work as intended (including generating error reports automatically) and that the electronic trading system can continue to work effectively in stressed market conditions.

Testing members algorithms to avoid disorderly trading conditions is referred to in Guideline 3 where trading platforms should have standardised conformance testing to ensure that the systems that members and participants are using to access the platform have a minimum level of functionality that is compatible with the trading platforms' electronic trading system and will not pose a threat to fair and orderly trading on the platform.

Trading venue's capacity was addressed in Guideline 1 where regulated markets' and multilateral trading facilities' electronic trading systems should have sufficient capacity to accommodate reasonably foreseeable volumes of messaging and that are scalable to allow

[54] ESMA systems and controls Guidelines 2012/122

for capacity to be increased in order to respond to rising message flow and emergency conditions that might threaten their proper operation. Measures to cope with excessive flooding of the order book, prevention of capacity limits being breached and measures to halt or constrain trading were addressed under Guideline 3.

Ongoing monitoring and periodic review of the performance and capacity of the trading systems was addressed in Guideline 1 under governance; in Guideline 3 under monitoring and review; and again under Guideline 5, where trading platforms are required to have sufficient systems to monitor and conduct periodic reviews and internal audits of procedures and arrangements to prevent and identify instances of conduct that may involve market abuse.

Means to ensure resilience of trading venues was addressed in Guideline 3 under monitoring and review, measures to cope with excessive flooding of the order book, prevention of capacity limits being breached and measures to halt or constrain trading

Prevention of disorderly trading conditions is addressed under Guideline 3 where trading platforms should have the ability to prevent (in whole or in part) the access of a member or participant to their markets and be able to cancel, amend or correct a transaction; measures to halt or constrain trading, prevention of capacity limits being breached and monitoring.

Guideline 3 already imposed on trading venues to require their members or participants to have in place **pre- and post-trade controls**. The draft RTS specifies that trading venues shall ensure that their members operate the pre-trade risk limits and controls described in the section on the organizational requirements for investment firms.

As noted above, for the purposes of this CBA we have assumed that the baseline described in the Guidelines will be current market practice which should be in line with the Guidelines.

Other elements addressed in the draft RTS such as proportionality; governance and staffing; outsourcing; mechanisms to manage volatility and direct electronic access were the subject of separate interim CBA reports and will not been reviewed in this document.

4. Stakeholders

Whilst these draft regulatory technical standards are largely aimed at trading venues there will be some reference to investment firms whose business models may be impacted by many of the proposals. Preliminary desk research has illustrated that the actual impact of the proposed RTS will depend on the current state of play for both trading venues <u>and</u> investment firms due to the systems and controls already in place.

Trading Venues:

As the vast majority of NCAs may have already introduced the ESMA Guidelines at a national level, the main cost with respect to the non-incremental obligations shall be for those trading venues that have not adapted yet their structures according to the Guidelines. In addition to that, the proposed regulatory technical standards include incremental obligations as follows:

- requirement to increase capacity;
- ability to provide enhanced monitoring systems;
- expansion of regular capacity planning review and appropriate action, including personnel;
- Implementation of periodic reviews;
- Enhancement of controls to manage volatility, intervention and throttling and existing pre-trade controls;
- Enhancement of testing processes and provision of accessible conformance testing services;
- Enhanced processes for reporting to NCAs

These incremental requirements directly impact trading venues. However, trading venues are expected to be largely compliant with a significant majority of them.

Outsourcing providers:

Third party service providers will be impacted by stricter governance and additional clauses in processes around the procurement or outsourcing of hardware or software by trading venues. However, the incremental costs have to be specified once current market practice in this respect has been identified. Additionally, the incremental costs will mostly be driven by the negotiating power of the interested parties as some large trading venues may be in a better position to negotiate than others.

National Competent Authorities:

NCAs will be required to process greater quantities of more detailed information, necessitating sufficient technical expertise and resources to meet their supervisory responsibilities. As a result, some NCAs may require further investment in human capital.

Investment Firms:

With implicit market costs now deemed as critical as explicit costs, model-driven order flow is rising as asset managers switch to greater automation in order to limit their signalling risk leading to increasing index benchmark trading and market-on-close activity which can make the market more volatile in certain periods of trading. This in turn plays into greater risk-adverse strategies, creating a requirement for further automation in order to limit information leakage ahead of trade execution[55].

On top of that, the obligations of investment firms under Article 17 and Article 48 of MiFID II (such as the obligation to have in place pre-trade controls, testing the algorithms or the

[55] TABB Group - All Change at the Exchange: The European Exchange Landscape Post ICE/NYSE Euronext (2013)

expanded due diligence requirements) will also impact investment firms due to the rise in automated trading across asset classes.

This may create challenges for investment firms both in terms of their ability to manage automated flow but also their ability to meet the regulatory objectives.

5. Technical Options

Under Article 48(12) of MiFID II, ESMA has to develop RTS on the requirements to ensure trading systems of regulated markets are resilient and have adequate capacity.

In the draft RTS, the potential incremental rules cover five areas:

1. Section 1: Capacity and Resilience of Trading Venues (Members or Participants)
   a. Due Diligence for members or participants of trading venues (Article 8)

2. Section 2: Capacity and Resilience of Trading Venues (Testing)
   a. Testing the members' capacity to access trading systems (Article 10)

3. Section 3: Capacity and Monitoring Obligations
   a. Trading venue's capacity (Article 12);
   b. Monitoring obligations (Articles 13 and 14);
   c. Periodic review of the performance and capacity of the trading system (Article 15).

4. Section 4: Means to Ensure Resilience
   a. Business continuity arrangements (Article 16);
   b. Business continuity plan (Article 17);
   c. Ongoing review of business continuity arrangements and information to competent authorities (Article 18);
   d. Prevention of disorderly trading conditions (Article 19);
   e. Pre-trade controls (Article 21).

We will examine the costs and benefits resulting from the incremental obligations ESMA will impose over the status quo in the following section entitled Cost/Benefit Impact Assessment.

(1) Due Diligence for members or participants of trading

Policy Objective	Trading venues must ensure that market participants using their venue do not contribute to the creation of disorderly trading conditions
Technical proposal	Trading venues must have a minimum level of pre-defined publically available standards relevant to their trading model. This should cover all aspects of technical arrangements and staff capabilities

	including; • Pre and post trade controls and levels of access; • Staff capabilities; • Compliance and monitoring functions; • Testing capabilities; • Business continuity and disaster recovery procedures; and • Outsourcing policy. Trading venues must undertake due diligence on prospective members against their minimum standards and ensure that existing members remain compliant through yearly risk based assessments, including annual checks as to whether members remain registered as investment firms. This must be made available to NCAs at their request. Pre-determined enforcement measures shall be defined by the trading venue in case members do not meet all or part of the requirements including suspending access to the trading venue and losing the condition of member. A list of those members who fail the yearly assessment shall be at the disposal of the relevant NCA.

In the DP published in May 2014, ESMA proposed that trading venues with algorithmic trading should perform adequate due diligence to ensure all members or participants meet pre-defined criteria. This is an extension of the proposals outlined in the ESMA guidelines where firms were required to have procedures and arrangements to determine their staffing requirements with the necessary skills and expertise to manage their electronic trading system[56]. Initial conversations with the largest trading venues including MTFs illustrate that many trading venues already have robust and well documented standards and business practices in place and view the above requirements as not business critical in the current environment.

Since the introduction of venue competition under MiFID, the ability to demonstrate robust and stringent controls has become a method to attract activity to venues. Therefore, not only are members regularly assessed but are actively encouraged to engage in dialogue with venues to highlight potential areas of concern ahead of any incidents

ESMA's proposed requirements add the additional obligation to formalise that documentation in a way that can be provided to the NCAs on request and introduces enforcement measures. However best market practice has already been moving to improved procedures and documentation in recent years – for example the on-boarding of new members and quarterly reviews of suppliers – in order to demonstrate to existing members the robustness of the trading venue.

[56] ESMA Guideline 1 – Systems and controls in an automated trading environment for trading platforms, investment firms and competent authorities (2012)

(2) Capacity and Resilience of Trading System – Testing Capacity to Access and testing algorithms

Policy Objective	Ensuring that both the capacity of the members to access the trading systems and the algorithms used to operate in the market have been sufficiently tested, preventing access to a trading venue of firms and algorithms that may lead to disorderly trading conditions.
Technical proposal	Trading venues are required to ensure that their members or participants go through conformance testing and also ensuring that adequate testing is done by new members and any existing members who are introducing a new algorithm or redesign of a previously existing algorithm. Before any participant may either join a trading venue or add new algorithms to their suite, the trading venue should require them to perform a functional and technical conformance test. Functional tests will cover the basic functionality such as submission, modification and cancellation of an order or an Indication of Interest. Technical tests should cover connectivity tests (e.g. the ability to cancel, market data loss etc.), recovery tests (e.g. cold intraday starts) and the handling of stale data or instrument suspension. They should provide members and prospective members with a conformance test environment that is accessible in equivalent conditions to the rest of the venues testing service, a list of instruments that is consistent with the ones available in the live market and available to users either during normal market hours or on a pre-scheduled basis. The conformance testing must provide access to knowledgeable staff and should provide a report to the member or prospective member. The design of the tests will need to show phases and content, timescales and associated costs. All members and potential members will be required to use the testing services. No participant will be permitted access until they have passed the conformance testing. Trading venues shall also require their members to undertake testing of their trading algorithms to avoid creating or contributing to disorderly trading conditions before accessing the market for the first time or before the deployment of new algorithms, well-functioning algorithms used in other trading venues and material changes in the previous architecture.

	To that end, trading venues shall provide a set of appropriate scenarios with functionalities, protocols and structure reproducing live environment conditions, including a self-certification front-end to permit unusual scenarios to be simulated.

Trading venues

ESMA's preliminary view was that trading venues should establish standardised conformance testing at both the technical and functional level covering connectivity, recovery, handling of suspended instruments or stale market data, as well as testing the ability to download static and market data. ESMA is of the view that the characteristics of conformance testing should include:

- Easy accessible during market hours or pre-scheduled if outside market hours via a self-certification front end
- A list of instruments available for testing consistent with those available in the live environment
- Knowledgeable staff to support the process and
- Provide a report on the outcome of the testing

Testing facilities provided to participants and prospective participants currently vary from venue to venue. Some venues will provide full equivalent testing facilities whereas others only provide access to a limited number of securities in a significantly smaller parallel service.

Some venues offer members and prospective members access to a full certification suite, which is made available and offers real-time simulation trading during trading hours and at no additional charge. This test environment replicates the live system and includes everything that is available in the live market plus any new segments, instruments or markets that may be due launched shortly. An order generator will constantly generate orders into the test environment to ensure that there is sufficient flow available for members to interact with, using prices on the generated orders taken from the live market.

Where venues do not currently support an independent conformance test service, they may have to create a completely new testing environment in order to meet the requirements specified within the proposals which could run to significant additional costs. Standardised test packs would have to include additional staffing costs to support the process.

ESMA Guidelines already established the obligation of investment firms to have their algorithms tested under Guidelines 2.d but it was not considered compulsory for trading venues to offer these types of test capabilities until the introduction of this requirement under MiFID II Level 1. However, again initial investigations indicate that this level of testing is now considered industry best practice by trading venues.

Investment Firms

The likely impact for investment firms will be additional manpower costs and potential development effort to set up the testing packs to support each of the trading venue requirements. It is unlikely that these requirements could be managed through manual interaction. Standardised test packs would have to include additional staffing costs to support the process. For firms whose existing execution venues will be forced to become an MTF this may be an additional financial burden which could perhaps result in the underlying business model becoming uncompetitive. However as the requirement for testing of algorithms exists under ESMA guidelines and MiFID II/MiFIR, the incremental costs would be attributable to Level 1, not the draft RTS.

(3) Capacity and Monitoring Obligations – Capacity

Policy Objective	In order to ensure robust and resilient markets, trading venues should ensure they have sufficient capacity over and above the historic peak of orders and message volumes.
Technical proposal	Trading venues are required to maintain capacity which would accommodate at least twice the maximum number of message per second and per value ever recorded on a given day across the entire trading infrastructure. The capacity of the system will be acceptable if it is able to perform without any degradation of function or speed. When a historic peak is reached, firms will be required to review if the capacity is still sufficient. Where the historical peak is reached and therefore, the capacity may no longer be sufficient, trading venues will be required to either inform their home NCA of the expansion plans or justify why capacity need not be expanded; both to be approved by the NCA. Systems should be designed such that increases in capacity can be achieved in a reasonable timescale. Trading venues must also notify their NCA and their members of any interruptions of trading and the estimated time to restore trading.

Initial desk research has revealed that trading venues are already undertaking periodic reviews to assess system capacity. This became industry wide practice in August 2011, at the height of the Grexit crisis, when messaging peaks reached their height, and as such trading venues have already increased system capacity.

The ESMA Guidelines only referred to the obligation for trading venues to have sufficient capacity. The incremental obligation under the draft RTS is to have at least 50%. Initial research indicated that trading venues are already operating at 50% headroom over and above their highest ever day.

For the purposes of the final CBA this threshold will be investigated further with particular reference to smaller regional trading venues in the European Union. It is unlikely that all venues will maintain a full 50% spare capacity considering the number of days on which this parameter will be breached will be very small. However, it has to be noted that the 50% headroom has to be considered jointly with the obligation to interpret it according to the nature, scale and complexity of the business.

Initial desk research has indicated that trading venues have a number of real-time monitoring systems which include the ability to monitor server capacity with nightly reports to indicate current capacity levels. Periodic load tests are conducted on a regular basis to ensure capacity is sufficient including trend monitors to see if breaches could potentially occur by end of day.

Again, while the major exchanges and MTFs trading equities currently may have the capability in place to manage this obligation, a number of smaller exchanges or MTFs will be required as part of the MiFID II implementation to upgrade their technology to meet this requirement.

Further research will be undertaken in the full CBA to be conducted next year.

(4) Monitoring Obligations

Policy Objective	Trading venues are required to monitor their activity on an ongoing basis in order to prevent any activity that could lead to the creation of disorderly markets.
Technical proposal	Trading venues must be adequately managed and monitored to ensure that appropriate actions can be taken to identify and act on any activity that could lead to the risk of disorderly markets. All monitoring must be adapted and appropriate for the business that is executed through it. The system is to be monitored and reviewed on an ongoing basis to ensure the safe operation of the venue from both business and technology perspectives. Trading venues will be required to monitor in real-time the performance and capacity with a time delay of no more than 5 seconds, the number of orders sent by their members. Trading venues must also be able to demonstrate on a consistent basis to their NCA that they are meeting the monitoring obligation for

	• the percentage of the maximum message capacity used each second; • the total number of messages (received, sent and rejected per second); • internal latency (gateway to gateway); • the time for the matching engine round trip. Where any of the items monitored above breach the expected limits then the trading venue must have the process in place to prioritise the required actions and if necessary adjust, wind down or shut down the trading system.

The concept of real-time monitoring was introduced in ESMA Guidelines 1 and 3 where trading platforms are required to monitor their electronic trading systems in real time to adequately identify problems as soon as reasonably possible and spot possible signs of disorderly trading. In addition, real-time monitoring is a feature of Level 1 text as trading venues are required to be able to halt or constrain trading (Article 48(5) of MiFID II) and the obligation regarding order to trade ratios (OTR).

Equally it is an important part of a trading venue's business model to ensure that their systems are monitored adequately. The level to which existing trading venues currently monitor their business will differ from venue to venue and the number of staff required to monitor and take action will relate to the extent to which they have been able to automate the monitoring process.

Initial desk research has indicated that trading venues have number of real-time monitoring systems that are available to all of the monitoring team and are usually accessible by the management. They include monitors to show operating capacity, server capacity, gateway and disk usage and open order count along with visual graphs to show the current status of capacity vs expectations. A chain of command then exists via the development or infrastructure teams to inform the CTO and management if and when action is required to address either hardware or software capacity issues.

Proposals to monitor activities fall into two distinct areas: the first will be for activities that pose an immediate risk to the stability of the market and the second will be for those activities that may be associated with attempted market abuse. The latter must be clearly identified and the resultant activity addressed differently. There will be development required to introduce the additional elements of monitoring and potential increases in staff costs and training.

(5) Periodic Review

Policy Objective	Venues should undertake periodic reviews of the performance and capacity of the trading system in order to ensure continued safe operation of the trading venue

Technical proposal	All venues should monitor their capacity and review performance, capacity and governance, business continuity and accountability formally at least once a year. Any findings from the review should be converted into a remedial action plan to ensure the continued safe operation of the venue. The review programme should include stress tests including: • Historical peak of messages and successive multipliers above; • Forced excessive volumes to identify performance under stress of hardware, software and communication lines; • Random combination of market conditions (stressed or otherwise) and unexpected behaviour of critical constituent elements. Investment firms may be mandated to participate in the annual stress test and be fined if they fail to participate Periodic stress testing should be followed by measures to promptly address any shortcomings. The review process must be operated independently of the operational side of the business (i.e. by internal audit, or a nominated responsible person or by outsourcing to third parties)

This requirement will impact both trading venues and their members.

- Trading venues will be required to prepare manage and run the annual capacity test
- The members will be mandated to participate and therefore will need to provide the staff to develop and operate the test as requested by the trading venue.

Preparation of tests such as these is complex and requires a great deal of coordination. Potentially the costs for investment firms may be significant, depending on the number of trading venues that they connect to and therefore need to support multiple tests.

However the concept of periodic testing was again introduced under ESMA Guideline 1, where the operators of trading platforms should periodically review and evaluate their electronic trading systems, and associated process for governance, accountability and sign-off and associated business continuity arrangements and was included in MiFID II under Article 48(1).

The additional cost of contributing to a yearly stress test is becoming part of being a member of a trading venue, and is particularly necessary in the case of firms, members of several trading venues at the same time. However, given feedback being received to the DP, ESMA has modified its proposal for the timeframe for periodic reviews from at least twice a year to at least once a year which will lower the cost of implementation for those trading venues who may not yet be fully compliant

(6) Means to Ensure Resilience – Business Continuity Arrangements, Plan & Review

Policy Objective	Ensuring that all trading venues when facing a catastrophic failure are able to recover to the status quo in a safe and timely manner.
Technical proposal 1	Firms are required to ensure that they have effective business continuity arrangements to address disruptive incidents and that they are able to resume trading in a timely manner with a recovery target time of 2 hours and a recovery point objective close to zero.
Technical Proposal 2	Trading venues will be required to have a continuity plan and effective alternative arrangements for their trading systems framed in the context of the trading venue's overall risk management policy The plan shall as a minimum contain: • Conditions and procedures for the plan • An adequate range of possible adverse scenarios; • Procedures to be followed in case of a disruptive event and resumption to normal activity; • Recovery time and recovery point objective; • Operation and back up of disaster recovery and procedure for moving trading to and from a back-up site; • Succession planning; • Duplication of hardware components, network connectivity and communication channels; • Back up of business critical data; • Staff training and security operations; • Ongoing program for testing, evaluation and review of the arrangements.
Technical Proposal 3	The business continuity plan should cover at least the following scenarios: • destruction in inaccessibility of facilities; • unavailability of trading systems; • deliberate breaches of security; • unavailability of essential staff; • disruption of operation of infrastructure (e.g. electricity or communications); • natural disasters; • alteration or loss of critical data or documents. The definition of the plan is to be assisted by an impact assessment subject to periodic revision and approval by the board of directors.

Technical Proposal 3	The board of directors and other competent management body are responsible for the framing of the business continuity plan and the provision of resources to ensure its delivery. The responsibility includes review of current procedures or amendments.
Technical Proposal 4	Consideration to the business continuity for outsourced parts of the business including suppliers responsibilities and alternative arrangements if services become unavailable.
Technical Proposal 5	Ongoing review of business continuity arrangements Once a year trading venues must test their business continuity arrangements and their ability to recover from critical events and the results of the testing must be documented and submitted to the board of director and made available to the NCA on request.
Technical Proposal 6	Information to NCAs Trading venues shall promptly report to the NCA any interruptions of service and the expected time to resumption. Members should also be informed as well. Trading venues will be required to make available all details of the business continuity plan to their NCA.

As with other areas reviewed under this CBA, the investment in the area of business continuity is well underway by the larger trading venues and is deemed a necessary part of the cost of doing business today from business continuity procedures to annual disaster recovery offsite tests, and as such the incremental costs for trading venues in this area should be minimal.

(7) Means to Ensure Resilience – Prevention of disorderly trading conditions including Pre-Trade Controls

Policy Objective	Contributing to orderly markets by ensuring that trading venues have arrangements in place to prevent situations that may lead to a disorderly market.
Technical proposal 1	Trading venues will have as a minimum the following requirements • Per member on the number of orders that can be sent through • Controls to manage volatility • Pre and post trade controls

	• To require their participants to have in place the required pre and post trade controls as described within the directive
Technical proposal 2	Trading venues will be able to obtain evidence that members are compliant and to suspend the access of a member or the trader ID at the request of member, clearing members, CCP or regulator They should also be able to cancel orders when • a member requests them to do so as this client is temporarily unable to do it himself • the order book is corrupted by erroneous duplicate order • a suspension is initiated either by the market operator or regulator • request from the CCP in predefined cases of the CCP rules • a cancel or correct transaction • a balance order is entered between different gateways to avoid collapse.
Technical proposal 3	Trading venues shall set up and maintain their policies and procedure and make public as regards: • Mechanisms to manage volatility • Pre and post trade controls used by the venue • Information requirements for members • Suspension of access • Cancellation of policy in relation to orders • Throttling arrangements Where the trading venue wishes to exercise further discretion with regard to the prevention of disorderly trading they should advise the NCA as to why discretion is to be used. Trading venue will provide NCAs with information as described above on an annual basis or whenever an amendment is done.

Policy Objective	**Pre-Trade Controls** Whilst as a matter of principle members and participants are responsible for the orders that they submit ESMA considers that trading venues still have an obligation to develop pre-trade controls at an aggregate level to ensure the appropriate functioning and resilience of the market.
Technical proposal 1	Trading venues will require their members to operate • Price collars

	• Maximum order value • Maximum order volume • Maximum long / short position • Maximum long/short overall strategy • Repeated automation execution throttles – automatic reloads (only for members and participants) • Kill buttons • Outbound message rates • Maximum message limits • Market Impact assessment
Technical proposal 2	Trading venues will be required to operate • Price collars • Maximum order value • Maximum order volume • Kill buttons The controls must be automated and monitored / amended where necessary in real time and order submission must be stopped as soon as a limit is breached. However trading venues must have a process in place where by they are able to authorise above those.
Technical proposal 3	In the determination of levels of pre trade controls they should be non-discriminatory and pre-determined criteria to ensure orderly trading.
Technical proposal 4	The general framework for pre-trade controls will be disclosed to members.

Investment Firms

The proposed RTS above provides even more granularity than the ESMA Guidelines, but several of these are considered by investment firms to be best practice and will be already in place. However, they will differ between the different asset classes, for example maximum long/short position and strategies will generally be used for derivatives rather than all securities.

Trading venues

Normal practice dictates that members and participants are responsible for all orders submitted to trading venues, but these proposals require that trading venues operate certain checks in addition. Some of these checks will be in place for some venues, but for others these will need to be developed and maintained, implying staff and IT one-off and ongoing costs.

When a kill switch is used, the members will need to ensure that an appropriate process exists for the restart. Kill buttons for both trading venues and members will need to be available at different levels –individual users, members and for all trading. The management of a kill switch on behalf of the venue will require the member to ensure that their technology can appropriately manage the information flow from the trading venue with regard to deleted instructions/orders.

All investment firms and trading venues must have kill functionalities to use as a last line of defence as part of standard business practice. Therefore the incremental cost is likely to be limited. The ongoing costs would relate to staff training, testing and monitoring but again are likely to be considered non-significant.

6. Cost/benefit impact assessment

In the previous section seven incremental obligations arising from the Level 2 text have been identified. This section assesses benefits and costs of these incremental obligations, which cover requirements in the following areas:

1. Section 1: Capacity and Resilience of Trading Venues (Members or Participants)
    a. Due Diligence for members or participants of trading venues (Article 8)

2. Section 2: Capacity and Resilience of Trading Venues (Testing)
    a. Testing the members' capacity to access trading systems (Article 10)

3. Section 3: Capacity and Monitoring Obligations
    a. Trading venue's capacity (Article 12)
    b. Monitoring obligations (Articles 13 and 14)
    c. Periodic review of the performance and capacity of the trading system (Article 15)

4. Section 4: Means to Ensure Resilience
    a. Business continuity arrangements (Article 16)
    b. Business continuity plan (Article 17)
    c. Ongoing review of business continuity arrangements and information to competent authorities (Article 18)
    d. Prevention of disorderly trading conditions (Article 19)
    e. Pre-trade controls (Article 21)
    f. Enhancement of existing pre-trade controls

For the technical options considered by ESMA we summarize below a qualitative description of the costs and benefits arising from them.

(1) Due Diligence for members or participants of trading

	Qualitative description
Benefits	To ensure that only members and participants who are suitably prepared, qualified and appropriately managed have access to the venue. It establishes a framework for members to trade safely in orderly markets and contributes to improved market integrity.
Costs to regulator: • *One-off* • *On-going*	*Low to modest cost* of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure compliance by trading venues.
Compliance costs: • *One-off* • *On-going*	*Low to modest costs.* The incremental obligations will entail on-going costs with regard staff involved in annual review of the due diligence processes and the documentation of processes, including remedial action if required.
Indirect costs	*Low:* members of trading venues may be incidentally impacted by the periodic review of their status.

(2) Testing of member firm systems and provision of accessible conformance testing services

	Qualitative description
Benefits	Only members and participants with sufficient robust and secure technical solutions will be able to access the trading venue.
Costs to regulator: • *One-off* • *On-going*	Low to modest cost of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure trading venues meet obligations regarding testing of the trading systems.
Compliance costs: • *One-off* • *On-going*	There will be additional one-off costs for trading venues including the enhancement of conformance testing facilities where applicable, to a full certification suite with adequate simulation trading. However this is already a requirement for ESMA Guidelines and as such cannot be considered an incremental cost for the purposes of this CBA.

Costs to other stakeholders	None identified
Indirect costs	*Low:* there is a risk that the requirement to have an independent conformance system environment could lead to significant start-up costs which may prove a barrier to entry and may lead to reduced variety and choice for consumers.

(3) Capacity – Requirements

Option 3	**Capacity - requirement to increase capacity and introduction of regular capacity planning review and appropriate action**
	Qualitative description
Benefits	To ensure that all trading venues will have sufficient capacity to continue operating even in extreme conditions.
Costs to regulator: • *One-off* • *On-going*	Low cost of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure trading venues meet capacity obligations.
Compliance costs: • *One-off* • *On-going*	The most significant compliance cost will be the increase in capacity where the trading venue does not currently meet the proposed 50% excess capacity. This will include the implementation cost of additional hardware and on-going costs to ensure capacity levels are monitored to the required standard. There may be additional manpower costs when taking the appropriate action is required when capacity limits are breached. Again, while the major exchanges and MTFs currently may have the capability in place to manage this obligation, a number of smaller exchanges or MTFs may need to upgrade their technology to run periodic load tests to ensure capacity is sufficient including trend monitors to see if breaches could potentially occur. Further research will be undertaken in the full CBA to be conducted next year.
Costs to other stakeholders	None identified
Indirect costs	*Low:* there is a risk that the implementation cost of additional hardware and on-going costs to ensure capacity levels are monitored to the required standard, including staffing costs, could lead to significant start-up costs

	which may prove a barrier to entry which may lead to reduced variety and lack of choice for consumers.

(4) Monitoring – Identification

	Qualitative description
Benefits	Early identification of any potential problems with the safe running of a trading venue to enable quick remedial action.
Costs to regulator: • *One-off* • *On-going*	*Low cost* of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure trading venues adhere to monitoring requirements.
Compliance costs: • *One-off* • *On-going*	It is now an important part of a Trading Venue's business model to ensure that their systems are adequately monitored; however the level to which existing trading venues currently monitor their businesses will differ, and the number of staff required to monitor and take action directly relates to the extent to which they automated processes. For trading venues that will incur additional IT and management costs, these will include one-off costs to formalise procedures and further on-going costs to cover the monitoring and review, testing and implementation of adjustments where required. Both requirements will also need to include relevant staffing and training costs. Since many of the proposed obligations are becoming standard market best practice, we estimate low compliance costs arising from these provisions.
Costs to other stakeholders	This will represent an additional requirement for new trading venues as part of their start-up costs. This will also impact investment firms and vendors currently running crossing systems which will now be required to be regulated as a Trading Venue.

(5) Monitoring – Periodic Review

	Qualitative description
Benefits	To identify and promptly remedy any deficiencies in the performance and capacity of trading systems.
Costs to regulator: • *One-off*	*Low to modest* cost of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure

• *On-going*	trading venues comply.
Compliance costs: • *One-off* • *On-going*	*Low to modest*: For trading venues periodic reviews may require additional IT and management costs, including one-off costs to formalise procedures and further on-going costs to cover the review periodically. This will include technology costs such as hardware, software and communication, as well as analysis, testing and implementation of any adjustments where necessary. This will also include relevant staffing and training costs. However again, many of the proposed obligations are becoming standard market best practice and as such cannot be considered incremental for the purposes of this CBA, therefore greater analysis is required to test to what level of adoption this has already occurred across different trading venues in the EU.
Costs to other stakeholders	None identified
Indirect costs	*Low:* there is a risk that the implementation cost of review processes and on-going costs to administer reviews, including staffing costs, could lead to start-up costs which may prove a barrier to entry which may lead to reduced variety and lack of choice for consumers.

(6) Business Continuity Arrangements

	Qualitative description
Benefits	By ensuring trading venues have improved robust business continuity arrangements market stability can be maintained even in the most extreme circumstances.
Costs to regulator: • *One-off* • *On-going*	*Low cost* of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure trading venues meet capacity obligations.
Compliance costs: • *One-off* • *On-going*	*Low to modest cost:* Whilst most trading venues will have business continuity arrangements in place there will be an initial one off cost in ensuring that the procedures and operational activities are in line with the full list of proposals. Additionally where firms current business continuity arrangements are not as stringent as those proposed they will need to increase the level of continuity provision which could in include hardware, premises, staff and

	management costs. There is an additional management burden placed on the Board of Directors in the setting of clear objectives and strategy. Whilst it is normal business practice for trading venues to have a full disaster recovery (DR) site for trading venues that need to upgrade their business continuity sites there may be additional cost of connection for members to additional business continuity (BC) sites. NB: Many investment firms will have considered the BC arrangements of a Trading Venue as part of the risk assessment of trading on a new trading venue.
Costs to other stakeholders	None identified

(7) Prevention of disorderly trading conditions including Pre-Trade Controls

	Qualitative description
Benefits	To ensure that all Trading Venues protect their interfaces and order handling mechanisms such that any trading by a member that could result in disorderly trading is prevented before such an event could happen.
Costs to regulator: • *One-off* • *On-going*	*Low to moderate* cost of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure trading venues comply.
Compliance costs: • *One-off* • *On-going*	*Low to moderate* cost; for trading venues whilst many of the proposals are considered best practice, each venue will need to carry out a review to identify where they currently fail to comply and then there may be development, hardware, staffing and training costs to bring their processes up to the required standard. As part of the on-going cost there may be additional costs around the support and monitoring of the new features. Monitoring staff may also require additional training in how to interpret and act upon the information provided through the monitoring process.
Costs to other stakeholders	*Low to moderate* cost: Investment firms may have to amend their systems to work within the parameters that are implemented from these proposals – for example limiting the number of orders sent down a single link as it may breach the throttle limits imposed by the Trading venue.

There are some general points to note with the costs and in particular the indirect costs outlined above. Recent developments in automated trading have led to a considerable level of investment by trading venues and their members in technology. While the benefits of automation are clear – greater transparency and accountability of the execution process – the ability to establish the true cost for venues and firms as a result of incremental legal obligations is somewhat more complex.

To try to put in context some of the indirect effects expected from some areas of the RTS, in particular, the sometimes significant IT investment needed, we will cover briefly some market changes expected given the trends that are starting to emerge. The transition to the use of technology in cash equity markets has led venues to adjust their business models ahead of regulatory requirements.

The push to greater transparency across all asset classes will provide significant opportunities for trading activity on regulated markets. The requirement to monitor trading activity will lead to greater data requirements, but also conversely offer more opportunity for data sales. Increased surveillance and monitoring has led to a requirement for greater technology to prevent costly errors and fines. However this has also led to a higher provision of data which in turn venues have been able to adapt to a revenue generator with some exchanges able to switch from transaction based revenues to data profit centres. The requirement for more consistent data will mean that the price of data will go down, but will need to be consumed by more firms. Risk analytics based on data will continue to remain in high demand. Therefore it can be argued that the incremental investment that trading venues are now required to make is as a result of changing business practices, rather than regulation.

Financial Services has traditionally been silo-ed by asset class – often according to instrument, currency and region. As trading practices evolve to become increasingly global and multi-asset on the buy side, the banks and brokers are following suit. Cash equities businesses on both sides are highly automated, whereas the fixed-income, derivatives, FX and other over-the-counter (OTC) markets are not. The switch from an OTC to an on exchange environment will affect trading venues in two ways: first, they will be expected to offer more multi-asset, multi-region and multi-currency services; and second, they will be expected to provide the same level of automation and service in all markets they offer. This will require a further significant increase in technology.

Recent TABB research found that 65% of market respondents saw their business as more multi-asset than last year, forcing sell-side counterparts and exchanges to become more multi-asset in their approach. The particular focus was on bonds and the need to bring liquidity to that market. The ability to trade pan-European instruments via a single connection is an attractive incentive, but the reality is that this option remains elusive for many given the significantly higher data fees European participants have to pay.

While there are clear benefits for all market participants to ensure trading venues have in place effective systems, procedures and controls to deliver resilient systems which can facilitate orderly trading even in the most extreme of situations, the increased level of investment in technology will create challenges. It should also be noted that while incumbent trading venues can leverage existing and continued technological investments, this may create obstacles for new entrants.

References

European Commission MiFID II Impact assessment (2011)

ESMA Guidelines - Systems and controls in an automated trading environment for trading platforms, investment firms and competent authorities (2012)

Effective Systems, procedures and arrangements for granting Direct Electronic Access (Article 48(7) of MiFID II)

1. **Executive Summary**

Pursuant to Article 10(1) of the Regulation establishing ESMA[57], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to further specify the effective systems, procedures and arrangements for granting Direct Electronic Access as per Article 48(12)(c). This document provides an interim qualitative cost-benefit analysis of the incremental obligations arising from the proposed RTS covering the above requirements. Whenever market practices are in line or above what is now proposed, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[58] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, the Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which will be either the MiFID II requirement, ESMA Guidelines 2012/122 or current market practice where it exceeds previous legislation. The stakeholders affected are identified as trading venues (considering as such operators of a

[57] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
[58] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

regulated market and investment firms operating an MTF or OTF), investment firms and National Competent Authorities. After a summary description of the different draft technical proposals in the RTS and how relevant stakeholders would be affected, an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

The potential impact of technological developments and the associated risks associated with the ability of investment firms to offer Direct Electronic Access to their clients is one of the main drivers to increasing the requirement for investment firms and trading venues to have adequate arrangements in place before offering DEA capabilities to their clients, i.e. non-members.

Article 48(7) establishes that trading venues permitting direct electronic access should have in place effective systems, procedures and arrangements to ensure that members or participants are only permitted to provide such services if they are investment firms authorised under MiFID or credit institutions under Directive 2013/36/EU, that appropriate criteria are set and applied regarding the suitability of persons to whom such access may be provided and that the member or participant retains responsibility for orders and trades executed using that service in relation to the requirements of MiFID II. Trading venues should also:

- Set appropriate standards regarding risk controls and thresholds on trading through such access;
- Be able to distinguish and if necessary stop orders or trading by a person using direct electronic access separately from orders or trading by the member or participant; and
- Have arrangements to suspend or terminate the provision of direct electronic access by a member or participant to a client in the case of non-compliance with MiFID II.

Under MiFID II Level 1 Article 48(12)(c) ESMA is required to draft regulatory technical standards specifying the exact requirements to the controls concerning DEA in such a way as to ensure that the controls applied to sponsored access are at least equivalent to those applied to DMA.

The impact assessment of such policy decisions covering the general aspects of the Directive has been already performed and published by the European Commission as part of their impact assessment of MiFID II Level 1[59].

3. Baseline

The baseline for the assessment of the incremental obligation is the MiFID II Level 1 legislation, together with ESMA Guidelines and industry practices where relevant. The draft

[59] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

RTS have expanded on the guidelines and introduced specific obligations on the due diligence process.

ESMA Guideline 7[60] introduced substantial rules around the organisational requirements for regulated markets and multilateral trading facilities whose members/participants and users provide direct market access (DMA)/sponsored access (SA). This covered:

- Ensuring the provision of DMA/SA is compatible with fair and orderly trading
- Monitoring systems for potential disruption
- Rules and procedures for providing DMA/SA
    - Ultimate responsibility for messages and eventual interventions and sanctions
    - Subsidiary responsibility
    - Requirements for members/participants to provide DMA/SA including due diligence
    - Rights of access
    - Monitoring of orders
    - Potential interventions over SA, and
    - Record keeping requirements

The draft RTS have expanded the Guidelines and added new obligations on the due diligence process, ongoing review of DEA clients and systems and controls of DEA providers. However, in practice we will assess the RTS against the practical implementation by industry participants of the ESMA Guidelines as outlined above.

4. Stakeholders

Whilst the headline of these draft regulatory technical standards are aimed at trading venues there will be a significant impact on the investment firms whose business models may be affected by many of the proposals. Preliminary desk research has illustrated that the actual impact of the proposed RTS will depend on the current arrangements that exist for both trading venues and investment firms. Although the ultimate responsibility for what is sent to trading venues for execution lies with the member, under the draft RTS proposed by ESMA trading venues now have additional responsibility to ensure member activity and members end client activity is conducive to the provision of orderly trading on their venue. Whilst many NCAs may have already introduced some guidelines at a national level, the proposed obligations now include:

- Authorisation of the provision of DEA by members and participants
- A predetermination of the conditions under which DEA may be offered, including the systems and controls to be in place before firms are able to offer DEA

Trading Venues: ESMA's proposed requirement introduces specific requirements for Trading Venues (multi-lateral trading facilities, regulated markets and ordinary trading facilities) in respect of two different aspects:

[60] ESMA Guidelines Systems and Controls in an automated trading environment for trading platforms, investment firms and competent authorities

- Trading venues should pre-determine a number of requirements for its members to fulfil prior to offering DEA. Trading venues should check that those requirements are met; and
- Trading venues should have specific pre-trade controls in case it permits access through Direct Market Access and upgraded controls in case it permits Sponsored Access.

Current market practice does not demand that members of all Trading Venues systematically inform their venues that they are offering Direct Market Access to their clients. So Trading Venues will need to put in place a number of controls that may include the following:

- Guidelines as to the profile of who is suitable for DEA
- Additional controls where the Trading Venue accepts sponsored access clients

Due to the nature of sponsored access this requirement already exists by virtue of the fact that the venues themselves must provide the sponsoring member with access to the controls and limits directly at the exchange. Failure to do so would result in naked access, which was banned under MiFID II.

Investment Firms:

Trading venues permitting direct electronic access through their systems need to ensure that the member or participant providing DEA to its own clients (DEA provider) has the ability to monitor order flow, halt any activity, suspend or withdraw services and that only suitable clients have access.

Currently investment firms providing DEA access conduct due diligence on prospective users via a thorough review of governance structure and training programmes. Processes and procedures are already in place to cover security policies, operational set up, responses to errors, competency of staff, algorithm testing policies and the creditworthiness of the client. This is in addition to meeting Know-Your-Customer (KYC) and Anti-Money Laundering (AML) requirements where applicable. Therefore for the purposes of this CBA, stakeholders will include trading venues and investment firms – both DEA providers and DEA users. These costs have to be considered jointly with the obligations imposed under Article 17(5) of MiFID II. Further analysis and information is available in the separate interim CBA on the provision of DEA by investment firms.

5. Technical Options

Under Article 48(c) of MiFID II, ESMA has been required to develop draft RTS, these cover two key areas:

1. The pre-determination of the conditions to provide DEA (Article 23)
    a. Via a general framework;
    b. or Individual authorisation
2. The systems and controls of trading venues permitting DEA through their systems (Article 24)

a. Via DMA; or
b. SA

We will examine the costs and benefits resulting from the incremental obligations ESMA will impose over the status quo in the Cost/Benefit Impact Assessment section.

(1) Pre-determination of the conditions to provide DEA

Policy Objective	For Trading Venues to ascertain that the provision of DMA/SA by their clients is compatible with fair and orderly trading.
Technical proposal 1	The conditions should include • The publication of the rules and conditions pursuant to which their members may provide DEA to their own clients; • The specific due diligence on prospective clients and the minimum standards that they should meet including; appropriate financial resources; knowledge of market rules and trading systems; knowledge of order submission systems used; and confirmation that the client has undertaken equivalent due diligence to the one undertaken by the investment firm to become a member of the concerned trading venue. • A legally binding agreement between DEA provider and user • Prior written authorisation policy by the DEA provider in relation to DEA users' sub-delegating DEA access to their end clients • Whether or not sub-delegation is to be allowed and if so identification of the different beneficiaries of the sub delegation.
Technical Proposal 2	Users of sponsored access should meet the same requirements for access as members are subject to in terms of pre-trade risk limits and controls.

(2) Systems and controls to be applied to firms accessing through DEA arrangements

Policy Objective	Contributing to orderly markets by ensuring that all order flow submitted by DEA users (either from direct market access or from sponsored access) has gone through sufficient pre-trade controls.
Technical proposal 1	Trading Venues permitting DEA through their systems shall: - Request DMA providers have adequate systems and controls to maintain orderly markets; and - Apply specific pre-trade controls to the order flow submitted by sponsored access users.
Technical proposal 2	Trading venues shall cancel the provision of SA to those users who have infringed a requirement of MiFID, MiFIR, MAR or the trading

	venue's internal rules.

Current practice does not require members of trading venues advise the Trading Venue that they will be offering DMA to their clients. Trading venues accept that this is a standard offering and all potential members will be subject to on-boarding due diligence that will cover many of the requirements covered within this draft RTS, with the overriding principle that the member is responsible for the settlement of all business entered in their name.

However trading venues will now be required to formally incorporate all of the draft RTS obligations into their member agreements and would need to set up a process to monitor the adherence of the obligation by their members.

For member firms again the majority of the controls discussed above are largely considered best practice by firms and so there should only be limited incremental changes (however this will be fully tested within the full CBA on a wider profile range of firms offering DEA). Nonetheless there will be a significant administrative burden in the set-up of the approvals for offering DEA with each of the trading venues of which they are members.

One of the more challenging areas will be around the burden of proof with regard to knowledge of market rules and trading systems for firms accessing DEA services. Current market practice will differ from firm to firm, but in general the authorisation of individuals to be qualified to access markets relies upon the regulation of the client firm and it is usual for a member to accept an assurance from the client that their users will be of sufficient knowledge and qualified to use the system. Further investigation into current practices will be conducted for the full CBA, with particular reference to market practice for smaller regional firms.

There is currently no formalised industry standard for a DEA agreement unlike ISDA's. As such some firms added terms and conditions for trading DMA into the general terms and conditions for trading with the firm (with annexes for any additional new requirement from an NCA) as a result of MiFID I. Other firms maintain a separate agreement which is a two way agreement and must be signed by the accessing client and for some members/clients they will rely on the strength of the relationship with the client and the accepted industry precedent for trading DEA. However for users of sponsored access, market practice is that the user will have an agreement between both their sponsoring broker and the Trading Venue in question and will carry out all technical on-boarding activities direct with the Trading Venue.

Another area of interest that will impact all stakeholders is the requirement to carry out internal risk reviews as this will be dependent upon the level to which this is required. If this requirement is a standardised check list of risk requirements, the costs would be limited to the set-up and administration costs. However if more detailed analysis of internal risk controls are required this would be a very complex process to implement and would require a level of expertise to undertake such a review. This may also lead to a potential compromise in relation to the individual firms IP and issues of confidentiality if detailed information regarding trading activity has to be shared at the venue level.

The cost of implementing the incremental obligation for Trading Venues to cancel the provision of SA to those users who have infringed a requirement of MiFID, MiFIR, MAR will also depend on whether this information is supplied to the venue or whether the trading venue is required to establish the infringement of MiFID, MiFIR or MAR themselves.

6. Cost/benefit impact assessment

(1) Pre-determination of the conditions to provide DEA

Technical Option 1	*Harmonisation of the minimum data set that should be analysed for the due diligence to be carried out on prospective DEA users by members or participants of trading venues.*
	Qualitative description
Benefits	Contribution to orderly markets by ensuring that all DEA users are appropriate to access the trading venue.
Costs to regulator: - *One-off* - *On-going*	NCAs will have to check that a trading venue can monitor an investment firm's ability to meet the requirements of providing DEA, in particular to manage the risks that could arise, should be included in regular supervision of trading venues.
Compliance costs: - *One-off* - *On-going*	There may be some costs associated with publishing the rules and conditions pursuant to which members may provide DEA to their own clients, which should be marginal to low.
Costs to other stakeholders	Members or participants providing DEA to their own clients may face the following impacts: 1. the obligation of members or participants of a trading venue to undertake a due diligence on prospective clients and the minimum standards that they should meet may lead them to incur in additional administrative and management costs. These incremental costs will include one-off costs to formalise legal agreements and prior written authorisations between DEA provider and user and on-going costs to cover the additional systems and controls to be established, maintained and monitored. This may include technology costs such as hardware, software and communication, as well as analysis, testing and adjustments where necessary – to restrict access for example. This will also require relevant staffing and training costs. 2. DEA providers may also bear fines or sanctions imposed by the trading venue as a consequence of its DEA client's behaviour. Software companies and third party vendors who offer DEA services will be required to implement these additional controls for any investment firm

	that uses their trading system technology, which could create incremental costs, and perhaps also incremental revenues depending on the contracts they have in place.
Indirect costs	None identified

Technical Option 2	*Firms accessing the market through sponsored access should meet the same requirements as a member or participant of a trading venue.*
	Qualitative description
Benefits	Contribution to orderly markets by ensuring that firms accessing the market through sponsored access have sufficient pre-trade controls in place.
Costs to regulator: - *One-off* - *On-going*	NCAs will have to check that a trading venue effective by monitors that firms accessing through sponsored access have sufficient pre-trade controls.
Compliance costs: - *One-off* - *On-going*	*One off costs:* trading venues have to revise their existing arrangements to ensure that the firms accessing through sponsored access have sufficient pre-trade controls for these firms. *Ongoing costs*: trading venues have to monitor that firms accessing through sponsored access continue to have the adequate pre-trade controls.
Costs to other stakeholders	Firms accessing through sponsored access may not have the same level of controls as a regular member or participant of a trading venue, so they may have to make one-off investments to reach that level or otherwise, modify their arrangements (for instance, moving to a DMA agreement).
Indirect costs	*None identified*

(2) Systems and controls to be applied to firms accessing through DEA arrangements

Technical Option 2	*Trading Venues permitting DEA through their systems shall:* - *Request DMA providers have adequate systems and controls to maintain orderly markets; and* - *Apply specific pre-trade controls to the order flow submitted by sponsored access users.*
	Qualitative description

Benefits	Ensures that trading venues will have the capability to restrict any trading flow from reaching the market that could have an impact on the stability of the venue. Ensures that all the DEA order flow shall pass through the venue's or the member's pre-trade controls.
Costs to regulator: • *One-off* • *On-going*	NCAs will have to check that a trading venue is sufficiently monitoring members (investment firms) and their end clients to ensure they meet the requirements of providing DEA, in particular to manage the risks that could arise.
Compliance costs: • *One-off* • *On-going*	- Trading venues may have to set up specific monitoring arrangements for the sponsored access users; and - Trading venues will have to formally incorporate the obligations to the members or participants providing DEA to their clients into their member agreements which will involve one-off administration costs. There would also be on-going costs in relation to monitoring adherence to the obligation. This will involve significant administrative burden in the set-up of approvals for offering DEA and carrying out whenever necessary a review of client internal risk controls. Initial research seems to indicate that the majority of controls are now considered best practice by firms and therefore there will be limited incremental changes.
Costs to other stakeholders	DEA providers may have to set out arrangements to monitor and stop the order flow of their DMA users. Software companies and third party vendors who offer DEA services will be required to implement these additional controls for any investment firm that uses their trading system technology.
Indirect costs	None identified

Requirements to ensure appropriate testing of Algorithms (article 48(6) of MiFID II)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[61], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means

[61] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of this document is to CBA the incremental obligation of ESMA's Regulatory Technical Standards outlined in to specify the requirements necessary to meet the above obligations.

The purpose of the proposed draft RTS is to establish the requirements to be imposed on trading venues to ensure sufficient testing of algorithms from their members or participants pursuant Article 48(12)(g) of Directive 2014/65/EU on markets in financial instruments (MiFID II).

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS covering the requirement for testing of algorithms, appropriate scenarios with functionalities, protocols and structure reproducing live environment conditions and the provision of a self-certification front-end.

Whenever market practice is in line or above with the proposed RTS, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[62] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS. The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which can be either the MiFID requirement, or current market practice where it exceeds the MiFID requirements.

The stakeholders identified are Trading Venues, Investment firms, External IT providers and national competent authorities (NCAs).

After a summary description of the different draft technical proposals in the RTS, an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

Article 48(6) of MiFID II determines that regulated markets shall have systems, procedures and arrangements to ensure members test appropriately their algorithms in order to mitigate

[62] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

disorderly trading conditions. This requirement includes the obligation to provide environments to facilitate such testing.

Under Article 48(12)(g) of MiFID II, ESMA is required to develop draft regulatory technical standards to determine the requirements to ensure appropriate testing of algorithms so as to ensure that algorithmic trading systems including high-frequency algorithmic trading systems cannot create or contribute to disorderly trading conditions on the market[63].

The analysis that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014. The technical options proposed by ESMA in this CP may be different than those proposed in the DP as have been informed by the feedback received since the publication of the DP. No mention to quantifiable costs and benefits was made in the responses to the DP.

3. Baseline

In addition to the obligation of trading venues to have their own systems tested (Article 48(1) MiFID II), under MiFID II, Article 48(6) requires regulated markets to have in place effective systems, procedures and controls to limit any potential market disruption that may arise from algorithmic trading, including requiring members or participants to carry out appropriate testing of algorithms and providing environments to facilitate such testing. It is worth noting that despite Article 48 of MiFID II refers only to Regulated Markets it must be noted that the requirements under Article 48 are expanded to MTFs and OTFs by Article 18(5) MiFID II.

Directive 2004/39/EC on markets in financial instruments (MiFID I) was not developed through Level 2 measures at European level addressing specifically algorithmic trading. However, ESMA approved in 2012 its Guidelines on Systems and Controls in an Automated Trading Environment (Level 3) to clarify the obligations for trading venues and investment firms with respect to algorithmic trading.

Algorithmic testing is a core component in the ESMA Guidelines on Systems and controls in an automated trading environment for trading platforms (Guidelines), investment firms and competent authorities (Ref. ESMA/2012/122). Guideline 3 clarified that trading venues should have standardised conformance testing to ensure that the systems of members and participants are using to access the platform *have a minimum level of functionality that is*

[63] For the purpose of this document it is relevant to note that ESMA refers to two types of testing under Article 48.12(g): conformance testing of systems and algorithms and testing of algorithms against disorderly trading conditions.
Conformance testing of systems or algorithms should encompass the IT compatibility of the systems of the member or participant with the trading venue's at a functional and technical level covering at least:

(a) In respect of the functional test, the most basic functionalities such as submission, modification or cancellation of an order or an indication of interest and include at least static and market data download and all business data flows (such as trading, quoting and trade reporting);
(b) In respect of the technical test, the connectivity (including cancel/don't cancel on disconnect, market data feed loss and throttles), recovery (including cold intra-day starts) and the handling of suspended instruments or stale market data.

Testing of algorithms against disorderly trading conditions shall imply the obligation of trading venues to design a set of appropriate scenarios with functionalities, protocols and structure reproducing live environment conditions including disorderly trading circumstances. The testing environment and the pre-determined scenarios shall be as close to market situations as possible.

compatible with the trading platform's electronic trading system and *will not pose a threat to fair and orderly trading in the platform*[64].

These Guidelines were adopted by national competent authorities in practically all jurisdictions in the EU. In line with that, it should be expected that most market participants have implemented these Guidelines in their regular practice since then.

As a consequence, for the purposes of this CBA we have assumed that the baseline for regulated markets and MTFs (there are no OTFs yet) will be current market practice in terms of ensuring testing takes place before granting access (systems and controls) and the existent service provision of conformance testing and testing against disorderly trading conditions. Despite a Level 1 cost, the cost of developing those services (facilities and scenarios) shall be identified.

We understand industry best practice is to conduct conformance testing of the IT compatibility of the systems. Therefore, while this is an incremental obligation from this RTS, we expect the costs arising from it to be of minimal significance. The obligation to conduct testing to prevent disorderly trading conditions is already reflected in MiFID II Article 48(6).

Finally, it has to be noted that the draft RTS on co-location and fee structures includes an Article relevant for these purposes, as it enables a trading venue to charge current and prospective members and participants the costs incurred in developing and providing conformance testing and testing of algorithms against disorderly trading conditions (Article 6).

4. Stakeholders

Although MiFID II Article 48 the text refers only to Regulated Markets we believe that the relevant stakeholders who would be affected by ESMA's draft incremental proposals:

Trading venues, considering within that category - regulated markets or investment firms operating a regulated market, an MTF or an OTF. All trading venues will be impacted as they will be required to design and implement trading scenarios and testing facilities in order to ensure members have their systems tested before accessing the market. However, it has to be noted that there are not OTFs yet.

Members or participants of a trading venue which on top of their obligation to test their algorithms internally will have to use the functionalities developed by trading venues for these purposes.

External software providers may be affected as well due to the obligation of investment firms to use the functionalities developed by the trading venues.

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[64] See as well Guideline 2.2.d) about the testing obligations of investment firms.

National Competent Authorities (NCAs) may be affected regarding their supervision activities, checking that only the transactions listed by ESMA are excluded from the price formation process. However, we estimate the cost will not be significant, and should be embedded in their regular supervision activities.

5. Technical Options

In this consultation paper ESMA proposes that trading venues should have in place procedures for members and participants to carry out appropriate testing in as close to market conditions as possible in order to avoid disorderly trading conditions.

As current market activity is based more on an ad-hoc basis rather than standardised procedures, ESMA proposes:

1. for trading venues to ensure members test their algorithms using the testing facilities the venue provides before accessing the market for the first time and before the deployment of new algorithms, and prevent them from accessing if they do not pass the tests (conformance testing and testing against disorderly trading conditions);
2. for trading venues to design a set of appropriate scenarios with functionalities, protocols and structure reproducing live environment conditions including disorderly trading circumstances as close to market situations as possible (testing against disorderly trading conditions);
3. for trading venues to provide a self-certification front-end to permit unusual scenarios to be simulated, regardless of any alternative testing methods the member may have used (testing against disorderly trading conditions);
4. for trading venues to require members or participants to use the testing facilities provided which should be as close to market situations as possible;
5. trading venues shall not grant access to members or participants who do not pass testing for disorderly trading conditions.

These incremental obligations can be broken down into the following technical options.

Note: This text also refers to the onus being on the member / participant to have their algorithms tested and that they should be in a position to demonstrate that they have taken all reasonable steps. This is covered by task 2 and will not be addressed here.

Policy Objective	**Venues to require members to test algorithms to prevent disorderly market conditions.**
Technical proposal 1	All members will be required to test their algorithms before accessing the market for the first time and for any new (or redesigned) algorithms to be tested before deployment. An algorithm that has not changed its originally tested logic will not require further testing.
Technical proposal 2	Trading venues will be required to design a set of appropriate scenarios with functionalities, protocols and structure to reproduce live environment conditions and disorderly trading conditions in as close to market situations as possible including a self-certification front end to permit a number of

	scenarios to be simulated that will allow members to test scenarios suitable to their activity.
Technical proposal 3	Members or participants should use the own venue's testing facilities provided regardless of any alternative testing methods they use.
Technical proposal 4	No access will be allowed for algorithmic trading for members who do not pass both tests.

The incremental obligation is for venues to provide testing facilities and to require members to test algorithms using these systems before accessing the market for the first time and before the deployment of new algorithms including re-design.

We understand industry best practice is to conduct conformance testing to check the compatibility of the IT systems of the members or participants with the trading venues'. Therefore, while this is an incremental obligation from this RTS, we expect the costs arising from it to be of minimal significance.

As opposed to that, the obligation to conduct specific testing to prevent disorderly trading conditions is reflected in MiFID II Article 48(6). Under the current rules, trading venues are not required to provide testing facilities for their members to test their algorithms. Most venues offer some form of testing facility but these differ vastly from venue to venue and they are limited in scope and time available. There may be insufficient data available within the testing environment and not all trading venues provide real-time intra-day facilities. However in the current competitive market, more venues are already addressing the above concerns both from the perspective of ensuring business continuity to all members and to facilitate client's ability to explore trading new markets and products in a secure environment.

Initial investigations suggest that trading venues are concerned about the cost of providing testing services that are as close to market situations as possible, however from the viewpoint of the members, they would welcome better mandated testing environments in which to trade. Trading venues will also need to standardise the environment for the conformance testing to ensure that the results can be automatically verified, rather than manually verified.

Trading venues need to ensure they create isolated testing environments in order to prevent individual algorithms or individual investment firms interacting with real order flow and potentially impacting the market. An example of this type of situation was the accidental release of a Knight Capital's testing algorithm.

6. Cost/benefit impact assessment

In the previous section three incremental obligations from the Level 2 text have been identified. This section assesses from a qualitative perspective benefits and costs of these incremental obligations, which cover requirements in the following three areas:

1. to require members to test algorithms/redesigned algorithms/systems before accessing the market for the first time;
2. to design a set of appropriate scenarios to produce a live environment and disorderly trading conditions;
3. to provide a self-certification front end to permit a simulated scenarios, in as close to market situations as possible;
4. to require members and participants to use the testing facilities provided on this front end regardless of any alternative testing methods;
5. exclusion of members who do not pass algorithmic testing.

(1) Testing algorithms

Option 1	All members will be required to test their algorithms before accessing the market for the first time and for any new (or redesigned) algorithms to be tested before deployment.
	Qualitative description
Benefits	Robust testing prior to implementation should decrease the risk of algorithms behaving unexpectedly contributing to improved market integrity.
Costs to regulator: - *One-off* - *On-going*	Cost of both a one-off and on-going nature to update their existing supervision efforts on trading venues to include a monitoring function (or enhance an existing monitoring function) to ensure compliance by trading venues & members.
Compliance costs: - *One-off* - *On-going*	**Trading venues** will potentially incur additional IT and management costs. Those incremental costs will include one-off costs to implement systems and controls on market access after testing, as well as testing facilities to prevent disorderly market conditions (and conformance testing in case not existent). It will also include on-going costs to cover monitoring and review, internal testing and implementation of testing procedures complying with this RTS. This will also need to include relevant staffing and training costs. However, incremental costs may be limited as venues seem to be setting up conformance testing as best market practice. Overall industry costs may start to decline as venues set up standardised conformance testing. In any case, trading venues shall be enabled to recover the costs of developing and providing those testing environments from the members or participants according to the draft RTS on co-location and fee structures. We anticipate these costs to be low as many of the proposed obligations are becoming standard market best practice.

Costs to other Stakeholders:	Investment firms may incur additional IT and management costs to meet the obligations but these are reviewed in a separate CBA. These may also be retrospective in nature if firms do not already have this procedure in place. There may be also costs for software companies who will be required to develop and implement these additional tests for any Trading Venue that uses their software. This cost will also be dependent upon the agreements in place as to whether or not the cost will be borne by the software firm or the trading venue. Software companies may face as well the loss of a source of revenue if investment firms only use the trading venue's testing functionalities instead of their services.
Indirect costs:	If no standardised approach is available with conformance testing, there is a risk that each venue may set up individual requirements and the subsequent lack of a uniform implementation may result in discrepancies and additional workload for firms. Given that most algorithms do not access a single trading venue but send orders to multiple trading venues via a Smart Order Router, the above tests will be limited in their ability to avoid creating or contributing to disorderly trading conditions. Algorithms may only display negative characteristics during a scenario that is prevalent when an algorithm is accessing multiple trading venues simultaneously. In addition it should be noted that to test an algorithm effectively, it will need to be designed to break the venue thereby defeating the object of the exercise.

(2) Provision of access to test algorithms within a live environment

Option 2	For venues to design a set of appropriate scenarios to produce a live environment and disorderly trading conditions including the provision of a self-certification front-end.
	Qualitative description
Benefits:	Robust testing prior to implementation should decrease the risk of algorithms behaving unexpectedly contributing to improved market integrity. Market participants will be able to sufficient by test scenarios suitable for their trading activity within a safe environment.
Costs to regulator:	Cost of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure trading

- *One-off* - *On-going*	venues meet obligations regarding testing of the trading systems.
Compliance costs: - *One-off* - *On-going*	One-off costs for trading venues to develop and implement specific testing functionalities and scenarios against disorderly trading conditions. Ongoing costs of revising them and updating them where necessary. There will be additional one-off costs for trading venues to design and create the conformance scenarios including the enhancement of conformance testing facilities where applicable, to a full certification suite with adequate simulation trading. Where venues do not currently support an independent conformance test service, they may have to create a completely new testing environment in order to meet the requirements specified which could run to significant additional costs in both hardware and support terms. There could also be additional costs in terms of additional data lines for conformance testing facilities. Each venue would also need to prepare standardised test packs which may result in the need for additional staff to prepare and support the process.
Costs to other stakeholders:	Investment firms would have to potentially increase their testing resources to meet the new obligations. This would include additional staffing costs and potential development effort to set up the testing packs to support each of the trading venue requirements. Costs to software companies who will be required to implement these additional controls for any Trading Venue that uses their software and for the vendors providing trading system technology to the investment firms may have to make changes on behalf of their Investment firm clients. These costs are anticipated to be low.
Indirect costs:	For new venues the requirement to have an independent conformance system environment could lead to significant start-up costs which may prove a barrier to entry. The extent of this will be further explored for the final CBA.

(3) Requiring members or participants to use testing facilities provided

Option 3	Regardless of any alternative testing methods that members or participants may use in addition, members or participants have to use testing facilities provided.

	Qualitative description
Benefits:	Robust testing prior to implementation should decrease the risk of algorithms behaving unexpectedly contributing to improved market integrity. Provision of testing facilities as close to market conditions as possible ensures algorithms are rigorously assessed before release.
Costs to regulator: - *One-off* - *On-going*	Costs of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure trading venues provide sufficient functionality within the front end to allow members to test a selection of scenarios proportionate to its level of activity.
Compliance costs: - *One-off* - *On-going*	There are initial one-off costs related to the set up and provision of testing facilities as close to market conditions as possible and on-going costs related to monitoring and enhancing of services.
Costs to other stakeholders	Investment firms would have to potentially increase their testing resources to meet the new obligations. This would include additional staffing costs and potential development effort to set up the testing packs to support each of the trading venue requirements.
Indirect costs	*None identified*

(4) Retraction of access

Option 4	For venues to exclude members who do not pass algorithmic testing.
	Qualitative description
Benefits:	Robust testing prior to implementation should decrease the risk of algorithms behaving unexpectedly contributing to improved market integrity.
Costs to regulator: - *One-off* - *On-going*	Cost of both a one-off and on-going nature to establish a monitoring function (or enhance an existing monitoring function) to ensure trading venues meet obligations regarding the exclusion of members.
Compliance costs: - *One-off*	There will be additional on-going monitoring and review processes to manage to ensure those members and end clients who do not pass the standards for algorithmic testing are excluded, cost should be marginal to

- *On-going*	low.
Costs to other stakeholders	Investment firms would have to potentially increase their testing resources to meet the new obligations. This would include additional staffing costs and potential development effort to set up the testing packs to support each of the trading venue requirements. But this is covered in the other CBA.
Indirect costs	*None identified*

References

European Commission (2011) MiFID II Impact assessment

ESMA Guidelines - Systems and controls in an automated trading environment for trading platforms, investment firms and competent authorities (2012)

4.3. Market making, market making agreements and marking making schemes

Obligation to enter into Market Making Agreements for algorithmic traders and content of those agreements (Article 17(7)(b) of MiFID II)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[65], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed regulatory technical standards (RTS) is to further clarify the circumstances in which an investment firm performing a market making strategy should enter into a market making agreement and the content of such agreement.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFID II baseline. Whenever market practices are in line or

[65] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

above what is being required by MiFID, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[66] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which can be either the MIFID requirements, or the existing practices of regulated markets, MTFs and OTFs when are above MIFID.

The stakeholders identified are investment firms engaged in algorithmic trading (including providers of direct electronic access, National Competent Authorities (NCAs) and trading venues (considering as such operators of regulated markets, MTFs and OTFs).

The next section covers the different technical options, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

MiFID II aims at introducing an element of predictability to the apparent liquidity in the order book and also tries to address potentially systemic volatility peaks by obliging investment firms that engage in algorithmic trading and employ a market making strategy to enter into binging market making agreements.

The analysis that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014 and the responses to qualitative interviews. The technical options proposed by ESMA in this Consultation Paper may differ from those proposed in the consultation in May, since they have been informed by the feedback subsequently received. Respondents did not detail costs and benefits in their responses to the DP.

3. Baseline

From a legal perspective the relevant baseline to assess the impact of the RTS are Articles 17(3) and 17(4) of MiFID II as there is no equivalent obligation for algorithmic traders to enter into a market making agreement before MiFID II. Also there are currently no EU-wide minimum standards for the content of market making agreements in general.

ESMA has been empowered to specify this Level 1 rule by issuing a Level 2 text in the form of draft regulatory technical standards (Article 17(7)(b) of MiFID II). The mandate requires ESMA to:

[66] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

- further specify the circumstances in which an investment firm engaged in algorithmic trading has to enter into a market making agreement; and
- define the *content* of these agreements.

Based on preliminary desk research and qualitative interviews, current market practice in market making and liquidity provision agreements can be a solid baseline for the proposal as well. In effect, current agreements mainly differ by instrument or group of instruments with the same characteristics and take into account the:

- Price, liquidity and volatility of the instrument;
- Business model and size of the market maker; and
- Business model and scale of trading on the trading venue.

Most of these agreements also contain:

- Minimum size and maximum spread of bid- and ask- quotes;
- Percentage of presence in the market during continuous trading hours;
- Incentives, chiefly in the form of rebates.

Effectively current market making agreements also make a distinction between circumstances where a retreat from the market is inevitable, for instance in the case of problems with data feeds for the underlying securities of an ETF where the market making agreement covers the ETF, and circumstances of wider price movements, where the obligation is not waived but requirements are relaxed.[67] This is done by increasing the maximum spread regime and can be seen as incentives to stay in the market during times of higher volatility as it increase profitability of market making. The number of investment firms engaged in these type of agreements is substantial, due to the several types of incentives schemes.[68] However, not all firms pursuing market-making strategies are currently covered by a market-making agreement. For these firms, those rules are an incremental set of obligations.

4. Stakeholders

Three types of stakeholders are relevant for this standard: Investment firms engaged in algorithmic trading, National Competent Authorities (NCAs) and trading venues.

Investment firms engaged in algorithmic trading may be impacted in two different ways: those firms which were not engaged in any type of binding contract to provide liquidity will have to enter into a market making agreement and face enlarged obligations in terms of time presence, size of the quotes and bid-ask spreads with respect to the current situation. For firms already acting under a market making or liquidity provision scheme, the market-making

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[67] See for Instance Rule 4102 on page 57 of the rulebook of the London Stock Exchange. http://www.londonstockexchange.com/traders-and-brokers/rules-regulations/rules-lse.pdf

[68] There are also incentives to enter into a market making agreement that go beyond the incentives offered by the trading venue. For instance a as expressed by a market participant the official status as a market maker granted by entering into a market making agreement also ensures the exemption of market making activity for instance under the Short Selling Regulation or in the context of national legislation such as the exemption of market making activity under the financial transaction taxes in France and Spain.

requirements may expand the existing obligations under those contracts. In this situation, the impact of the rule may be mitigated by the fact that firms already execute market-making arrangements in closely related areas of trading activity.

Regading the enlarged obligations that the draft RTS may impose to both types of firms in terms of presence, size and spread, the main impact may be an increased risk exposure due to increased minimum presence time. However, it is very difficult to measure this impact due to the wide range of arrangements and strategies currently present in the market.

Resulting changes of business strategy could have unintended consequences on overall liquidity provision. In some cases investments into sufficient IT and physical systems to be able to perform the market making obligation might be necessary. The legal certainty achieved through the RTS should avoid potential conflicts of interest that could arise (for instance, between a trading venue and a member or participant which is also a competitor in other areas).

NCAs currently do not monitor the content of market making agreements. They might need to do so where they believe that adherence is not well monitored by the trading venues. Monitoring of thousands of different types of agreement might require them to deploy additional resources and to create internal procedures to ensure proper enforcement of rules. Cooperation with other competent authorities may be required as well.

Trading venues (i.e. operators of regulated markets (RM), MTF and OTF) running electronic trading platforms will have to monitor and detect at least market making strategies on their venues and ensure that these strategies are no further employed if the investment firm does not want to enter into a market making agreement. They will need to grant special incentives in times of market stress and review the existing agreements for conformance with the proposed RTS. Where the requirement is too strict and most market makers decide to stop the market making activity the market operator might see a sharp drop in liquidity provision on their venues. An increase in official market makers, instead, might improve liquidity provision and make the trading venue more attractive.

5. Technical Options

In line with the RTS mandate at Level 1, ESMA has to define technical standards in the following areas:

- Scope and definition of ‘market making strategy’
- Content of the Market Making Agreement

(1) Scope and definition of “market making strategy”

For the purpose of this requirement, an investment firm employs a market making strategy where it posts firm, simultaneous two-way quotes of comparable size and at competitive prices relating to one or more financial instrument on a single trading venue or across different venues, with the result of providing liquidity on a regular and frequent basis to the overall market. If it meets these criteria the investment firms will be obliged to enter into a market making agreement. Hence, ESMA has to clarify the following areas:

Technical Option 1: Scope in terms of trading venues and instruments

Policy Objective	Specifying the criteria that an algorithmic trading strategy should meet as a minimum to qualify as a market-making strategy.
Proposal	Market-making strategy contains strategies where at least an investment firm operates a firm, simultaneous two-way quote in **one** financial instrument **on a single** trading venue.

Technical Option 2: Definition of market-making strategy

Policy Objective	Specifying the criteria that an algorithmic trading strategy should meet as a minimum to qualify as a market-making strategy.
Proposal	A strategy should be considered as market making if all of the following applies: • The posted quotes are two-way quotes and firm, which means that they are executable and can be matched against an opposite order or quote under the rules of the trading venue. • The quotes are posted simultaneously, meaning that both sides enter the order book at the same second. • The two-way quotes are of comparable size, meaning that the size of the opposite quotes do not diverge by more than 50% from each other. • The quotes are posted at competitive prices, meaning that they are posted within the average bid-ask spread. • The quote are posted in at least one financial instrument on a single trading venue • All the above is happening for no less than 30 % of the daily trading hours during one trading day The strategy need not to contain only symmetrical quotes around the mid-point of the market bid-ask range in order to qualify as market making.

Technical Option 3: Obligation to notify

Policy Objective	Specify where the obligations of investment firms and trading venues with respect to the conclusion of market-making agreements.
Proposal	The investment firm carries the responsibility to notify trading venues of their intention to pursue a market-making strategy. Where a trading venue detects the implementation of a market-making strategy on its venue by an investment firm engaged in algorithmic trading, it has to notify the investment firm which is then obliged to sign a market-making agreement or stop the implementation of that strategy.

(2) Content of the Market making agreements

A minimum set of standards for market-making agreements is necessary to preserve the level playing field between venues, as well as among investment firms, participating in a market-making agreement as a result of performing a market making strategy or by virtue of a market-making scheme. At the same time the requirements need to be flexible enough to allow them to be adjusted in line with the instruments covered by the agreement. The requirement sets a 'floor' vis-à-vis the content of market-making agreements so that any agreement can be stricter according to the purpose of the individual agreement. Hence, ESMA has to clarify two areas as parts of the minimum content of a market-making agreement: quoting requirements and incentives.

Technical Option 4: Minimum content of market making agreement – quoting requirements

Policy Objective	Ensure a sufficient level of predictability of the provided liquidity.

Proposal	A Market making agreement should contain at least:
	
	• The financial instrument/s covered by the agreement;
	
	• The obligations of the market maker, where these specify at least the following:
	
	    • Posting firm two-way quotes, which means that they are executable and can be matched against an opposite order or quote under the rules of the trading venue;
	
	    • These quotes are posted simultaneously, meaning that both sides enter the order book at the same second;
	
	    • The two-way quotes are of comparable size, meaning that the size of the opposite quotes do not diverge by more than 50% from each other;

	• The quotes are at competitive prices, meaning that they are posted within the average bid-ask spread; • The quotes are posted in at least one financial instrument on the trading venue; • For no less than 50 % of the daily trading hours, where daily trading hours means the duration of continuous trading, and excludes opening/closing auction sessions.

Technical Option 5: Minimum content of market making agreement – incentives

Policy Objective	Contributing to the orderliness of the market by ensuring that investment firms have sufficient incentives to enter into a market making agreement, also in times of higher price volatility.
Option 1	A Market making agreement should contain at least: • The incentives offered to the market maker under the normal and stressed market conditions, where 'stressed market condition' refers to a condition declared by the trading venue where the price discovery process and market liquidity is materially affected by at least one of the following: a) Significant change in the number of messages being sent to and received from, the systems of a trading venue; b) Significant short-term changes in terms of market volume; c) Significant short term changes in terms of price (i.e. volatility)

Technical Option 6: Minimum content of market making agreement – organisational requirements for investment firms

Policy Objective	Contributing to orderly markets by ensuring that there is adequate monitoring of the implementation of the market making strategy and appropriate action is taken where unpredictable behaviour of the market making strategy occurs, especially where it has a detrimental effect on the market.
Proposal	(a) separating the identity of orders and quotes submitted in performance of the market making agreement from other order

	flows; (b) maintaining records of orders and transactions relating to these activities such that these records can be distinguished from other trading activities and be made available to the trading venue and the competent authority; (c) implementing procedures to ensure that liquidity is provided as determined in the agreement and that orders and quotes are adequately identified, including having appropriate and effective surveillance, compliance and audit resources to enable sufficient monitoring of its market making requirements;

6. Cost/benefit impact assessment

The purpose of this section is to provide an interim cost-benefit analysis of the obligations described in the previous section, which were considered incremental against a baseline that is aligned either with current market practices where a market making agreement is already in place between the trading venue and a market maker or with the MIFID II Level 1 legal baseline described above. However, the costs associated with the incremental rule will be a combination of the effects of the Level 1 provisions. As those effects will be very difficult to disentangle, indications of costs are to be considered as an upper bound.

This section is based on the responses to the Discussion Paper published by ESMA on the 22nd of May 2014, as well as preliminary desk research and qualitative interviews.

Technical Option 1: Scope in terms of trading venues and instruments

	Qualitative description
Benefits	Establishing a minimum strategy facilitates the practical implementation of the obligation as this is in line with current market practice. The draft RTS does not prevent that, where it is possible for a trading venue to identify trading strategies involving several financial instruments and more than one venue, those strategies should be identified and a market making agreement should be signed. However, at this point in time this possibility seems difficult to implement in practice as supervision across venues would require extensive information sharing between national competent authorities or between competing trading venues and be highly costly.
Costs to regulator:	As the requirement to supervise market making agreements is set at Level 1, the additional requirement to review whether these agreements are in line with these requirements would not create additional costs.

Compliance costs:	Current market practice currently covers one instrument on a single trading venue in the agreements made between a trading venue and each investment firm for one instrument or in the case of for instance equity positions for a series of options (e.g. different maturities). This option does not exclude the possibility of covering multiple instruments in the same agreement. Hence no additional costs would arise.
Costs to other stakeholders	None
Indirect costs	*Quality effects.* Parts of market making may happen across venues where the financial instrument is traded. This may reduce the effectiveness of the obligation.

Technical Option 2: Definition of market-making strategy

	Qualitative description
Benefits	Minimum standards defined in this option allow for a level playing field between market makers while acknowledging the need for flexibility in the individual agreements. The definition of a time frame in which the two orders can be entered on both sides of the order book captures those few trading systems where a two-sided quote is not submitted through one but two, one buy side and one sell side, orders. Hence, the definition also prevents circumvention of the obligation by splitting the buy and sell side of a two-way quote into two separate orders. Also one second is a large time frame especially in an electronic market with algorithmic traders. Hence this approach minimises the possibility to avoid the obligation and will not capture orders that are submitted under a different strategy. The size of opposed quotes posted by a market maker are usually identical or very similar in size as to reduce the built up of positions which expose a market maker to market risk. Yet a one to one relation is not always the case, also due to the use of order management facilities that make single strategies hard to identify. This definition thus minimizes the possibility of circumvention via intentionally posted quotes of different sizes. Also, assessing the activity based on the size of the individual trades rather than on the overall exposure reduces the possibility of mistaking arbitrage or hedging strategies for market making activity. The benefit of defining competitive prices as quotes within the average bid-ask spread as opposed to the bid-ask spread of recognised market makers reduces the possibility of circumvention. Further, allowing asymmetry may

	enable strategies that have a temporary directional side, but still provide liquidity to the market. Defining the observation period as one trading day minimises the possibility to circumvent the obligation by strategically constructing their activity over the defined period and thus ensuring a level playing field. The proposed threshold of 30 percent of daily trading hours is very low and ensures that every actor pursuing a market making strategy for a significant portion of the daily trading hours will be captured.
Costs to regulator:	Very low cost because at the main bulk of the incremental obligation corresponds to Level 1.
Compliance costs:	As a result of the clear definition with broad thresholds, investment firms will bear very low to no costs in assessing whether their behaviour is in line with the above definition.
Costs to other stakeholders	None
Indirect costs	Those players that have employed a market making strategy but did not enter into a market making agreement might reduce their liquidity providing activity to just below 30% in order to avoid the obligation to enter into an agreement. Overall liquidity in the market might be reduced to the extent that the designated market makers are not able to make up for the withdrawn liquidity.

Technical Option 3: Obligation to notify

	Qualitative description
Benefits	This option provides legal certainty and reduces the possibilities to avoid a market making agreement, as both parties to the agreement are obliged to either notify about the requirement or initiate one.
Costs to regulator:	None
Compliance costs:	Modest costs. The investment firm has to set up procedures to identify its market-making strategies and notify them to the trading venue. Trading venues may also incur in additional costs to make sure that, in their monitoring activity, they are able to recognise market making strategies and communicate to firms the obligation to sign a market making agreement.

Costs to other stakeholders	None
Indirect costs	None

Technical Option 4: Minimum content of market making agreement – quoting requirements

	Qualitative description
Benefits	This option leaves ample room for trading venues and investment firms to adjust the requirements in terms of presence as well as quoting requirements to the market, the instrument traded and the trading modes. Unintended impact will hence be minimized and liquidity resilience will be improved. The low minimum presence time of 50% of the trading day allows a market maker to retreat during times of volatility where the market maker judges the risk to be unjustified in relation to the returns such as during a flash crash. This option hence assures that the trading venues can conclude agreements that continue to attract market makers.
Costs to regulator:	Low costs will arise where the NCA judges that adherence is not well monitored by the trading venues. This might require them to deploy resources and have an impact on their enforcement procedures.
Compliance costs:	For those companies which are currently covered by an agreement no extra costs will arise as the requirements are below market practice. Incremental obligations may arise for those firms that are not currently covered by an agreement. The associated costs are expected to arise from an increased risk exposure due to a higher minimum presence time.
Costs to other stakeholders	None
Indirect costs	*Quantity effects.* Any investment firm pursuing a market making strategy for more than 30% of the daily trading hours will be obliged to enter into a market making agreement and increase their presence. This could result in a reduction of their presence to just below 30% in order not to be captured with the effect of reducing overall liquidity in the market where other market makers are unable to fill the resulting 'gap'. *Quality effects.* Another unintended consequence could be that the average presence time required by trading venues might fall for all market makers. This would be the case where the trading venue accommodates

	those investment firms that now will be covered by offering a lower required minimum presence. The result would be that a market maker with higher minimum presence would equally press for lower minimum presence requirement in the case that incentives are not adjusted.

Technical Option 5: Minimum content of market making agreement – incentives

	Qualitative description
Benefits	Special incentives during stressed market conditions compensate market makers for increased risk during these conditions and incentivises them to stay in the market. This measure contributes to improve liquidity resilience.
Costs to regulator:	Minimal cost to verify, in the context of their supervisory review, the existence of such a clause.
Compliance costs:	Minimal costs are expected to arise for trading neither venues or investment firms as current market practice is such that extra incentives during stressed market conditions are already in place. These special incentives usually take the form of a widening of the spread regime instead of an outright waiver of the market making obligation.
Costs to other stakeholders	None
Indirect costs	None

References

European Commission (2011) MiFID II Impact assessment, P.11

4.4. Ratio of unexecuted orders to transactions

Setting out Systems to limit the ratio of unexecuted orders to transactions (Article 48.6 MiFID II)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[69], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards (“RTS”) by means

[69] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft RTS and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft RTS.

The purpose of the proposed draft RTS is to further specify the requirements to determine the order-to-trade ratio (OTR) that might be entered into a trading system by a member or participant under Article 48(12)(b).

This document has five sections. The introduction sets out the background for the RTS, the baseline section explains the starting point for assessing the incremental rule related to ESMA's draft RTS, which can be either the MiFID requirement, or current market practice where it exceeds the MiFID requirements. The stakeholders identified are trading venues and investment firms operating an MTF or OTF. After a summary description of the different draft technical proposals in the RTS, an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

In practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[70] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

2. Introduction

Under Articles 48(6) of MiFID II, trading venues have to have in place effective systems, procedures and arrangements to ensure algorithmic trading systems cannot create or contribute to disorderly trading conditions on their market and to manage any disorderly trading conditions arising from such algorithmic trading systems, including systems to limit the ratio of unexecuted orders to transactions that may be entered into the system by a member or participant. Article 18(5) of MiFID expands the scope of its obligations to MTFs or OTFs.

Under Article 48(12)(b) of MiFID II, ESMA is required to develop draft regulatory technical standards to further specify the ratio of unexecuted orders to transactions that may be submitted to a trading venue by a member or participant taking into account factors such as the value of unexecuted orders in relation to the value of executed transactions.

The analysis that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014. The technical options proposed by ESMA in this CP may be different than those proposed in the DP as have been informed by the feedback received since the publication of the DP.

3. Baseline

[70] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

While MiFID I did not explicitly establish any provision regarding systems and controls for automated trading, this issue was addressed by ESMA in its Guidelines on Systems and Controls in an Automated Trading Environment for trading venues, investment firms and competent authorities published in 2012.

Guideline 3 referred to measures to cope with excessive flooding of the order book in the following terms: Trading platforms should have arrangements to prevent excessive flooding of the order book at any one moment in time, notably through limits per participant on order entry capacity.

These Guidelines were adopted by national competent authorities in practically all jurisdictions in the EU. In line with that, it should be expected that most market participants have implemented these Guidelines in their regular practice since then.

Under MiFID II Article 48(6), this is expanded to require regulated markets to have in place effective systems, procedures and arrangements to ensure that algorithmic trading systems cannot create or contribute to disorderly trading conditions.

Initially in the DP of May 2014, ESMA proposed limiting the OTR methodology to equity, equity-like and bond financial instruments traded on electronic trading venues and excluding derivatives. In addition, ESMA proposed focusing calculating OTR on liquid instruments as defined under Article 2(1)(17) of MiFIR given the fact that high frequency traders usually tend to trade blue chip stocks. However after taking into consideration the responses to the DP, ESMA has reviewed its proposal and now all trading venues allowing for or enabling algorithmic trading through their systems should establish an OTR for their members or participants; both in terms of volume and in terms of number of orders regardless of their messaging level.

ESMA has further specified the definition of the orders to be taken into account which includes quotes, indications of interest, and IOCs as well as the full trading session including auctions. Originally ESMA proposed that 'start-up' trading venues were excluded from establishing an OTR while establishing liquidity to the venue. Given the full definition of orders to be taken into consideration, every trading venue will now be required to establish an OTR. If the trading venue is not yet calculating an OTR, any cost incurred would be attributable to MiFID II Level 1, as this is not an incremental obligation from this RTS.

The impact assessment of such policy decisions covering the general aspects of the Directive has been already performed and published by the European Commission as part of their impact assessment of MiFID II Level 1[71].

The purpose of this document is to CBA the incremental obligation of ESMA's Regulatory Technical Standards in Article 48(12)(b) against the MiFID II baseline described above.

4. Stakeholders

[71] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

RM's, MTF's and OTF's will have to apply the methodology established by ESMA to calculate OTRs. As such, any trading venue which is already calculating an OTR may need to adapt current procedures to those proposed by ESMA.

However we will consider the costs (additional IT and management costs) arising for trading venues to manage the procedure to set out the OTR.

The potential impact for the users of those venues, such as market makers and investment firms derives directly from Level 1 and will not be considered for the purposes of this CBA.

5. Technical Options

The following requirements can be considered incremental to previous legal obligations outlined in MiFID II Level 1:

Policy Objective	The methodology for determining the ratio of unexecuted orders to transactions
Technical proposal	The ratio of unexecuted orders to transactions shall be determined at least for every group of financial instruments of a similar nature, bearing similar trading characteristics and traded under the electronic continuous auction order book, quote-driven, and hybrid trading models. A trading venue may apply a more granular approach at its discretion and determine the maximum ratio of unexecuted orders to transactions at financial instrument level or according to the liquidity of the financial instrument. In order to comply with Article 48(6) of MiFID II, The ratio of unexecuted orders to transactions shall be determined by trading venues as follows: (i) In volume terms: $\frac{\text{Total volume of orders}}{\text{Total volume of transactions}} - 1$ (ii) In number terms: $\frac{\text{Total number of orders}}{\text{Total number of filled or partially filled transactions}} - 1$ Each new order shall be added to the previous number of orders or respectively to the previous volume of orders. The non-exhaustive list provided for in Annex I specifies how different types of orders and quotes that are submitted to the trading venue shall be counted in terms of number. The ratio of unexecuted orders to transactions calculated by the trading venue shall be considered as exceeded by a member or participant of the trading venue if either of the two ratios under paragraph 3 is exceeded with respect to one financial instrument. Trading venue shall determine the maximum ratio of unexecuted orders to

	transactions in both volume and number terms at least once a year. In the yearly determination of the maximum ratio of unexecuted orders to transactions, trading venues shall take into account all the orders submitted by all members and participants. Trading venues shall monitor the ratio of unexecuted orders to transactions in both volume and number terms at least on a monthly basis, taking into account all phases of a trading session including the auctions in accordance with the billing period.

6. Cost/benefit impact assessment

This section provides a qualitative assessment of the benefits and costs of the incremental obligations identified in the previous section:

Methodology for determining the ratio of unexecuted orders to transactions

	Qualitative description
Benefits	Provision of a common methodology to set out the OTR will contribute to orderly markets by setting out a common comparable method.
Costs to regulator: • *One-off* • *On-going*	One-off and on-going costs to establish a monitoring function (or enhancement of an existing monitoring function) to ensure trading venues meet obligations regarding the OTR regime, we estimate these costs to be low.
Compliance costs: - *One-off* - *On-going*	ESMA's mandate only refers to the method to determine the OTR methodology of a ratio. We estimate any costs arising for trading venues to be low. There could be additional one-off costs to formalise procedures for those trading venues that are currently applying a different method to set out the OTR arising from having to adapt their methodology. Any one-off costs for those trading venues that do not have an OTR in place should be disregarded, as this cost would be attributable to MiFID II Level 1.
Costs to other stakeholders	Investment firms and their clients may need to amend their trading models to incorporate changes to the OTR regime in those cases in which those trading venues calculated OTR differently. For those investment firms that operate in trading venues which do not have an OTR, these costs should not be considered because the obligation to have and enforce an OTR is attributable to MiFID II Level 1.
Indirect costs	*None identified*

References

European Commission (2011) MiFID II Impact assessment

ESMA Guidelines - Systems and controls in an automated trading environment for trading platforms, investment firms and competent authorities (2012)

UK Government Office for Science – Foresight Economic impact assessments on MiFID II policy measures related to computer trading in financial markets

4.5. Co-location and fee structures

4.6. Tick sizes (Article 48(6) and Article 49 of MiFID II)

4.7. Material markets in terms of liquidity

5. Data Publication and Access

5.1. General authorisation and organisational requirements for data reporting services

Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[72], ESMA is empowered to develop draft regulatory technical standards (“RTS”) where the European Parliament and the Council delegate power to the Commission to adopt RTS by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft RTS and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

MiFID II introduces a new type of services that are subject to authorisation and supervision to ensure the necessary level of quality: Data Reporting Services (DRSs). DRSs include the operation of an Approved Publication Arrangement (APA), the operation of a Consolidate Tape (CT) and the operation of an Approved Reporting Mechanism (ARM). MiFID II provides for a regulatory framework governing Data reporting Services Providers (DRSPs) globally and each of them more specifically, where appropriate.

This purpose of these draft RTS is to further specify the authorisation and organisational requirements for DRSPs.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against the MiFID/MiFIR baseline. Whenever current market practices are above what is being required by MiFID/MiFIR, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[73] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions. In this case, this will be noted in our analysis.

For each section of the draft RTS, the document includes (i) a short introduction that sets the ground for the draft RTS, (ii) an explanation of the baseline i.e. of the starting point against which the incremental rule arising from the draft RTS is assessed, (iii) the identification of stakeholders (iv) a summary description of the technical options for the draft RTS, and (v) an interim qualitative analysis providing a first overview of the benefits and costs associated with the proposals set out in the RTS.

[72] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
[73] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

Draft RTS on Article 61(4)(a) of MiFID II: Information to be provided to competent authorities, including programme of operations

1. Introduction

The provision of core market data services is critical for users to be able to obtain a desired overview of trading activity across the Union's financial markets and for competent authorities to receive accurate and comprehensive information on relevant transactions. The introduction of DRSs as a service requiring prior authorisation by the competent authority is one of the major changes brought by MiFID II compared to MiFID. MiFID II substantially supplements the MiFID requirements to be met by transaction reporting systems to be approved and the obligations attached to trade publication arrangements. The regime is entirely new for Consolidated Tape Providers (CTPs).

Entities seeking authorisation as DRSPs have to go through a fully-fledged authorisation procedure. This section of the draft RTS develops the information to be provided to the competent authority at the time of authorisation so that the competent authority can assess whether the applicant has the necessary arrangements to meet its obligations under Title V of MiFID II.

2. Baseline

From a legal perspective, the legislation to consider as the baseline is:

i. In respect of APAs and CTPs: Article 59(1) of MiFID II, which provides that "the provision of data reporting services (…) as a regular occupation or business shall be subject to prior authorisation (...) and Article 61(2) of MiFIR, under which a Data Reporting Service Provider has to provide all information, including a programme of operations setting out, inter alia, the types of services envisaged and the organisational structure, necessary to enable the competent authority to satisfy itself that the data reporting services provider has established, at the time of initial authorisation, all the necessary arrangements to meet its obligations (..)". For APAs, the MiFID II provisions build on Article 32 of the MiFID Implementing Regulation which provides for the requirements to be met by a trade publication arrangement but without providing for a specific approval or authorisation.

ii. In respect of ARMs, Article 12(1) of the MiFID Implementing Regulation sets out the requirements to be met by trade reporting systems and Article 12(1) provides that such systems must be approved by the competent authority. However, as stated in the CESR Guidelines on MiFID Transaction Reporting (CESR/07-301) the process of approval is not specified in detail, nor does the reporting system benefit from a European Passport. Articles 59(1) and 61(2) of MiFID II set out above substantially elaborate on Article 12 of the MiFID Implementing Regulation.

Under Article 59(2) of MiFID II, an investment firm or a market operator operating a trading venue may operate an APA, CTP and ARM subject to the prior verification of their compliance with the requirements set out in Title V of MiFID II but without having to go through a separate authorisation process.

Empowerment/draft RTS

Under Article 61(4)(a) of MiFID II, ESMA has to draft RTS to determine the information to be provided to competent authorities in order to enable the competent authority to satisfy itself that the DRSP has established at the time of initial authorisation all necessary arrangements to meet its obligations under Title V of MiFID II.

The incremental rule relates to the content and details of the information to be provided by the DRSPs to the Competent Authority when seeking authorisation as set out in the draft RTS compared to the general requirements set in MiFID II (largely building on MiFID requirements in the Implementing Regulation and CESR Guidelines).

We have surveyed four Member States so far.

In respect of APAs, whereas the authorisation requirements are introduced by MiFID II, the economic baseline is the authorisation regimes that national competent authorities (NCAs) may have already put in place at their own initiative.

One Member State has put in place a specific regime for trade publication arrangements (TPAs) i.e. APAs-like entities. In this case the (NCA did not introduce an authorisation procedure for the service provider itself but issued guidelines to be met by investment firms intending to use such TPAs.

Firms intending to use a TPA to meet post-trade transparency requirements have to verify that the system:

a. ensures that information to be published is reliable, monitored continuously for errors, and corrected as soon as errors are detected;
b. facilitates the consolidation of data with similar data from other sources; and
c. makes the information available to the public on a non-discriminatory commercial basis at a reasonable cost.

The guidelines set out the various areas where the firm must satisfy itself that the TPA has appropriate procedures /systems and controls in place. To assess whether the TPA enables the firm to meet the guidelines, the firm can seek confirmation by the NCA or by an external auditor. A trade data monitor (TDM) is a TPA that has been confirmed by the NCA as enabling the firm to meet the guidelines. This confirmation process can be analysed as an indirect approval procedure.

TPAs intending to seek confirmation from the NCA must demonstrate that their systems and facilities can ensure that any firm who is their client will comply with the guidelines.

The areas where the investment firm must satisfy itself that the TPA meets the guidelines and where the NCA will ask information for "confirmation" of the TDM are very similar to the ones set out in CESR Technical Advice to the European Commission in the Context of the MiFID review- Equity markets (ref: CESR/10/802).

The guidelines, and thereby indirectly the confirmation process by the NCA, include a number of the items mentioned in the draft RTS but expressed in more general terms. For instance, the firm should:

- satisfy itself that the TPA has an appropriate number of staff competent to perform their duties overseeing the trade publication arrangement service;

- request that the TPA notifies its clients of the person with overall management responsibilities for the trade publication service and the person responsible for ensuring the service complies with these standards;

- satisfy itself that a TDM has appropriate arrangements for managing conflicts of interests; and

- consider requesting that the TPA prepares on a yearly basis a statement confirming the extent to which it has continued to meet the Guidelines. This statement should comment on the appropriateness and effectiveness of its services and the monitoring of its systems and controls.

There are currently five confirmed TDM by that NCA.

In the four jurisdictions surveyed, the domestic regulated markets act as a publication arrangement for OTC transactions.

In respect of ARMs, as explained above, the approval process for transaction reporting systems under Article 12 of the MiFID Implementing Regulation is not very detailed. Each jurisdiction surveyed has minimum requirements in place referring to the provision of Article 12 of the MiFID Implementing Regulation.

One jurisdiction surveyed has put in place a more substantial application form for approval to connect to its transaction reporting system, including for ARMs. The application form includes general information about the applicant firm, its business plan, and the controllers/owners of the firm. The applicant must also provide a staff organisational structure chart and demonstrate that it has an effective management structure and clear reporting lines to senior managers and explain how the firm will meet relevant requirements.

There are five ARMs approved in this jurisdiction, one of them being approved to report only a subset of transactions.

In the four jurisdictions surveyed, the regulated markets act as transaction reporting systems.

It is worth noting that the way investment firms report their transactions to their NCA varies across Member States. In most of the jurisdictions surveyed, a vast majority of firms report their OTC transactions directly to their NCA and not through the service of a transaction reporting system. In one jurisdiction, transaction on reporting mainly takes place through ARMs.

In respect of CTPs, some data vendors provide consolidated post-trade information but data vendors are not authorised/approved entities in any of the jurisdiction surveyed.

The purpose of the following sections of the document is to provide an interim cost-benefit analysis of the incremental obligations arising from ESMA's draft RTS against the legal baseline described above. However, when current market practices are above what is required by the legal baseline, market practices will be taken into consideration for the cost-benefit analysis. It is very difficult to disentangle the costs arising from the general MiFID II requirements for authorisation of DRSPs and the costs arising from the draft RTS. Indication of costs for related to the draft RTS is therefore to be taken as an upper bound.

3. Stakeholders

Entities that intend to provide DRSs under MiFID II: For entities already providing such services, the new or more substantial authorisation requirements will entail additional one-off and on-going costs. Operators of trading venues will have to meet the requirements for DRSPs but will not have to go through a separate authorisation process.

NCAs in charge of the authorisation and supervision of DRSPs will incur additional one-off costs to set up an authorisation procedure for DRSPS and for processing the initial authorisation and storage of information. They will also incur on-going costs related to the on-going supervision of DRSPs but may benefit from improved quality in transaction reporting.

Market participants will benefit from an improved post-trade transparency framework.

4. Technical Option

Technical Option 1: list of information to be provided by the applicant firm to its NCA so that the NCA is able (i) to assess whether the applicant has the necessary arrangements to meet its obligations at the authorisation stage, and (ii) to monitor that the DRSP complies at all times with the conditions of initial authorisation.

Policy objective	Enabling NCAs to assess whether the applicant has the necessary arrangements to meet its obligations under Title V of MiFID II
Technical Proposal	The applicant must provide: i. an attestation of the accuracy and completeness of the application; ii. policies and procedures in support of the application of the application, including a. an indication of who is responsible for the approval and maintenance of the policies and procedures, b. a description of the compliance procedures and policies, the means to monitor and enforce them, c. the procedure for reporting to the competent authority

	material breaches of policies and procedures, unless the NCA is satisfied with receiving a copy of relevant procedures and policies only. iii. an organisational chart including a clear identification of the significant roles played by its key personnel and the organisational structure and description of services provided other than DRSs where applicable; iv. information about the internal corporate governance and policies and terms of reference governing the management body, senior management, non-executive members and, where established, committees; v. information regarding organisational requirements (see the section on organisational requirements) and any material change in the information provided at the time of the authorisation and thereafter.

5. Cost/benefit impact assessment

Technical Proposal	List of information to be provided by a DRSP applicant to the NCA for authorisation
	Qualitative description
Benefits	The information provided will allow the NCA to satisfy itself that the applicant firm complies with all relevant requirements and is able to properly serve the purpose for which the DRSP regime was introduced by the Framework Directive: improved quality of post-trade data, consolidation of post-trade information and enhanced quality of transaction reporting. Market participants and NCAs can therefore be considered as indirectly benefiting from the proposal.
Costs to regulator	One-off costs: • NCAs will have to draft rules and procedures for authorisation of DRSPs; • NCAs will have to process DRSPs' applications. On-going costs: • supervision of DRSPs and monitoring that DRSPs comply at all times with conditions for initial authorisation; • data storage costs.

Compliance costs	DRSP applicants will incur costs to draft the policies and procedures, and more generally to prepare all the documentation to be provided to the competent authority for authorisation. This includes, but may not be limited to, staff costs and possibly outsourced fees (e.g. lawyers, consultants.). Operators of trading venues willing to provide DRSs will not have to go through formal authorisation but will incur similar costs as they will have to demonstrate compliance with DRPS's obligations.
Costs to other stakeholders	None
Indirect costs	None

Draft RTS on Article 61(4)(b) of MiFID: Notification to competent authority on Management Body

1. Introduction

The governance process is central to compliance with regulatory requirements and must ensure that all relevant considerations that ought to be borne in mind when making key decisions are given due weight. Non-executive board members also carry out an important function as they contribute to the strategy of the DRSP, scrutinise the performance of management in achieving the agreed objectives and provide objective views on resources, appointments and standards of conduct. Accordingly, MiFID II sets out substantial requirements for the management body of DRSs, which are entirely new compared to the MiFID Implementing Regulation for transaction reporting systems and TPAs. In particular, MiFID II stresses the importance of good repute, skills and experience for the management body of DRSPs. The draft RTS further specify the information to be provided by a DRSP on its management body to its NCA.

2. Baseline

From a legal perspective, the legislation to consider is Article 63 of MiFID II which sets out the requirements for the management body of a DRSP.

Under Article 63(1), all the members of the management body of a DRSP must at all times be of sufficiently good repute, possess sufficient knowledge, skills and experience and commit sufficient time to perform their duties. The management body must possess adequate collective knowledge, skills and experience to be able to understand the activities of the DRSP. Each member of the management body must act with honesty, integrity and independence of mind to effectively challenge the decisions of the senior management where necessary and to effectively oversee and monitor management decision-making where necessary.

Under Article 63(3), the DRSP must notify the NCA of all members of its management body and of any changes to its membership, along with all information needed to assess whether the entity complies with the requirements set out in Article 63(1) above.

Empowerment/draft RTS

Under Article 61(4)(b) of MiFID II, ESMA has to develop draft RTS to specify:

(b) “The information included in the notification under Article 63(3)”.

The incremental rule is the content of the information on the management body that has to be notified by the DRSP to the NCA when seeking authorisation and on an ad-hoc basis to demonstrate compliance with requirements for DRSPs management body as set out in the RTS compared to the MiFID II requirements.

However, it is very difficult to disentangle the costs arising from the general MiFID II requirements for the management body and the costs arising from the draft RTS. Indication of costs related to the draft RTS is therefore to be taken as an upper bound.

In the four jurisdictions surveyed, the requirements for the management body of trade publication arrangements and transaction reporting systems, i.e. APAs and ARMs under MiFID II, (and related notifications) are almost entirely new compared to existing requirements or current market practice for trade publication arrangements or transaction reporting systems requirements. In one jurisdiction however, the NCA asks the applicant firm to provide information on the staff organisational structure of the transaction reporting system and to demonstrate that it has an effective management structure and clear reporting lines to senior management.

3. Stakeholders

Entities that intend to provide DRSs under MiFID II: For entities already providing such services, the notification of information required to demonstrate that their management body meets the obligations (and indirectly, the requirements to be met by the management body) will be a source of additional one-off and ongoing costs. Operators of trading venues operating DRSPs will not be impacted if the members of the management body of the DRSP are the same as the members of the management body of the trading venue as these persons will be considered complying with the MIDFID II requirements for DRSPs.

NCAs in charge of the authorisation and supervision of DRSPs will incur additional one-off costs to set up an authorisation procedure for DRSPs and for processing the initial authorisation and storage of information. They will also incur on-going costs to process the information to be notified by the DRSP in case of any change to the membership of the management body and for the on-going supervision of DRSPs and data storing costs.

4. Technical Option

Technical Option 1: Information to be provided to the NCA for each member of the senior management and each member of the management body to assess fitness and properness.

Policy objective	Ensure that the management body of a DRSP provider is composed of persons with sufficiently good repute and possess sufficient knowledge, skills and experience.
Technical proposal	The applicant must provide the following information for of each member of the senior management and the management body : i. a CV; ii. a self-declaration of good repute in relation with the provision of a financial or data service; iii. a declaration of any potential conflict of interest that the senior management and the members of the management body may have in performing their duties and how those conflicts are managed. The applicant must promptly notify to its NCA any changes to the members of its management body and to responsibilities of members of the management body. The information mentioned above must be provided in case of a new member or a change in the responsibility of an existing member.

5. Cost/benefit impact assessment

Technical proposal	List of information to be provided by a DRSP in respect of each member of the senior management and each member of the management body at the time of authorisation and in case of change thereafter.
	Qualitative description
Benefits	The information provided will help ensuring that the management body, including non-executive directors are in a position to meet their responsibilities on an on-going basis. Indirectly, this will contribute to ensure that DRSPs meet their regulatory obligations and contribute to fulfil the objectives of improved trade transparency and transaction reporting quality. Clients of DRSPs, market participants in general and NCA can therefore be considered as indirectly benefiting from the proposal as well.
Costs to regulator	One-off costs : • NCAs will have to process the information received from the

	applicant at the time of authorisation. On-going costs : • NCAs will have to process the notification received from the DRSP after authorisation in case of a change to the members and/or responsibilities of the members of the management body; • supervision of DRSPs and monitoring that the DRSP comply at all times with conditions for initial authorisation; • data storage costs.
Compliance costs	DRSP applicant will incur one-off costs to provide the information requested on management body. This includes, but may not be limited to, staff costs and possibly fees for outsourced services (e.g. lawyers, consultants.). On-going costs will be incurred to update the information in case of changes to the members of the management body and/or responsibilities. Operators of trading venues wishing to provide DRSs will not incur such compliance costs if the members of the management body of the DRSP are the same as the members of the management body of the trading venue.
Costs to other stakeholders	None
Indirect costs	None

Draft RTS on Article 65(6) of MiFID II: Organisational Requirements for CTPs – Additional services

1. Introduction

MiFID II opts for a commercial solution for the establishment of a CT, while making provisions for a CT to be put in place through a public procurement process if the mechanism envisaged does not lead to the timely delivery of an effective and comprehensive consolidated tape. This commercial solution leaves open the question as to the additional services the operator of a CT may provide with a view to preserving its critical role. This section of the draft RTS addresses this specific issue.

2. Baseline

From a legal perspective, the legislation to consider is Article 65(1) and (2) of MiFID II under which a CTP must “have adequate policies and arrangements in place to collect the information made public in accordance with Articles 6(10) and 20(21) of Regulation (EU) No

600/2014, consolidate it into a continuous electronic data stream and make the information available to the public as close to real time as is technically possible, on a reasonable commercial basis (…)". The CTP must also "be able to efficiently and consistently disseminate such information in a way that ensures fast access to the information, on a non-discriminatory basis and in formats that are easily accessible and utilisable for market participants".

Empowerment/draft RTS

Under Article 65(6) of MiFID II, ESMA has to develop draft RTS to identify additional services that CTPs could perform which increase the efficiency of the market.

The economic baseline is the list of services that entities that could potentially apply to operate a CTP service under MiFID II currently provide. If the operation of a CTP was to prevent potential candidates from continuing with their current business activities, this could act as a barrier to entry.

Technical option 1 would actually cover the main services currently provided by data vendors, who potentially appear as natural candidates to run a CTP. Technical Option 2 would potentially include services provided by entities such as trading venues and leaves rom to accommodate market developments not foreseen under Policy Option 1.

The potential incremental obligation is the list of additional services a CTP may provide set out in the RTS compared to the Level 1 text. It is however very difficult here to disentangle the effect of the Level 1 provisions and of the Level 2 measures. As the list set out in the draft RTS provides for clarity and predictability while accommodating the need for flexibility to cater for future market developments, it is debatable at this stage whether the draft RTS actually creates an incremental obligation compared to the Level 1 text. Any potential indication of cost would anyhow have to be taken as an upper bound.

Given the above, it is not expected that the draft RTS would generate substantial direct costs for CTPs assuming that the costs incurred from the conflicts of interest policies and procedures a CTP would have to put in place to carry those additional services are taken into account under the cost-benefit analysis regarding conflicts of interest (see the section covering conflicts of interest).

3. Stakeholders

Entities considering operating a CTP: It is unlikely that the list of additional services that a CTP may provide be a drawback for potential candidates. The concern may rather relate to the potential impact of the operation of a CTP on the other services already provided**.** The services provided by a CTP may also be impacted by the licensing rights afforded to the CTP's consolidated output**.**

Clients/users of the CTP: They may be positively impacted by the list of additional services that can be provided as those services contribute to greater efficiency of the market. Other impacts depend on the bundling/unbundling of core CTP service and additional services and on the reach of MiFID provisions in respect of those additional services.

4. Technical Options

Technical proposal: the technical proposal includes two cumulative elements to define the list of additional services a CTP may provide. The first element sets out a detailed, close-ended list of those services. The second element provides for a more flexible, open-ended approach, focusing on the need to preserve the quality of the tape and the independence of the CTP.

Policy objective	Combining the commercial dimension of a CTP with the need to preserve the quality and independence of its CTP activity
Proposal 1	A CTP may also perform the following services: a) provision of pre-trade transparency data; b) provision of historical data; c) provision of reference data; d) provision of research; e) processing, distribution and marketing of data and statistics on financial instruments, trading venues, and other market-related data; f) design, management, maintenance and marketing of software, hardware and networks in relation to the transmission of data and information.
Proposal 2	A CTP may perform services other than those specified under paragraph 1, provided that these other services do not create a risk affecting the quality of the tape or the independence of the CTP that cannot be adequately prevented or mitigated.

5. Cost/benefit impact assessment

Option 1	Close-ended list of additional services that CTPs may provide in relation to market data business activities
	Qualitative description
Benefits	The list of services set out in the draft RTS provides clarity, certainty and predictability as to the additional services that increase market efficiency a CTP may provide. It is likely not to hamper entities already active in the market data business from considering, and applying to become a CTP.

Costs to regulator	None
Compliance costs	Potential compliance costs may arise where the CTP applicant would currently provide services that would not be included neither in Option 1 nor in Option 2. This seems however unlikely at this stage.
Costs to other stakeholders	None, assuming the provision of core and non-core CTP services is unbundled.
Indirect costs	The additional services a CTP may provide may have an impact on competition with entities providing similar services but not running a CTP. This may depend on licensing rights.

Option 2	Open list of other additional services a CTP may provide
	Qualitative description
Benefits	The open list provides for flexibility. It leaves room for more entities, such as trading venues or trade repositories, to operate a consolidated tape and caters for future market developments, while aiming at ensuring that the quality of the tape, which is critical, remains unaffected.
Costs to regulator:	NCAs will have to assess potential risk affecting the quality of the tape or the independence of the CTP and measures taken to prevent or mitigate them.
Compliance costs:	None, assuming any cost arising from policies and procedures to address potential conflicts of interest are included in the Impact assessment for the draft RTS dealing with conflicts of interest (see below).
Costs to other stakeholders	None, assuming the provision of core services and non-core CTP services is unbundled.
Indirect costs	The additional services a CTP may provide may have an impact on competition with entities providing similar services but not running a CTP. This may depend on licensing rights.

Draft RTS on Article 64(8)(a), Article 65(7)(a) and Article 66(5)(a) of MiFID: Organisational Requirements for APAs/CTPs and ARMs: Information obligation

1. **Introduction**

APAs, CTPs and ARMs are all under the obligation to deliver the expected information, be it trade reports to be made public or transactions to be reported to NCAs. DRSPs must have necessary arrangements in place to meet their information obligations. This section of the draft RTS covers two sets of obligations for DRSPs in relation to shared resources and outsourcing arrangements and sets out specific connectivity obligations specific for ARMs.

2. Baseline

From a legal perspective, the legislation to consider is:

For APAs, Article 64(1) of MiFID II, which provides that an APA must "have adequate policies and arrangements in place to make public the information required under Articles 20 and 21 of [MiFIR] as close to real time as is technically possible, on a reasonable commercial basis. The information shall be made available free of charge 15 minutes after the APA has published it". (..). The APA must also "be able to efficiently and consistently disseminate such information in a way that ensures fast access to the information, on a non-discriminatory basis and in a format that facilitates the consolidation of the information with similar data from other sources".

For CTPs, Article 65(1) and (2) of MiFID II, which provide that a CTP must have adequate policies and arrangements in place to collect the information made public in accordance with Articles 6(10) and 20(21) of MiFIR, consolidate it into a continuous electronic data stream and make the information available to the public as close to real time as is technically possible, on a reasonable commercial basis.

For ARMs, Article 12(1)(c) of the MiFID Implementing Regulation, which provides that a transaction reporting system must be "capable of reporting the information required (...) In the format required by the competent authority and in accordance with [Article 12(1)], within the time limit set out in Article 25(3) of [MiFID]. A similar provision is now embedded in the Framework Directive under Article 66(1) of MiFID II, which provides that an ARM must "have adequate policies and arrangements in place to report the information required under Article 26 of [MiFIR] as quickly as possible, and no later than the close of the working day following the day upon which the transaction took place. Such information shall be reported in accordance with the requirements laid down in Article 26 of [MiFIR]".

Empowerment/draft RTS

In respect of APAs, under Article 64(8)(a) of MiFID II, ESMA has to develop draft RTS to determine the means by which an APA may comply with its information obligation (see Article 64(1) above);

In respect of CTPs, under Article 65(8)(a) of MiFID II, ESMA has to develop draft RTS to determine the means by which a CTP may comply with its information obligation (see Article 65(1) and (2) above);

In respect of ARMs, under Article 66(5)(a) of MiFID II, ESMA has to develop draft RTS to determine the means by which an ARM may comply with its information obligation (see Article 66(1) above).

In the jurisdictions surveyed so far, outsourcing arrangements are not an item identified as such in the information requested by NCAs from trade publication arrangements and/or transaction reporting systems, with one exception. In one jurisdiction when an investment firm intends to use the services of a TPA, and where the TPA makes arrangements for certain functions to be performed on its behalf by third persons, the investment firm should require the TPA to demonstrate that the person who performs a function on the TPA's behalf is fit, able, and willing to perform the function.

As regards ARMs, in all the jurisdictions surveyed, entities intending to connect to the reporting system of the NCA, and therefore seeking approval by that NCA, are required to have the technical capabilities to comply with the technical specifications of the NCA's reporting system, as provided for under Article 12 of MiFID Implementing Regulation. Policies and arrangements regarding connectivity with the ARM's clients remain to be checked.

The incremental rule relates to the additional obligations arising from the RTS in respect of shared resources and outsourcing for each of the three DRSPs compared to the MiFID/MiFID II baseline described above. However, where current market practice would be above the MiFID/MiFID II baseline, such market practices will be taken into account for the cost-benefit analysis.

3. Stakeholders

Entities considering operating a DRSP, with the possible exception of TDMs, will likely incur additional costs to provide the information requested to NCA on shared resources and outsourcing, and to adjust the underlying policies and procedures where necessary. In addition, transaction reporting systems may need to revisit connectivity arrangements and information flow with their clients.

NCAs will have more information to process (and store) in relation to the authorisation and on-going supervision of DRSPs.

Investment firms using ARMs to report their transactions may have to do further connectivity testing of IT systems with the ARM's.

4. Technical Options

The technical proposal aimed at ensuring that DRSPs meet their information obligation includes three elements. Two elements apply to all DRSPs, i.e. to APAs, CTPs and ARMs; the last one relates to ARMs only.

Proposal 1 and 2 for APAs, CTPs and ARMs: Two cumulative elements are being proposed. The first deals with the information to be provided by the DRSP to its NCA when sharing human and/or technical resources with other entities in the same group of undertakings it *belongs. Going a step further, the second proposal considers the information and other obligations relating to outsourcing of activities by DRSPs.*

Policy objective	Ensuring that DRSPs meet their obligation to publish and or report information as required for improved post trade transparency and information to regulators when sharing or outsourcing functions.
Proposal 1	The DRSP must provide the NCA of its home Member State (home NCA) with a description of the resources, both human and technical, it shares with other entities in the group of undertakings to which it belongs. When sharing resources with other entities in the same group of undertakings, the DRSP must also provide, on request, a copy of relevant service level agreements that it has entered into, or proposes to enter into, with other group members. the applicant and the following information: a) a description of the relevant tasks carried out by each group entity, including undertakings located in third countries; b) a clear identification of the entity involved in performing the task, specifying its location; c) information on the reporting lines and frequency of reporting of each entity involved and on the way information is collected from each entity; d) information on any dedicated resources located in the Union.
Proposal 2	The DRSP remains responsible for any outsourced activity and must adopt organisational measures to assess whether the entity providing the service is carrying out its functions effectively as well as to identify and manage risks in relation with outsourced activities. Where a DRSP outsources any important functions, it shall provide its home NCA with the following information: a) the organisational measures and policies with respect to outsourcing; b) an explanation of how it intends to identify, manage and monitor the risks posed by the outsourcing of important operational functions; c) a copy of the outsourcing agreements between the DRSP and the entity to which the activities are outsourced; d) a copy of any internal or external report on outsourced activities. Responsibilities of the senior management or management body may not be outsourced.

Proposal 3 for ARMs only: ARMs have to meet additional obligations regarding connectivity arrangements with the NCAs' reporting systems and with their clients.

Policy Objective	Ensuring smooth functioning of the transaction reporting system
Proposal 3	ARMs must have policies, arrangements and technical capabilities in place to be able to comply with the technical specifications determined by the data reporting services provider's home NCA and by any other NCA to which the ARM will send transaction reports. The ARM must also demonstrate that it has adequate policies, arrangements and technical capabilities to enable investment firms to connect to the ARM's systems in order to receive transaction reports from those firms and to enable the transmission of information back to those firms, including but not limited to copies of the transaction reports which the ARM submitted to the competent authority on the firm's behalf.

5. Cost/benefit impact assessment

Proposal 1: Applies to all three categories of DRSPs and relates to the draft RTS Information to be provided by APAs, CTPs and ARMs on shared resources.

Proposal 1	List of information to be provided to NCAs on shared resources with entities belonging to the same group
	Qualitative description
Benefits	The draft RTS contributes to ensuring that DRSPs have sufficient human and technical resources available to meet their obligations at all times, even when sharing resources with entities within the same group. Market participants and NCAs ultimately benefit from these provisions.
Costs to regulator	One-off cost: NCAs will have more information to process (and store) for authorisation of DRSPs. On-going costs: NCAs will have more information to process for on-going supervision of DRSPs.
Compliance costs	DRSPs will incur one-off costs to provide the information requested on shared resources to NCAs, and on-going costs to update the information, as necessary.
Costs to other stakeholders	None

Indirect costs	None

Proposal 2: Applies to all three categories of DRSPs and relates to obligations, and information to be provided by APAs, CTPs and ARMs to the NCA in respect of outsourcing arrangements.

Proposal 2	Information to be provided to NCAs on outsourcing arrangements.
	Qualitative description
Benefits	The draft RTS contributes to ensuring that DRSPs they have sufficient human and technical resources available to meet their obligations at all times, even when some functions are outsourced. Market participants and NCA ultimately benefit from these provisions.
Costs to regulator	One-off costs: NCAs will have more information to process (and store) for authorisation, or when important activities are outsourced. On-going costs: NCAs will have more information to process for monitoring and on-going supervision of DRSPs.
Compliance costs	DRSPs will incur one-off costs to provide the information requested on outsourcing arrangements resources to NCAs, and to adjust underlying policies and procedure as needed. On-going costs will be incurred to update information, as well as underlying policies and procedures, as necessary.
Costs to other stakeholders	None
Indirect costs	None

Proposal 3 for ARMs only: ARMs have to meet additional obligations regarding connectivity arrangements with the competent authorities' reporting systems and with their clients.

Proposal 3	Connectivity arrangements for ARMs
	Qualitative description
Benefits	The RTS will contribute to transaction reports being provided to competent authority smoothly and without disruption. Completeness of transaction reporting is critical to enable competent authorities to monitor the activities of investment firms to ensure that they act honestly, fairly and

	professionally and in a manner which promotes the integrity of the market. This will ultimately contribute to market confidence and investor protection.
Costs to regulator	As home competent authorities, NCAs will have more information to process (and store) in relation to the authorisation of DRSPs. As competent authorities receiving transaction reports, NCAs will incur one-off costs for connectivity testing with ARMs.
Compliance costs	DRSPs will incur one-off staff, IT, and possibly outsourced fee costs to provide the information requested on policies, arrangements and technical capabilities for connectivity with competent authorities and clients. Clients may incur additional IT systems testing costs.
Costs to other stakeholders	Investment firms using ARMS to report their transactions may have to do further connectivity testing of IT systems with the ARM's.
Indirect costs	None

Organisational Requirements for APAs/CTPs and ARMs: Concrete organisational requirements

Introduction

In order to ensure that APAs, CTPs and ARMs are able to smoothly and efficiently fulfil their very critical functions on an on-going basis and meet the aim of improved transparency and transaction reporting, the Framework Directive sets out specific obligations for DRSPs in respect of (i) conflicts of interest, (ii) security mechanism and business continuity and (iii) erroneous reports. ESMA has to further specify the concrete organisational requirements to be met by DRSPs in those areas**.**

<u>Draft RTS on Article 64(8)(c), Article 65(8)(e) and Article 66(5)(b) of MiFID : Conflicts of Interest</u>

1. **Baseline**

From a legal perspective, the legislation to consider is Article 64(3) of MiFID II for APAs, Article 65(4) for CTPs and Article 66(2) for ARMs.

The wording of those three articles is almost identical. MiFID II requires for each type of the three DRSPs "to operate and maintain effective administrative arrangements designed to prevent conflicts of interest with its clients. In particular, a [DRSP] who is also a market operator or investment firm shall treat all information collected in a non-discriminatory fashion and shall operate and maintain appropriate arrangements to separate different business functions".

Empowerment/draft RTS

Under Article 64(8)(c) of MiFID II, ESMA has to develop draft RTS specifying concrete organisational requirements for APAs in respect of prevention of conflicts of interest;

under Article 65(8)(e) of MiFID II, ESMA has to develop draft RTS specifying concrete organisational requirements for CTPs in respect of prevention of conflicts of interest; and

under Article 66(5)(b) of MiFID II, ESMA has to develop draft RTS specifying concrete organisational requirements for ARMs in respect of prevention of conflicts of interest.

The incremental rules are the obligations set out in the draft RTS in respect of conflicts of interest against the status quo (including the MiFID baseline described above). However, as the Level 1 and Level 2 provisions are difficult to disentangle, any indication of costs related to the RTS will have to be considered as an upper bound.

In the jurisdiction that has set up a an indirect authorisation process for APA- like service providers, a firm intending to use the services of such publication arrangement must satisfy itself that this publication arrangement "has appropriate arrangements for managing conflicts of interests". No such formal reference to conflicts of interest policy was found in relation to ARMs or other transaction reporting systems in other jurisdictions. We have been in contact with two regulated markets, which currently provide OTC trade publication services to their members, as well as transaction reporting services. Those additional services are covered by the general professional secrecy provisions that govern the relationship between the regulated market and its members.

2. Stakeholders

Entities intending to provide DRSs: The stringent conflict of interest policy set out in the draft RTS will require adjustments/amendments in procedures and policies for entities currently providing similar services, including in terms of segregation of business and personnel, and will be a source of one-off and on-going compliance costs.

NCAs in charge of the authorisation and supervision of DRSPs will incur additional one-off and on-going costs to process, and store, the information (authorisation and on-going supervision).

Investment firms using the services of APAs and/or ARMs to publish trades or report transactions will be positively affected by the conflict of interest policy.

Market participants accessing post -trade transparency information through APAs and CTPs will be positively impacted as conflict of interest policies and procedures support the quality and integrity of the information published.

3. Technical Options

Technical proposal: Policies, procedures and arrangements to be set up by DRSPs to prevent, identify and mange conflicts of interest.

Policy objective	Ensuring that potential or existing conflicts of interest faced by DRSPs are identified and properly managed.
Technical proposal	For conflicts of interest that may arise within a DRSP between the and any other services which the DRSP offers: - set up and maintenance of policies and procedures with respect of the identification, management, and disclosure of such potential or existing conflicts of interest, including segregation of duties and business functions within the DRSP, determination of the fees charged, and management of inside information; - annual report to the competent authority on the management of conflicts of interest + copy of internal assessment performed to identify existing or potential conflicts of interest between the DR service and any other services. For conflicts of interest in relation to clients: - organisational and administrative arrangements aimed at preventing conflicts of interest that may affect the interests of clients. If the organisational arrangements are not sufficient to ensure that risks of damage to client interests will be prevented, the DRSP must disclose the general nature and/or sources of conflicts of interest to the clients before providing any service to them.

4. Cost/benefit impact assessment

Technical proposal: Policies, procedures and arrangements to be set up by DRSPs to prevent, identify and mange conflicts of interest.

Technical proposal	Identification and management of conflicts of interests
	Qualitative description
Benefits	Proper identification and management of conflicts of interest by DRSPs should contribute to enhance quality of, and confidence in, the services provided by DRSPs to clients. Clients of APAs and ARMs will be confident that they are treated fairly and that the DRSP does not take advantage of the information provided one way or another.

	Market participants and NCAs will ultimately benefit from these provisions.
Costs to regulator	One-off cost: NCAs will have more information to process (and store) for authorisation of DRSPs and may incur additional staff, training and IT costs. On-going costs: NCAs will have more information to process for on-going supervision of DRSPs.
Compliance costs	DRSPs will likely incur one-off costs to set-up or enhance policies and procedures for identification, management and disclosure of conflicts of interest both internally and vis-à-vis their clients. Annual reports to the competent authority and internal assessment of conflicts of interests will be a source of on-going staff costs and possibly outsourced fees.
Costs to other *stakeholders*	None
Indirect *costs*	None

<u>Draft RTS on Articles 64(8)(c), 65(8)(e) and 66(5)(b) of MiFID: Security mechanisms and Continuity</u>

1. **Baseline**

From a legal perspective, the legislation to consider is:

for APAs, Article 64(4) of MiFID II, which provides that APAs must “ have sound security mechanisms in place designed to guarantee the security of the means of transfer of information, minimise the risk of data corruption and unauthorised access and to prevent information leakage before publication. (…) The APA/CTP shall maintain adequate resources and have back-up facilities in place in order to offer and maintain its services at all times”;

for CTPs, Article 65(5) of MiFID II, which provides that the CTP must “have sound security mechanisms in place designed to guarantee the security of the means of transfer of information and to minimise the risk of data corruption and unauthorised access. (…) The CTP shall maintain adequate resources and have back-up facilities in place in order to offer and maintain its services at all times”;

for ARMs, Article 12 of the MiFID Implementing Regulation, which sets out that a transaction reporting system must:

(a) ensure the security and confidentiality of the data reported (…),
(c) incorporate mechanisms for authenticating the source of the transaction report,

(d) be capable of reporting the information required in the format required by the competent authority,

as supplemented by Article 66(3) of MiFID II. The wording of Article 66(3) slightly differs from the APA/CTP provision to accommodate the ARM specificity and requires the ARM "to have sound security mechanisms in place designed to guarantee the security and authentication of the means of transfer of information, minimise the risk of data corruption and unauthorised access and to prevent information leakage, maintaining the confidentiality of the data at all times.(…) The ARM shall maintain adequate resources and have back-up facilities in place in order to offer and maintain its services at all times".

Empowerment/draft RTS

Under Article 64(8)(c), Article 65(8)(e) and Article 66(5)(b) of MIFD II, ESMA has to develop draft RTS specifying concrete organisational requirements for APAs in respect of security mechanisms, capacity and business continuity for APAs, CTPs and ARMs respectively.

The incremental rules are the obligations set out in the draft RTS in respect of security mechanisms and business continuity arrangements compared to the MiFID II baseline described above. When current market practices, including NCAs' practices are above the MiFID II baseline, those market practices will be taken into account for the cost-benefit analysis. However, the extent to which the draft RTS creates additional obligations compared to Level 1 text is debatable. As the Level 1 and Level 2 provisions are difficult to disentangle, any indication of cost related to the draft RTS will have to be considered as an upper bound.

2. Stakeholders

Entities intending to provide DRSs may need to adjust security mechanisms and business continuity arrangements and incur one-off and on-going related costs.

Market participants accessing post-trade transparency information through APAs and CTPs will be, indirectly, positively affected as the draft RTS contributes to the integrity and the continuity of the information provided.

NCAs will incur additional one-off and on-going costs to deal with the requirements set out in the draft RTS (authorisation and on-going supervision) on the one hand and will benefit from improved quality and continuity in the transactions reports received on the other hand.

Investment firms using the services of APAs and/or ARMs to publish or report their transactions will be more confident that there is no unauthorised access to their data, which is all the more important when they include confidential information.

3. Technical Options

The Technical proposal includes three cumulative elements to protect the integrity of the information coming out of the systems of a DRSP as well as the continuity of the information flow.

Proposal 1 addresses the security procedures and arrangements to be put in place by DRSPs as well as the information to be provided by ARMs to clients and relevant competent authorities in case of incidents.

Proposal 2 addresses the arrangements to be set up by DRSPs to ensure continuity and regularity in the performance of the services as well as the information to be made public and provided to relevant competent authorities in case of interruption of services or disruption in connectivity.

Proposal 3 addresses the obligations on DRSPs regarding systems' development and testing methodology as well as systems' scalability.

Policy objective	Enhancing the integrity, and continuity of the data flow coming out of the DRSP systems either for publication or transaction reporting purposes.
Proposal 1	Security mechanisms The DRSP must have procedures and arrangements for physical and electronic security designed to protect their systems from misuse or unauthorised access, to prevent unauthorised disclosure of information and to ensure the integrity of data. The DRSP must promptly inform its NCA and clients in case of a breach in the physical and electronic security and provide an incident report to its competent authority. An ARM must promptly notify and send an incident report to its home NCA and any other NCAs to which it submits transaction reports.
Proposal 2	Business continuity and back- up facilities The systems used by the DRSP must be adapted to its activity and robust enough to ensure continuity and regularity in the performance of the services provided. The DRSP has to carry out reviews at least annually and evaluate its technical infrastructures and must also conduct a business impact analysis to identify critical business functions together with risk scenario analysis. The DRSP must be able to demonstrate on an ongoing basis that its systems have sufficient stability by having effective business continuity arrangements to address disruptive incidents, including maximum recovery time of six hours for APAs and CTPs and until the close of the next working days for ARMs. The DRSP has to promptly report to its home NCA and make public any interruptions of services or connection disruptions as well as the

	time estimated to resume a regular service + information to the clients and its home NCA about any other disruption. ARMs also have to inform any other NCA to whom they submit transactions.
Proposal 3	Testing and Capacity: DRSPs must, prior to deploying any system updates, make use of clearly delineated development and testing methodologies. APAs and CTPs to promptly notify their home NCA of any significant system changes prior to the implementation of those changes. ARMs to notify other CAs to whom they submit transaction reports as well. As part of on-going testing programme, stress test to be run at least on an annual basis. APAs and CTPs to perform periodic reconciliation between the trade information received and the information published; CTPs to perform periodic reconciliations at the request of home NCA or NCA to which the ARM submits transaction reports. DRSPs to have sufficient capacity to accommodate without delay any increase in the amount of information to be processed and in the number of access requests from clients.

4. Cost/benefit impact assessment

Proposal 1 addresses the security procedures and arrangements to be put in place by DRSPs as well as the information to be provided by ARMs to clients and NCA in case of incidents.

Proposal 1	Security mechanisms to protect DRSPs systems from misuse or unauthorised access.
	Qualitative description
Benefits	Complete and accurate data is vital to the reliable functioning of the transparency regime and for monitoring the integrity of the market. Security mechanisms will be of particular benefit for ARMs' clients as non-public information passes through an ARM system.
Costs to regulator	One-off costs: NCAs will have more information to process (and store) for authorisation of DRSPs. On-going costs: NCAs will have more information to process for on-going

	supervision of DRSPs.
Compliance costs	Depending on where they currently stand on this issue, DRSPs may incur one-off IT and other costs to enhance procedures and arrangements to prevent misuse of, or unauthorised access to their systems. They will potentially incur on-going costs to inform NCAs and clients and to provide incident reports to the former if and when there is a breach of security.
Costs to other stakeholders	None
Indirect costs	None

Proposal 2 addresses the arrangements to be set up by DRSPs to ensure continuity and regularity in the performance of the services as well as the information to be made public and provided to relevant NCAs in case of interruption of services or disruption in connectivity.

Proposal 2	Business continuity and back- up facilities
	Qualitative description
Benefits	Increased certainty/confidence in on-going availability of post-trade information for market participants and of transaction reports for NCAs. Maximum recovery time will limit potential adverse impact if interruption/disruption in the provision of services occurs nonetheless.
Costs to regulator	One-off costs: NCAs will have more information to process (and store) for authorisation of DRSPs. On-going costs: NCAs will have more information to process for on-going supervision of DRSPs.
Compliance costs	Depending on where they currently stand on this issue, and on the service(s) provided DRSPs may incur one-off IT and other costs to enhance their systems to ensure continuity and regularity in the performance of services, including with respect to maximum recover time. They will incur on-going costs for periodic review and update of services and, potentially, for the provision of information to competent authorities and clients in case of disruption of service.
Costs to other *stakeholders*	None

Indirect costs	None

Proposal 3 addresses the obligations on DRSPs regarding systems' development and testing methodology as well as systems' scalability.

Option 3	Testing methodologies and system capacity
	Qualitative description
Benefits	Increased certainty/confidence in on-going availability of post-trade information for market participants and of transaction reports for NCAs.
Costs to regulator	One-off costs: NCAs will have more information to process (and store) for authorisation of DRSPs. On-going costs: NCAs will have more information to process for on-going supervision of DRSPs.
Compliance costs	DRSPs will incur ongoing IT costs to test systems' update and periodic review of system's capacity. APAs and CTPs will incur on-going costs for notifying NCAs of potential significant changes to their systems and for running stress tests at least annually.
Costs to other stakeholders	NCAs, in respect of ARMs, and clients of DRSPs may incur additional on-going costs for testing of DRSPs' updated systems.
Indirect costs	None

<u>Draft RTS on Articles 64(8)(c), 65(8)(e) and 66(5)(b) of MiFID: Identification and correction of errors</u>

1. **Baseline**

The legislation to consider is:

For APAs, Article 64(5) of MiFID II, which requires "the APA to have systems in place that can effectively check trade reports for completeness, identify omissions and obvious errors and request re-transmission of any such erroneous reports". The Framework Directive builds on Article 32(a) of the MiFID Implementing Regulation under which "Any arrangement to make information public (…) must include all reasonable steps necessary to ensure that the information to be published is reliable, monitored continuously for errors and corrected as soon as errors are detected (…)".

For CTPs, Article 65(1) and 65(2) of MiFID II which require the CTP to be able to "efficiently and consistently disseminate information".

For ARMS, Article 66(4) of MiFID II, which require the ARM to "have systems in place that can effectively check transaction reports for completeness, identify omissions and obvious errors caused by the investment firm and where such error or omission occurs, to communicate details of the error or omission to the investment firm and request re-transmission of any such erroneous reports". The Framework Directive builds on Article 12(b) of the MiFID Implementing Regulation which requires transaction reporting systems to "incorporate mechanisms for identifying and correcting errors in a transaction report".

Empowerment/ draft RTS

Under Article 64(8)(c) of MiFID II, ESMA has to develop draft RTS specifying the concrete organisational requirements for APAs in respect of identification of errors.

Under Article 65(8)(d), ESMA has to develop draft RTS specifying other means to ensure that the data published by different CTPs is consistent and allows for comprehensive mapping and cross-referencing against similar data from other sources, and is capable of being aggregated at Union level.

Under Article 66(5)(b), ESMA has to develop draft RTS specifying the concrete organisational requirements for APAs in respect of identification of errors.

The incremental rules are the obligations set out in the draft RTS in respect of security mechanisms and business continuity arrangements. However, the extent to which the draft RTS creates additional obligations compared to Level 1 text is debatable. As the Level 1 and Level 2 provisions are difficult to disentangle, any indication of cost related to the draft RTS will have to be considered as an upper bound.

2. Stakeholders

Entities intending to provide DRSs will incur one-off and on-going costs to adapt to the draft RTS but will benefit from more certainty as to their actual responsibilities in respect of error correction.

NCAs will incur additional one-off and on-going costs to deal with the requirements set out in the draft RTS (authorisation and on-going supervision) on the one hand and will benefit from improved quality and continuity in the transactions reports received on the other hand.

Investment firms using the services of APAs and/or ARMs to publish or report their transactions will benefit from more clarity and certainty as to respective responsibilities in respect of error correction as this will no longer be left to contractual arrangements.

Market participants accessing post -trade transparency information through APAs and CTPs will be positively affected indirectly as the RTS contributes to the quality of the information provided.

3. Technical Options

The technical proposal includes two technical elements regarding the identification and corrections of errors by DRSPs.

Proposal 1 is aimed at APAs and CTPS.

Proposal 2 is aimed at ARMs. There is much common ground in the two options as regards the DRSP's responsibilities and allocation of responsibilities between the DRSP and its clients for error corrections. Some additional provisions in proposal 2 address the ARM's relationship with NCAs.

Policy objective	Contributing to the quality of post-trade transparency information and transaction reports
Technical Option 1	APAs and CTPs: APAs and CTPs to have in place appropriate arrangements and controls to ensure that they publish the information received without introducing any errors or omissions in the trade information+ ability to correct the information where the APA or CTP has itself caused the error or omission. APAs to have in place appropriate arrangements to identify on receipt trade reports that are incomplete or contain information that is likely to be erroneous. Where the trade report is incomplete or likely to be erroneous, APAs not to publish the information and to alert the submitting entity. APA and CTP to have the capacity to delete and amend information received upon request by the entity providing the information when that entity cannot delete or amend its own information for technical reasons in exceptional circumstances.
Technical Option 2	ARMs: ARMs to set up and maintain appropriate arrangements to identify transaction reports that are incomplete or contain obvious errors caused by the investment firms or by the ARM itself. Validation to be performed at a minimum for field, format and content of fields according to the technical specifications. ARMs to be able to demonstrate at all times to their home NCA continuous real-time monitoring of the performance of their systems and ensure with reasonable certainty that the information is

	successfully reported to the competent authority. For obvious errors or omissions caused by the investment firm, no submission to the competent authority but notification of the client of the details of the error or omission to enable the client to correct and re-transmit the information. Where cancelation of, or amendment to, a transaction report at the client's request, ARMs to provide updated information to the client. ARMs to correct transaction reports where the ARM itself has caused the error or omission + notification of the client, the home NCA and the NCA to which the ARM reported the information about the error or omission.

4. Cost/benefit impact assessment

Technical Option 1: The draft RTS provides additional clarity and certainty as to the type of errors that APAs and CTPs have to correct at their own initiative. It also clarifies that an incomplete or likely erroneous trade must not be published by an APA or a CTP.

Technical Option 1	Identification and correction of errors by APAs and CTPs
	Qualitative description
Benefits	Accurate data is vital to the reliable functioning of the transparency regime. The draft RTS provides clarity and certainty as to APAs' and CTPs' obligations and responsibilities in respect of correction of errors and benefits DRSPs as well as their clients. Ultimately, all market participants' will benefit from improved data quality resulting from the obligations set out in the draft RTS.
Costs to regulator	One-off costs : NCAs will have more information to process (and store) for authorisation of DRSPs. On-going costs: NCAs will have more information to process for on-going supervision of DRSPs.
Compliance costs	Subject to current market practices, DRSP applicants will likely incur one-off IT and other compliance costs to enhance systems for error detection and correction. Monitoring and periodic review of those systems will be a source of on-

	going costs.
Costs to other stakeholders	None, except if additional obligations on DRSPs translate into higher fees.
Indirect costs	None

Technical Option 2: The draft RTS provides additional clarity and certainty as to the type of errors that ARMs have to correct at their own initiative. It also clarifies that in case obvious errors or omissions, the transaction must not be reported by the ARM.

Technical Option 2	Identification and correction of errors by ARMs
	Qualitative description
Benefits	Accurate data is vital for monitoring the activities of investment firms and the integrity of the market; the draft RTS will contribute to enhancing the quality of the transaction reports received by NCAs. It provides clarity and certainty as to the ARMs' obligations and responsibilities in respect of correction of errors and benefits ARMs as well as firms reporting transactions through ARMs.
Costs to regulator	One-off costs: NCAs will have more information to process (and store) for authorisation of DRSPs. On-going costs: NCAs will have more information to process for on-going supervision of DRSPs.
Compliance costs	Subject to current market practices, ARM applicants will likely incur one-off IT and other compliance costs to enhance systems for error detection and correction Monitoring and periodic review of those systems will be a source of on-going costs.
Costs to other stakeholders	None, except if additional obligations on DRSPs translate into higher fees.
Indirect costs	None

5.2. Publication chain of post-trade transparency information

Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[74], ESMA is empowered to develop draft regulatory technical standards (RTS) where the European Parliament and the Council delegate power to the Commission to adopt RTS by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft RTS and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft RTS.

MiFID II introduces a new type of services that are subject to authorisation and supervision to ensure the necessary level of quality: Data Reporting Services (DRSs). DRSs include the operation of an Approved Publication Arrangement (APA), the operation of a Consolidated Tape (CT) and the operation of an Approved Reporting Mechanism (ARM). MiFID II provides for the overall regulatory framework governing Data Reporting Services Providers (DRSPs) globally and for each of them more specifically, where appropriate.

This purpose of these draft RTS is to further specify the obligations to be met by APAs and Consolidated Tape Providers (CTPs) when publishing transactions to facilitate access to, and consolidation of, the information. It supplements the draft RTS on authorisation and organisational requirements for DRSPs.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against the MiFID/MiFIR baseline. Whenever market practices are above what is being required by MiFID/MiFIR, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[75] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions. In this case, this will be noted in our analysis.

After a short introduction, this document includes, for each draft RTS, (i) an explanation of the baseline i.e. of the starting point against which the incremental rule arising from the draft RTS is assessed, (ii) the identification of stakeholders (iii) a summary description of the technical proposals for the draft RTS, and (iv) an interim qualitative analysis providing a first overview of the benefits and costs associated with the proposals set out in the draft RTS.

Introduction

Draft RTS on Article 64(6) and 65(6) of MiFID II: Technical Arrangements facilitating the consolidation of information

1. **Baseline**

[74] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
[75] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

From a legal perspective, the legislation to consider is:

i. **For APAs**, although the APA service is formally introduced by MiFID II, it can be considered however that the legal baseline for any arrangement used for making the information public is Article 32(b) of the MiFID Implementing Regulation, as supplemented by the CESR Level 3 Guidelines (CESR/07-043);

Article 32(b) of the MiFID Implementing Regulation provides that "Any arrangement to make information public shall satisfy the following conditions (…) (b) it must facilitate the consolidation of the data with similar data from other sources".
In the CESR Level 3 Guidelines and recommendations on publication and consolidation of MiFID Market Transparency Data (CESR/07-043), CESR considered information as being made public in accordance with Article 32(b), if :

1) it is accessible by automated electronic means in a machine readable way;
2) it utilises technology that facilitates consolidation of the data and permits commercially viable usage; and
3) it is accompanied by instructions outlining how users can access the information.

CESR considered that an arrangement fulfils the 'machine-readable' criteria where the data:

1) is in a physical form that is designed to be read by a computer;
2) is in a location on a computer storage device where that location is known in advance by the party wishing to access the data; and
3) is in a format that is known in advance by the party wishing to access the data.

The Implementing Regulation provision has been moved to MiFID II under Article 64(1) of MiFID II which requires APAs "(…) to be able to efficiently and consistently disseminate information (…) in a way that facilitates the consolidation of information with similar data from other sources".

ii. **For CTPs**, the legal baseline is Article 65(1) of MIFID II which requires CTPS "(..) to be able to efficiently and consistently disseminate information (..) in formats that are easily accessible and utilisable for market participants.

Empowerment/ RTS

Article 64(6) of MiFID II empowers ESMA to develop draft RTS for APAs to determine "(...) technical arrangements facilitating the consolidation of information".

Article 65(6) of MiFID II empowers ESMA to develop draft RTS for CTPs to determine "(...) technical arrangements promoting an efficient and consistent dissemination of information in a way ensuring for it to be easily accessible and utilisable for market participants".

The draft RTS strengthen the criteria for data to be considered published in a "machine readable" way compared to CESR Guidelines. While intending to remain "technology" neutral, the amendments made to the previous criteria aims at further facilitate access to, and consolidation of a data.

The incremental rule relates to the obligation set out in the draft RTS compared either to current market practices, where those market practices would go further than the MiFID/MiFID II baseline described above, or the MiFID/MiFID II baseline.

As the costs related to the Level 1 text and the Level 2 implementing measures are very difficult to disentangle, any indication of costs is to be taken as an upper bound.

2. Stakeholders

Entities operating publication arrangements under MiFID, including operators of trading venues, and other entities intending to apply for authorisation to operate an APA and/or a CT: Further research will be conducted for the final cost-benefit analysis but, at this stage, it is not expected that the revised "machine–readable" criteria per se would be a source of significant cots, if any, for entities with a business model and strategy in data dissemination that may seek to apply for such authorisation under MiFID II.

NCAs will have to amend authorisation requirements/procedures to include revised requirements.

Investment firms, asset management companies, end-investors, issuers and all other market participants wishing to access market data easily without undue latency.

3. Technical Options

The information published by APAs and CTPs must be made available to users easily and continuously. The draft RTS proposes a revised definition of the "machine-readable" criteria, based on the CESR Level 3 Guidelines and recommendations on publication and consolidation of MiFID Market Transparency Data (CESR/07-043).The additions or changes compared to the MiFID baseline appear in bold characters.

Policy objective	Facilitating the consolidation of information published by APAs and making sure that the information disseminated by CTPs is easily accessible and utilisable.
Technical proposal	An APA or a CTP shall publish its data in a machine readable way. Data shall be considered published in a 'machine readable' way where: (a) it is in **an electronic format** designed to be **directly and automatically** read by a computer and known in advance by the party wishing to access the data. (b) it is in a location known in advance by the party wishing to access the data and **stored in an appropriate IT architecture in accordance with Article 12(7) of the draft RTS on publication arrangements for CTPs and APAs, that enables automatic access**;

	(c) **it is robust enough to ensure continuity and regularity in the performance of the services provided and ensures adequate access in terms of speed.** (d) **it can be accessed, read, used and copied by freely and publicly available computer software, the source code of which is openly shared.** **For the purposes of the previous paragraph "electronic format" includes the type of files or messages, the rules to identify them, and the name and data type of the fields they contain.** An APA or a CTP shall make instructions available **to all parties** explaining how users can access and **use the data easily and continuously. Changes to those instructions shall be made public at least one month before coming into effect. The homepage of an APA or a CTP should contain a link to this information, if applicable.**

4. Cost/benefit impact assessment

Technical proposal	"Machine readability" obligations
	Qualitative description
Benefits	Readily accessible information on how to access and use APA and CTP data, combined with an open architecture environment, will further facilitate access by all parties to APA and CTP data. A one-month prior notice will allow users to anticipate changes and amend their systems as needed to continue to access data without disruption. Direct and automatic computer reading of data will reduce latency for consolidation of APA data by CTPs, and access by others users of APA and CTP data.
Costs to regulator	The related cost can be considered as included in the overall costs incurred by NCAs for setting up/amending DRSP authorisation requirements/procedures and supervision.
Compliance costs	APAs and CTPs applicants may have to adjust IT systems to the new machine readability criteria. One-month prior notice maybe be a source of costs for the DRSP where changes are aimed at improved efficiency in the CTP or APA publication

	arrangements. Costs related to business continuity requirements are included in the costs to be considered under the draft RTS on organisational requirements for DRSPs.
Costs to other stakeholders	None
Indirect costs	None

Draft RTS on Article 65(8)(c) of MiFID II: Scope of the consolidated tape for equity and equity-like instruments

1. Baseline

From a legal perspective, the legislation to consider is Article 65(1) of MiFID II, which provides that a CTP must have “adequate policies and arrangements in place to collect the information made public in accordance with Articles 6 and 20 of Regulation (EU) No 600/2014, consolidate it into a continuous electronic data stream (…)”.

Empowerment/RTS

Under Article 65(8)(c) of MiFID II, ESMA has to draft RTS specifying

“(c) the financial instruments data which must be provided in the data stream and for non-equity instruments the trading venues and APAs which need to be included.”

The European Commission’s services have indicated to ESMA that the consolidated tape for equities and equity-like instruments should encompass transactions with respect to all equities and equity-like instruments traded on a trading venue, whether the transaction takes place on- venue or OTC, i.e. 100% of trading in those financial instruments.

At this stage, the incremental rule arising from the draft RTS is considered to be the obligation for the CTP to consolidate data stream from new APAs and trading venues as soon as possible and no later than 3 months after the start of their operations.

However, it is debatable as to whether the 3 month maximum period given to a CTP to consolidate data streams coming from new trading venues or APAs is a source of additional costs per se. In any case, the effects of the Level 1 text and of the draft advice are very difficult to disentangle and any indication of costs is to be taken as an upper bound.

2. Stakeholders

CTPs: CTPs will face one-off and on-going IT and management costs to deal with the additional data feed to be consolidated from new trading venues and APAs but these costs derive more from the requirements to publish 100% of the transactions in equity and equity-like instruments traded on trading venues than from the time-frame provided in the draft advice. At this stage, it is expected that providing a CTP a maximum 3 month period to consolidate additional data feed will be a source of flexibility rather than of additional costs. The maximum 3 month period could be a source of more significant costs where it would require the CTP to postpone or cancel other project development to meet the deadline.

NCAs: the CTP NCA will have to monitor compliance with the set deadline but this is not expected to be a source of significant costs.

Trading venues and APAs may be indirectly impacted if they have to wait up to 3 months to see their data consolidated by the CTP. This may potentially be seen as a competitive disadvantage for new entrants.

3. Technical Options

Consolidation of data stream from new APAs and trading venues by CTPs.

Policy objective	Enhanced post-trade transparency framework
Technical proposal	1. The data stream of the consolidated tape shall include data made public pursuant to Articles 6 and 20 of Regulation 600/2014 relating to all financial instruments mentioned therein; 2. When a new APA or a new trading venue starts operating, a CTP shall include the data made public by this APA or trading venue in the data stream of its consolidated tape as soon as possible, and in any case no later than 3 months after the start of the APA's or trading venue's operations.

4. Cost/benefit impact assessment

Technical Proposal	Consolidation of data stream from new APAs and trading venues by CTPs as soon as possible and no later than 3 months after the start of their operations.
	Qualitative description
Benefits	The comprehensiveness of the consolidated tape will only be affected for a limited period of time in case of new APAs and trading venues, to the benefit of those new entrants and to market participants globally.
Costs to regulator	None
Compliance costs	None, unless the CTP has to postpone or cancel other developments to

	meet the 3-month deadline.
Costs to other stakeholders	None
Indirect costs	APAs, and more likely trading venues, may face a competitive disadvantage if they have to wait up to 3 months to have their data consolidated.

RTS Article 64(6) and Article 65(8)(d) of MiFID II: Consolidation of information specific to equity-like and equity-like instruments

1. **Baseline**

From a legal perspective, the legislation to consider is:

- for APAs, Article 64(1) of MiFID II under which an APA must "(…) be able to efficiently and consistently disseminate such information in a way that ensures fast access to the information, on a non-discriminatory basis and in a format that facilitates the consolidation of the information with similar data from other sources";
- for CTPs, Article 65(1) of MiFID II under which a CTP must "(…) be able to efficiently and consistently disseminate such information in a way that ensures fast access to the information, on a non-discriminatory basis and in formats that are easily accessible and utilisable for market participants".

Empowerment/RTS

Under Article 64(6) of MiFID II, ESMA has to develop draft RTS for APAs "specifying (…) technical arrangements facilitating the consolidation of information as referred to in [Article 64(1)]".

Under Article 65(8) of MiFID II, ESMA has to develop draft RTS specifying:

(a) "other means to ensure that the data published by different CTPs is consistent and allows for comprehensive mapping and cross-referencing against similar data from other sources, and is capable of being aggregated at Union level".

As opposed to the publication of OTC transactions in non-equity instruments where MiFID II explicitly states that the transactions may only be published through a single APA, the Directive does not exclude the publication of equity-and equity-like transactions through multiple APAs. In order to avoid any misleading publication by APAs as well as any double consolidation of the same transaction by a CTP, the draft RTS sets up a mechanism to identify potential "reprints" of a transaction.

The incremental obligation associated with the draft RTS, compared to the MiFID baseline described above is the addition of a reprint field to the transaction passed on to the APA by the investment firm and published by the APA, and the additional test to be conducted by the CTP to ensure that no reprint is included in the consolidated tape. However, here again, it is very difficult to separate the impact of the Framework Directive and of the Level 2 measure. Any indication of costs is therefore to be taken as an upper bound.

2. Stakeholders

Investment firms: Investment firms will incur some additional IT costs to add a reprint field to flag transactions reported to an APA as original ones or as duplicates only where they would chose to report transactions to more than one APA.

APAs: APAs will incur some additional IT costs to adapt their systems to receive transactions reports from investment firms that would include additional fields and to publish those transactions with the appropriate flag in the additional reprint field.

CTPs: CTPs will have to run additional tests to identify transactions published by APAs that are a reprint so as not to include them in the consolidated tape.

Market participants will be positively affected by the accuracy and reliability of the information published by APAs and CTPs.

3. Technical Options

The draft RTS set up a procedure involving investment firms, APAs and CTPs seeking to ensure that the CT does not ultimately publish the same transaction twice.

Policy objective	Accuracy and reliability of APAs and CT data.
Technical proposal 1	An APA shall publish transactions reported by investment firms in a format that facilitates consolidation by including a reprint field. Where an APA publishes a trade report which is a reprint, it shall populate the reprint field with the code ‘Z’ to enable recipients of the data to differentiate between original trade report and duplicates of such report. For the purposes of paragraph 1 and 2, an APA shall require each investment firm: d. to certify that it only reports transactions through that APA; or e. to use an identification mechanism which flags one report as the original one (‘ZX’), and all other reports of the same transaction as duplicates (‘Z’). A CTP shall not publish information in relation to a transaction published by an APA where there is a code ‘Z’ in the reprint field for that

	transaction.

4. Cost/benefit impact assessment

The draft RTS set up a procedure involving investment firms, APAs and CTPs seeking to ensure that the consolidate tape does not ultimately publish the same transaction twice.

Technical Proposal	Where necessary, addition of a reprint field to the transactions reported by investment firms to APAs and by APAs to CTPs and test to be conducted by CTP to avoid publication of reprints.
	Qualitative description
Benefits	Ensuring that there is no multiple publication of the same transaction through the publication chain. Enhanced reliability of OTC data published by APAs and consolidated by CTPs, to the benefit of all market participants.
Costs to regulator	Supervisors will have to amend authorisation requirements/procedures and may incur additional supervisory costs. Those costs are expected to be non-significant for these draft RTS but cumulative costs for regulators associated with APAs and CTPs may be more significant.
Compliance costs	• Where they decide to send transactions to multiple APAs, Investment firms will incur one-off and minor ongoing IT costs to add a new field to transactions sent to APAs and populated it for each transaction; • APAs will incur one-off staff, and possibly legal, costs to inform investment firms of the new obligation and seek confirmation as to whether transactions are only made public through their own systems. APAs will also incur one-off IT costs to adapt their systems to the new reprint field and do some testing with the investment firms' reporting systems; • CTPs will incur on-going IT costs to run tests and exclude reprinted transactions published by APAs from the consolidated tape.
Costs to other stakeholders	None
Indirect costs	None

Draft RTS on Article 65(8)(a) and (b) and Article 64(8)(a) and (b) of MiFID II: Content of information to be published by APAs and CTPs

1. **Baseline**

From a legal perspective, the legislation to consider is:

- for APAs, Article 64(1) of MiFID II under which an APA must "(…) be able to efficiently and consistently disseminate such information in a way that ensures fast access to the information, on a non-discriminatory basis and in a format that facilitates the consolidation of the information with similar data from other sources". Article 64(2) lists the details of the information to be at least published by an APA, which include "(...)(d) the time of the transaction", (e) the time the transaction was reported (…)";
- for CTPs, Article 65(1) of MiFID II under which a CTP must "(…) be able to efficiently and consistently disseminate such information in a way that ensures fast access to the information, on a non-discriminatory basis and in formats that are easily accessible and utilisable for market participants". Article 65(1) goes on listing the details of the information to be at least published by a CTP, which include "(...)(d) the time of the transaction", (e) the time the transaction was reported (...)".

Empowerment/RTS

Under Article 65(8)(a) and (b) of MiFID II, ESMA has to develop draft RTS specifying:

a) the means by which the CTP may comply with the information obligation referred to in paragraphs 1 and 2;
b) the content of the information published under paragraphs 1 and 2.

Under Article 64(8)(a) and (b) of MiFID II, ESMA has to develop draft RTS specifying:

a) the means by which an APA may comply with the information obligation referred to in paragraph 1;
b) the content of the information published under paragraph 1, including at least the information referred to in paragraph 2 in such a way as to enable the publication of information required under Article 64.

The draft RTS clarify how "the time the transaction was reported" is to be understood both for APAs and CTPs. It is not considered that the clarification provided in the draft RTS on this specific issue is a source of additional obligations compared to the Level 1 text.

The additional obligations coming from the draft RTS is the additional information to be published by APAs and CTPs under the draft RTS compared to the status quo, including the MiFID baseline described above. They relate:

- for APAs, to the granularity and accuracy of time stamping for transaction publication;
- for CTPs, to the assignment of a trade identifier to each transaction published and the identification of the trading venue or APA that first published the transaction.

2. **Stakeholders**

APAs may incur additional one-off and ongoing IT costs to amend their systems and ensure transactions are published with a timestamp granularity and accuracy up to the millisecond.

CTP will incur one-off and on-going IT costs to set up a system whereby a unique identifier is assigned to, and publish with, each transaction, and to include identification of relevant APAs and trading venues in the information published.

NCAs may face some costs for monitoring compliance with the obligations. The costs associated with these specific requirements are not expected to be significant, although supervisory functions may be more significantly impacted by the cumulative obligations to be met by APAs and CTPs. On the opposite, NCAs will benefit from the comprehensive set of data available throughout the publication chain.

Markets participants will be positively impacted by the comprehensive set of information made available to serve as reference. Granular time stamping and identification of sources will help better understand market reactions.

3. Technical Options

The draft RTS specify the information to be made public by APAs and CTPs, in addition to the information passed on to them for publication.

The additional obligations compared to the Level 1 text appear in bold characters.

Policy objective	Enhanced post-trade transparency
Technical Proposal 1 for APAs	Where publishing the information on when the transaction was reported, an APA shall include the date and time, **up to the second**, it publishes the transaction. **By way of derogation to paragraph 1, an APA that publishes information regarding transactions executed on an electronic system, shall include the date and time, up to the millisecond, it publishes all transactions.** **Timestamps referred to in paragraphs 1 and 2 shall, respectively, not diverge by more than one second or millisecond from the Coordinated Universal Time (UTC) issued and maintained by one of the timing centres listed in the latest Bureau International des Poids et Mesures (BIPM) Annual Report on Time Activities.**
Technical Proposal 2 for CTPs	The information on when the transaction was reported shall include the date and time it was first published by an APA or a trading venue. A CTP shall ensure that when disseminating information about a transaction received from a trading venue it includes the date and time when the transaction was published. **The information made public by a CTP in accordance with Article 65 of Directive 2014/65/EU shall include the identification of an**

	APA or a trading venue from which the CTP has received the information. **A CTP shall assign and publish a unique identifier, valid for one calendar day, to each trade they publish.**

4. Cost/benefit impact assessment

Technical Proposal 1 for APAs	Granular and accurate time stamping of transactions published by APAs
	Qualitative description
Benefits	Granularity: Knowing the precise time at which a transaction was first made public provides useful information to understand to what events the market reacted and when. Accurate time stamping will ensure a reliable audit chain for trade information.
Costs to regulator	NCAs will have to amend authorisation requirements/procedures and may incur additional supervisory costs. Those costs are expected to be non-significant for these draft RTS but cumulative costs for NCAs associated with APAs and CTPs DRSP may be more significant.
Compliance costs	APAs will incur one-off and ongoing IT costs to add, and populate, the required fields to the data stream they publish and to ensure granular and accurate time stamping.
Costs to other stakeholders	None
Indirect costs	None

Technical Proposal 2 for CTPs	Publication by the CTP of its source (trading venues/APAs) and of a unique identifier for each trade published.
	Qualitative description
Benefits	Will enable market participants and NCAs to refer to a specific trade in the consolidated tape and conduct more refined market analysis.

Costs to regulator	Regulators will have to amend authorisation requirements/procedures and may incur additional supervisory costs. These costs are expected to be non-significant for these draft RTS.
Compliance costs	CTPs will incur one- off and ongoing IT costs to add, and populate, the required fields to the data stream they publish.
Costs to other stakeholders	None
Indirect costs	None

5.3. Data disaggregation

Draft RTS under Article 12(2) of MiFIR: Determination of the level of disaggregation of data that is being made available to the public by trading venues

1. **Executive Summary**

Pursuant to Article 10(1) of the Regulation establishing ESMA[76], ESMA is empowered to develop draft regulatory technical standards ("RTS") where the European Parliament and the Council delegate power to the Commission to adopt RTS by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft RTS and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft RTS.

The purpose of these draft RTS is to develop the level of data disaggregation to be made available to the public by trading venues. This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed draft RTS against the MiFID/MiFIR baseline. Whenever current market practices are above what is being required by MiFID/MiFIR, current market practices will be considered as the baseline when assessing costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[77] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the context for the draft RTS.

[76] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
[77] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's draft RTS, which can be either the MiFID II requirement, or the level of disaggregation offered by the trading venue where it exceeds the MiFID requirements (market practice), whichever sets a higher standard.

The stakeholders identified are trading venues, data vendors, sell -side and buy-side firms as well as end-investors.

After a summary description of the different levels of data disaggregation proposed in the draft RTS, with possible exemptions in certain circumstances, an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the draft RTS.

2. Introduction

Pre and post trade transparency requirements in MiFID aimed at providing information on opportunities to trade and on executed transactions across European trading venues that would mitigate the potential drawbacks of market competition and fragmentation. The competition between trading venues has indeed intensified across Europe after the implementation of MiFID. Fragmentation of trading between trading venues has become a reality, but also a challenge for most data users when trying to get a consolidated view of all European equity markets. The Data gathering and analysis conducted in the context of the MiFID review[78] identified the cost of market data and the bundling of pre-and post-trade data as key obstacles to a consolidated post trade data feed at EU level.

To address these issues, MiFID II and MiFIR introduce a series of provisions aiming at improving the quality, and reducing the costs, of market data as well as facilitating the consolidation and dissemination of post trade information. In this context, the unbundling of post-trade data from pre-trade data was considered as a pre-requisite to support the post-trade consolidated tapes to be introduced with the implementation of MiFID II and to reduce the cost of such post-trade consolidated tape data feeds in Europe.

Article 12 of MiFIR provides for the unbundling of pre and post-trade data by trading venues and empowers ESMA to develop draft RTS specifying the level of disaggregation. ESMA has to consider which additional levels of data disaggregation by trading venues could further serve the transparency objectives identified in the MiFID Framework Directive and Regulation by reducing data costs for market participants and allowing for customized data solutions.

3. Baseline

MiFID does not include any provision regarding disaggregation of market data by trading venues.

[78] PriceWaterHouseCoopers, Data Gathering and analysis in the context of the MiFID review, 13 July 2010

The relevant legal text to consider is Article 12(1) of MiFIR which provides that "*trading venues shall make the information to be published (…) available to the public by offering pre-trade and post-trade transparency data separately".*

Under Article 12(2) of MiFIR, ESMA has to develop draft RTS specifying *"the offering of pre- and post-trade transparency data, including the level of disaggregation of the data to be made available to the public (…)."*
Under the proposed draft RTS:

i. Each trading venue must offer pre- and post-trade data by four asset classes :
   a) equity and equity-like instruments ;
   b) fixed income instruments ;
   c) emission allowances; and
   d) derivatives
ii. Each trading venue must also disaggregate by further criteria, unless there is insufficient demand for such data streams
iii. If a venue decides that there is no sufficient demand to disaggregate by some particular criteria, it should state this alongside its price list.

The incremental rule is the level of disaggregation or unbundling of market data that trading venues will be required to offer according to ESMA's draft RTS compared either to the MiFIR requirement or to the level of disaggregation or unbundling trading venues currently offer above and beyond the MiFIR requirements, i.e. above and beyond unbundling of pre and post trade data for all asset classes.

However, it may be very difficult for trading venues that currently do not unbundle pre and post- trade data to disentangle the costs arising from the unbundling of pre-and post-trade data to meet the MiFIR requirement and the costs arising from the disaggregation level required by the draft RTS. The estimation of incremental costs arising from these draft RTS is therefore to be taken as an upper bound.

In terms of market practices, many trading venues already disaggregate market data further than pre and post-trade (where relevant). However, this further level of disaggregation is not homogeneous and the challenges associated with further disaggregation may not be the same for all of them or for all asset classes. Based on initial research, we provide below examples of how market operators unbundle and disaggregate data across asset classes in the four countries surveyed so far. The sample of countries and market operators surveyed will be expanded in the final cost-benefit analysis.

a. One market operator unbundles market data along the following asset class criteria:
   - Cash instruments (including equities, equity-like instruments, bonds),
   - Indices
   - Equity and Index Derivatives
   - Commodities Derivatives
   - Currency Derivatives

b. Another market operator has four main packages:
    - Equities (including indices, warrants, ETN, ETF)
    - Derivatives for Equities and Indices
    - Fixed Income (including Fixed Income derivatives)
    - Commodities Derivatives

c. A third one offers the following :
    - Cash instruments: includes equities, ETFs and bonds. A separate data feed is available for Indices.
    - The data feed for the derivative trading platform does not yet unbundle pre and post-trade data and includes all the instruments traded on the platform (i.e. bond futures, index futures, options.).
        - Commodities derivatives are being moved to a separate trading platform and will be available separately as of the beginning of 2015.
        - Certificates (derivative instruments) are traded on a separate platform and the data feed for those is provided separately.

d. One MTF, which currently offers dark trading in equities only, makes real time post trade data available for free. However, its data users would need to pay for front end terminals and data vendors costs/fees to be able to "read" and actually use the data.

4. Stakeholders

Five categories of stakeholders can be identified in respect of unbundling of market data: trading venues, data vendors, sell-side firms, buy- side firms and end-investors. The analysis of the potential impact of ESMA's policy proposal on stakeholders who typically access market data through data vendors is based on the assumption that data vendors would be offering to their clients at least the same level of disaggregation as the one required from trading venues, and that this data disaggregation will be reflected in pricing policies. This remains unclear as data vendors fall outside the scope of MiFID II.

Trading Venues:

Trading venues will incur additional IT and management costs to disaggregate beyond pre and post-trade transparency data and beyond the disaggregation level they currently offer. The magnitude of the incremental costs, including management costs, arising from the draft RTS will depend on the differences between the asset class categories mandated by the RTS and the ones currently provided by trading venues and on the granularity of the feed requested by data users.

Trading venues may also suffer from a decrease in their market data revenues. The extent of that decrease will depend on the level of data disaggregation currently offered, the number/percentage of data users that would actually subscribe to the potentially more granular packages to be offered and the pricing of those new offerings. A potential indirect effect, particularly if the loss of revenue is substantial, could be that listing fees are increased to compensate for that loss. However, due to intense competitive pressure, increase in trading fees would appear as somewhat less likely.

These RTS could also have wider effects on some trading venues beyond compliance costs and the potential decrease in market revenues. Trading volume on some trading venues could be negatively impacted when data users were able to purchase data on the most liquid instruments separately as this might divert attention from, and trading in, less liquid instruments that were previously bundled and included in the same package.

On the opposite, those trading venues that operate based on imported prices from other trading venues will benefit from some more granular disaggregation that may translate in less expensive data feeds. They may for instance not have the same interest in continuous trading and auction data disseminated by the trading venue they import prices from and disaggregation of the two sets of data would be a source of cost savings.

Data vendors:

As customers of trading venues, data vendors may face increased one-off IT and recurrent management costs to adapt their infrastructure and existing databases to receive different data feeds (either more disaggregated or containing different asset classes).

As providers of data, data vendors will have to decide which level of market data disaggregation they wish to make available to their clients and customers may be able to exert some competitive pressure and request from data vendors to offer similar levels of data disaggregation to the ones mandated to trading venues. If data vendors were indeed to offer similar levels of data disaggregation, they may incur one-off IT costs and recurrent management costs to deal with a larger combination of data feeds to be subscribed by, and sent to, their customers. However, additional costs will likely be passed on to data users.

If trading venues were no longer in a position to sell bundled packages to meet user demand, data vendors may find a new source of revenues in charging additional fees for re-bundling packages for those data users not willing to receive multiple granular data feeds.

Investment firms dealing on own account and/or executing client orders ("sell-side"):

Sell-side firms have access to real time market data of the trading venue they are a member/participant of. However, they also access these data, as well as other trading venues' data, through data vendors at a cost. The impact of further market data disaggregation on sell-side firms would depend on their market data needs (i.e. the level of disaggregation they are actually interested in) and more importantly on the packaging/pricing policy of data vendors (see above). They could actually end up paying more than today for the same package if data vendors were to charge "re-bundling" fees. The extent to which any savings or increase in market data costs as a result of the level of disaggregation prescribed by the draft RTS may be passed through to their clients remains to be seen.

It is worth noting that HFT firms or HFT trading desks may have a special interest in very granular data disaggregation as many of their trading strategies are only relevant when based on very low friction costs.

Fund/portfolio managers (institutional buy-side):

As above, the actual impact would depend on the breadth of the financial instruments under management, market data pricing policies by trading venues and how those are reflected by data vendors, and the institutional investors' actual need for real time versus deferred market data, which may affect differently their front and back offices. Disaggregation per a substantial number of criteria could translate into a source of inconsistency in the data feeds received from different trading venues, if trading venues disaggregated according to different criteria. This could translate into one-off costs to adapt their applications and databases to integrate the new feeds available for different levels of granularity.

Impact may vary depending on the type and size of buy-side investment firms. Where fund managers concentrate on certain categories of asset classes or financial instruments, further disaggregation could potentially allow them to pay just for the data feed needed. Smaller investment firms may also potentially benefit from a more granular level of disaggregation, as they will not have to pay for costly aggregated data they may not have an interest in.

Where end-investors entrusts portfolio management to a third party and/or purchase collective investment funds, any reduction in costs incurred by the asset management company/ collective investment fund, including market data fees, could potentially translate in lower management fees and increase their net returns. However, according to an OXERA Study[79], although the precise relationship between market data fees and the total costs incurred in making a transaction will vary depending on the investment style (and other factors), the annual market data fees received by trading venues as of today "are likely to account for less than 2% of the total cost of trading in, and holding of, securities incurred by investors".

End-investors:

End-investors typically access market data through data vendors, in which case any impact would depend on data vendors' business strategy and pricing policy, or through the bank/investment firm they are clients of. In the latter case, access to real-time pre and post-trade market data may be provided without additional costs to clients submitting orders online.

End- investors would be affected if trading venues were to increase other fees to compensate for any potential loss of market data revenues, which could ultimately at least partially offset savings arising from lower market data feeds. This is based on the assumption that both costs and savings would be passed on to end-investors.

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[79] Oxera, Pricing of market data services, An economic analysis, February 2014

Issuers:

All issuers could be indirectly impacted where trading venues would increase listing fees to compensate for a decrease in market data revenues. Trading in Small and Medium Enterprises (SMEs) and less liquid instruments could also be affected from disaggregation of market data between the most liquid ones, including components of indices, and the other ones. Market data relating to SMEs are typically included in the trading venues' data feed for cash instruments. Their visibility, and ability to attract interest, would likely be affected if data users could access the data feed for the most liquid instruments separately. SMEs traded on separate SME Growth Markets would remain unaffected except, potentially, where the SME Growth market would create indices.

5. Technical Options

Technical Option 1: Mandatory disaggregation per asset class

Policy objective	Reducing costs for market participants when purchasing data by making subsets of pre-and post-trade data available separately.
Technical Proposal	Trading venues would be required to make post-trade information available to the public by offering data separately for each of the following asset classes: i. equity instruments, i.e. shares, depositary receipts;, ETFs, certificates and other similar financial instruments; ii. fixed income instruments; iii. emission allowances; iv. derivatives. In case of uncertainty, it is up to the operator of the trading venue to decide to which class an instrument belongs to.

Technical Option 2: Disaggregation per additional criteria

Policy objective	Reducing costs for market participants when purchasing data through more granular packages which allow for customised data solutions while avoiding unnecessary costs for trading venues.
Technical Proposal 2	Trading venues would be required to make post-trade information available to the public by offering data separately for each of the following criteria, except where exempted: the country of issue of the instrument; the currency in which the instrument is denominated or traded, the industry sector of the issuer based on the EU Statistical Classification of Economic Activities in the European Community (NACE) or another appropriate classification; membership of a major index; auctions as opposed to continuous trading; and different types of

	derivatives according to the underlying. The operator of the trading venue is exempted from the requirement if there is insufficient demand for a specific package. When taking advantage of this exemption, the operator of the trading venue must let its customers and potential customers know.

6. Cost/benefit impact assessment

Technical Option 1: Mandatory disaggregation per asset class

	Qualitative description
Benefits	Consolidation of market data by Consolidated tape providers will be facilitated by the availability of equity- only data feed from trading venues Disaggregation per asset class could potentially enable investors to have access just to the data needed, without having to purchase unnecessary larger packages. Wider access to opportunities to trade and to executed transactions across EU trading venues contributes to mitigating the potential drawbacks of market competition and fragmentation Data disaggregation per asset class may also translate into lower market data costs for data users only interested in a subset of the data they currently receive.
Costs to regulator	We estimate the ongoing costs from monitoring and enforcing the new requirements to be non-significant, as they should be absorbed by existing trading venues supervisory functions.
Compliance costs	- One off costs: Trading venues will have to adjust their IT systems and possibly apply filters to disaggregate their pre and post trade data dissemination feeds to reflect what is required by these draft RTS. These costs would be included or combined with outsourcing costs where the trading venue outsources the dissemination of its market data to another trading venue. IT costs include testing of new data feeds with recipients. Trading venues will also need to adjust their pricing policy for each data feed. - On-going costs: Trading venues will incur additional management costs to deal with a more complex range of offerings, including allocating instruments newly admitted to trading to the right data feed, monitoring of proper dissemination of data or managing relationships with data vendors/ data users to check compliance with subscription terms.

Costs to other stakeholders	• Data users willing to continue to receive the same pre and/or post trade data feed as today will incur one-off and on-going IT management cost to deal with a higher number of data feeds. Alternatively, they may be charged additional fees by data vendors for re-bundling data and to continue to receive the same data as today through one data feed. • There will be costs for data users that, under the draft RTS, would no longer be able to receive only the set of data they are interested in and which is currently provided by trading venues. For example, data users interested in commodity derivatives only will have to buy the whole derivatives data feed, unless it is made available separately by trading venues (see benefits of technical proposal 2). • Data vendors may have to adjust their IT systems and databases and face additional management costs to deal with a more complex range of offerings (if they were to disaggregate as well).
Indirect costs	As most data users access market data not directly from trading venues but through data vendors, benefits may not be achieved if disaggregation by asset class is not offered by data vendors as well, or if lower pricing is not passed through by data vendors. Those customers requiring bundled offerings may be negatively affected. One way to mitigate the potential negative effects would be to allow trading venues to continue to offer bundled packages to meet specific requests so that the cost of data does not increase from those customers that would benefit from a bundled offering. If trading or listing fees were to be increased to compensate for revenue loss in market data, these costs may be passed to users (sell-side, buy side and end investors)

Technical Option 2: Disaggregation per additional criteria

Technical Proposal 2	Mandatory disaggregation per additional criteria asset class, except where trading venues are exempted
	Qualitative description
Benefits	The potential benefits for data users of disaggregation per additional criteria are similar to the ones described above i.e. accessing data feeds better tailored to effective needs, presumably at lower costs, with the exception of the benefits to CTPs. The exemption provided aims at ensuring that trading venues do not have to incur costs that are not based on market participants' proved interest in

	the data feed requested. Data users interested for instance only in a particular type of derivatives will benefit from further disaggregation since they will not have to pay for the entire derivatives data feed.
Costs to regulator	NCAs will have to supervise the implementation of the exemptions.
Compliance costs	<u>One off costs:</u> • Trading venues will have to adjust their IT systems and their pre and post trade data dissemination feeds beyond the disaggregation per asset class to reflect the RTS. These costs would be included or combined with outsourcing costs where the trading venue outsources the dissemination of its market data to another trading venue. IT costs includes testing of new data feeds with recipients. Trading venues will have to set up procedures to assess whether there is sufficient demand for disaggregation per a specific criterion and to make available the requested information on the use of the exemption. Trading venues will also need to adjust their pricing policy for each data feed, taking into account the related management costs. <u>On-going costs</u>: • Trading venues will incur more substantial additional management cost to deal with a more complex range of offerings, monitoring of proper dissemination of data or managing relationship with data vendors/ data users to check compliance with subscription terms. As disaggregation becomes more granular, the allocation of instruments to the right data feed, the very definition of the various categories (see for instance “major index”) and the assessment of sufficient demand, can be a source of additional compliance costs. Trading venue will also incur on-going costs for the assessment of whether there is sufficient/insufficient demand for a specific disaggregation level.
Costs to other stakeholders	• Data vendors will have to adjust their IT systems and face additional management costs to deal with more complex ranges of offering.
Indirect costs	In addition to the indirect costs identified for Technical Proposal 1 • More granular data feed may focus attention on, and trading in, the most liquid instruments even more. • The uncertainty around the definition of some criteria and the discretion left to trading venues to allocate instruments to each feed may affect the quality of consolidated information across trading venues per such criteria.

5.4. Identification of the investment firm responsible for making public the volume and price of a transaction (Articles 20(3)(c) and 21(5)(c) of MiFIR)

5.5. Non-discriminatory access to CCPs and Trading Venues

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[1], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to further specify the open access regime created by MiFIR, setting out detailed provisions for operationalising the mentioned regime.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a Level 1 baseline. Whenever market practices are compliant with what is being required by MiFID, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[2] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at fleshing out the MiFIR access provisions. The objective is to achieve a uniform application of the MiFIR access provisions, maximising its effects and minimising the cost for the relevant stakeholders.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which can be either the MiFIR text or where available current market practices.

The stakeholders identified are CCPs, trading venues, persons with proprietary rights to a benchmark and competent authorities.

[1] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
[2] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

The next section covers the different technical options and the options to be considered in the RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

Open, fair and non-discriminatory access to market infrastructures is a cornerstone of the new MiFID regime. Open access aims at promoting greater competition among market infrastructures and ultimately reduce costs for end investors. Articles 35 and 36 of MiFIR put into place a new set of requirements for the open access to central counterparties (CCPs) and trading venues (TVs). Under the legal empowerments mentioned above ESMA has to define, among other aspects, the conditions under which access can be denied or shall be permitted by TVs and CCPs.

The analysis is of a qualitative nature and takes into account the responses to the Discussion Paper (DP) published in May 2014, interviews carried out with stakeholders as well as desk research. A more detailed assessment will be available for the official publication of the draft technical standards.

3. Baseline

Articles 35 and 36 of MiFIR introduce for the first time a comprehensive European regime of open access rules for CCPs and TVs, where access shall be provided on a transparent and non-discriminatory basis. As this is established by Level 1 legislation and some market participants already offer open access to TVs and/or CCPs, we will consider that market practice as the baseline for our assessment of costs and benefits.

The rationale for doing so is that comparing the proposed rules in the draft RTS with the market practice of those infrastructures that already grant access, ensures that the costs and benefits measured are the ones that stem from the implementing measures, and not those stemming from Level 1 provisions. However, in some situations, it will be difficult to identify the market practice to use as baseline. In those cases the baseline for the assessment of the costs and benefits of Level 2 rules will be Articles 35 and 36 of MiFIR, which extend the open access Articles (Articles 7 and 8) of EMIR to all financial instruments. In particular, Articles 35(6) and 36(6) clarify that ESMA shall develop technical standards to specify:

(a) The conditions for denying access by a CCP/TV;
(b) The conditions under which access must be permitted by a CCP/TV;
(c) The conditions under which granting access will threaten the smooth and orderly functioning of markets or would adversely affect systemic risk;
(d) The notification procedure for the approval of a transitional period; and
(e) The conditions for non-discriminatory treatment for collateral, netting and cross-margining agreements.

4. Stakeholders

The draft RTS will directly impact the following stakeholders:

- CCPs;
- TVs;
- Competent Authorities (NCAs); and
- Members of CCPs and TVs.

Depending on their business model, the draft RTS will impact TVs and CCPs differently. In particular, the business models of vertically integrated infrastructures, which currently do not provide open access, will be more affected by the new regulatory framework (although the bulk of requirements already stem from the framework regulation).

CCPs:

Disclosure of clearing fees will reduce the pricing power of CCPs. Transparency, by making fees fully transparent for market and supervisory scrutiny, together with the obligation to grant access, will reduce the ability to cross-subsidise costs. In addition, CCPs (including vertically integrated ones) will not be able to discriminate between contracts traded on a competing trading venue or on the integrated one for collateral, cross-margining (with correlated contracts) and netting provisions. Different treatment will only be based on objective criteria, such as the creation of unmanageable risk.

Furthermore, the draft RTS rules on open access requirements may also impact CCPs that are not vertically integrated by offering them a more predictable access strategy and greater legal certainty around access procedures with reduced legal risk. Those infrastructures would be able to request trade feeds to multiple CCPs and improve their multilateral netting. Widespread access may also stimulate interoperability and better management of collateral across infrastructures, especially for derivatives contracts. For equities, the content of open access arrangements meets already today most of the requirements in the draft RTS, according to firms approached in interviews.

Trading venues:

Greater predictability of conditions on granting/denying access will benefit trading venues by reducing legal risk and by lowering internal costs of setting up and meeting the requirements of open access requests. Pricing power of vertically integrated TVs might be reduced as a consequence of granting access. Moreover, cross-subsidisation between trading and clearing fees will be fully transparent and thus only marginally possible. Access, complemented by transparency requirements, will force full unbundling of fees and impact price synergies that vertical integration provides. Vertically integrated TVs may be also indirectly impacted by the potential shift in cleared transactions to other CCPs, which can then drag trading volumes to a competing venue if pricing is substantially different. Access requirements will also impact other trading venues which may enlarge their offer by accessing to multiple CCPs.

Common aspects:

Both CCPs and TVs would incur one-off and recurring compliance costs to define and monitor the implementation of access arrangements. These may require the definition of internal procedures, including allocation of new responsibilities and dedicated personnel to monitor the arrangements.

NCA:

NCAs do currently not enforce detailed open access obligations for CCPs and TVs. MiFIR will impact the current enforcement procedures of NCAs since there have been to date no detailed access obligations. National rules transposing MiFID will have to bear this question in mind, either enlarging the mandate of some NCAs that currently focus only on the supervision of financial markets and not including competences in the area of competition policy, or by other means. The requirements will mostly produce recurring monitoring costs on NCAs, however, most of these consequences already stem from the framework regulation.

Members of CCPs and TVs:

Members of CCPs and TVs may be indirectly (but importantly) affected by the conditions that will specify the modality of open access. Most notably, conditions might affect pricing offers and the provision of alternative services by the current infrastructure. This new environment envisages greater transparency, which can increase CCPs and TVs users' ability to switch. End clients/consumers may also be affected to the extent that changes in prices and conditions are passed through.

5. Technical Options

According to Articles 35(6) and 36(6) of MiFIR, ESMA has to define draft technical standards covering the following categories:

1. Grounds for denying access (for CCPs and TVs);
2. Conditions under which granting access will threaten the smooth and orderly functioning of markets or would affect systemic risk (for CCPs and TVs);
3. Conditions under which access is granted (for CCPs and TVs);
4. Conditions for non-discriminatory treatment of contracts (for CCPs only);
5. Notification procedure for temporary exemption (for CCPs and TVs); and
6. Calculation of the notional amount (for TVs only).

(1) Conditions for denying access

Technical Option 1: Anticipated volume of transactions (CCPs)

Policy Objective	Identification of situations in which access can be denied so that a sudden increase in volume of transactions does not affect the viability of the infrastructure, nor does create significant undue risks.

Proposal	A CCP may deny an access request on grounds of the anticipated volume of transactions only when the reasonably anticipated volume of transactions arising from such access would create significant undue risks by: (a) Exceeding the scalable design of the CCP to such an extent that the CCP cannot adapt its systems so as to deal with the anticipated volume; or (b) Exceeding the planned capacity of the CCP in a way that the CCP would not be able to acquire the required extra capacity in due time.

Technical Option 2: Number and types of users (CCPs and TVs)

Policy Objective	Identification of situations in which access can be denied so that the type or number of perspective users does not expose the CCP to additional risks, in terms of capacity and quality of the network of clearing members.
Proposal	ESMA has decided not to draft any legal text under this empowerment, as no additional risk arising from access to CCPs related to the type or number of perspective users has been identified.

Technical Option 3: Managing operational risk and complexity (CCPs and TVs)

Policy Objective	Identification of situations in which access can be denied due to an increase of operational risk and complexity above a level that can be adequately managed by the CCP/TV.
Proposal	**CCPs** A CCP may deny an access request on grounds of operational risk arising from such access only when it cannot adopt arrangements to adequately manage the operational risk such that there would be significant undue risk remaining. Relevant types of operational risk are, among others: (a) Incompatibility of the CCP's and TV's IT systems such that the CCP cannot provide for connectivity between the systems; (b) The CCP does not have, nor is it able to get in due time, the necessary human resources with the necessary knowledge, skills and experience to perform its functions regarding the risk stemming from additional financial instruments where these differ from financial instruments already cleared by the CCP.

	TVs A TV may deny an access request on the grounds of operational risk arising from such access only when it cannot adopt arrangements to adequately manage the operational risk such that there would be significant undue risk remaining. Types of relevant operational risk are, among others, the incompatibility of the CCP's and TV's IT systems such that the TV cannot provide for connectivity between the systems.

Technical Option 4: Factors creating significant undue risk (CCPs and TVs)

Policy Objective	Identification of situations in which access can be denied based on other factors, which cannot be adequately managed and expose the infrastructure to significant undue risk.
Proposal	***CCPs*** A CCP may deny an access request, only when it cannot adopt arrangements to adequately manage any of the following risks arising from granting access such that there would be significant undue risk remaining: (a) the CCP does not have, nor is it able to get in due time, the necessary authorisations consistent with meeting the relevant requirements regarding the financial instruments in question; (b) granting access would threaten the economic viability of the CCP or its ability to meet minimum capital requirements; (c) legal risks; (d) there is an incompatibility of CCP and TV rules that the CCP cannot remedy in cooperation with the TV. There is relevant legal risk, where as a result of granting access the CCP: (a) would not be able to enforce its rules relating to (close out) netting and default procedures; or (b) cannot manage the risks arising from the simultaneous use of different trade acceptance models.

	TVs A TV may deny an access request only when it cannot adopt arrangements to adequately manage any of the following risks arising from granting access such that there would be significant undue risk remaining: (a) granting access would threaten the economic viability of the trading venue or its ability to meet minimum capital requirements; and (b) there is an incompatibility of TV and CCP rules that the TV cannot remedy in cooperation with the CCP.

(2) Orderly market functioning and systemic risk

Technical Option 5: Orderly market functioning and systemic risk

Policy Objective	Identifying situations in which access can endanger the orderly market functioning, with potential implications for systemic risk.
Proposal	Granting access will threaten the smooth and orderly functioning of the markets or adversely affect systemic risk, apart from the situations identified in Regulation (EU) No 600/2014, where: (a). one of the parties to the agreement is not meeting its legal obligations, or would be unlikely to meet its legal obligations as a consequence of granting access; (b). granting access would create significant undue risks for the CCP or the trading venue in a way that would have a wider negative impact on the market; and (c). there is no remedial action that would allow the relevant party to meet its legal obligations with reasonable effort prior to the access arrangement being put in place according to Article 35(3) and 36(3) of Regulation (EU) No 600/2014.

(3) Conditions under which access is granted

The conditions under which access must be permitted by the CCPs and TVs are grouped as follows:

Common conditions for CCPs and TVs;

Transparent and non-discriminatory fees (CCPs and TVs); and

Transparent and non-discriminatory collateral and operational requirements (only for CCPs).

Technical Option 6: Common access conditions for CCPs and TVs

Policy Objective	Define sound access procedures by setting a minimum level of conditions to be applied when access has been granted. Make sure that arrangements are sufficiently transparent and allow for the smooth implementation and resolution of access agreements.
Proposal	Where access has been agreed, the relevant parties to the access arrangement shall agree on their respective rights and obligations, including the applicable law governing their relationships. The terms of the access arrangement shall: a. be clearly defined, transparent, valid and enforceable in all relevant jurisdictions; b. where applicable, specify how two or more CCPs with access to the same trading venue interact with one another; c. contain clear rules concerning the moment of entry of transfer orders into relevant systems and the moment of irrevocability; d. not contain any provision that restricts or creates obstacles for the establishment or future extension of the access arrangement to other entities, other than on duly justified risk grounds; e. not impact on the compliance by the entities participating in the arrangement with the requirements to which they are subject under relevant regulations; f. contain rules regarding the termination of the access arrangements by any of the involved parties, which should i. be clear and transparent; ii. cater for termination in an orderly manner that does not unduly expose other entities that are part of the access arrangement to additional risks; iii. ensure that termination is not be triggered by minor breaches of the contract and that the relevant party is given a reasonable amount of time to remedy any breach that does not give rise to immediate termination; iv. allow the termination, if risks increase in a way that would have justified denial of access in the first instance; g. specify the contracts being subject to the access arrangement; h. specify the cover of the one-off and ongoing costs triggered by the access request; and i. cater appropriately for claims and liabilities stemming from the access arrangements. 2. The terms shall require that the trading venue and all CCPs party to the access arrangement put in place adequate policies, procedures and systems to ensure: a. timely, reliable and secure communication between the relevant entities;

	b. consultation where any change to either entity's operations is likely to have a material impact on the access arrangement or the risks to which the other entity is exposed; c. timely notification to the relevant party before a change is implemented, where the impact of a change is unlikely to be significant; d. resolution of disputes; e. identification, monitoring and management of the potential risks arising from the access arrangement; f. the trading venue receives relevant information in order to be able to fulfil its obligations regarding the monitoring of open interest, as appropriate; and g. the CCP can accept delivery of physically settled commodities, as appropriate. 3. The relevant parties to the access arrangement shall ensure that: a. risk management standards are not being reduced by granting access; b. information provided in the request for access is kept up-to-date throughout the duration of the access arrangement, which includes an information about any material changes; and c. non-public and commercially sensitive information including any information provided during the development phase of a financial instrument is only to be used for the specific purpose for which it was conveyed and may only be acted upon for the specific purpose agreed by the entities. These requirements should be met by each entity on a standalone basis.

Technical Option 7: Transparent and non-discriminatory fees

Policy Objective	Ensure that fees charged by TVs and CCPs do not discriminate between clients on grounds of non-objective criteria, protect market efficiency and establish a level playing field. Transparency and granularity should ensure sufficient predictability for business planning.
Proposal	***For CCPs*** 1. A CCP shall only charge fees to its clearing members and, where relevant, clients, for clearing transactions on a trading venue to which it has granted access that are set on objective criteria for all clearing members and, where relevant, clients and not be dependent on the trading venue where the transaction takes place. 2. A CCP shall make clearing members and, where relevant, clients subject to the same schedule of fees and rebates and not just a subset of them. 3. A CCP shall only charge fees to a trading venue in relation to access on the basis of objective criteria. The same fees and rebates shall apply for all trading venues accessing the CCP with regard to the same or similar financial instruments, unless a different basis can be

	objectively justified. 4. A CCP shall ensure that the fee schedules referred to in paragraphs 1 and 2 are easily accessible, adequately identified per service provided and sufficiently granular in order to ensure that fees charged are predictable. 5. This Article applies to all fees related to access, including those that are charged to cover one-off and ongoing costs. *For TVs* 1. A trading venue shall only charge fees in relation to access on the basis of objective criteria. The same fees and rebates shall apply to all CCPs accessing the trading venue with regard to the same or similar financial instruments, unless a different basis can be objectively justified. 2. A trading venue shall ensure that the fee schedules referred to in paragraph 1 are easily accessible, adequately identified per service provided and sufficiently granular in order to ensure that the fees charged are predictable. 3. This applies to all fees related to access, including those that are charged to cover one-off and ongoing costs.

(4) Conditions for non-discriminatory treatment of contracts (CCPs)

In line with the Level 1 empowerment to ensure a non-discriminatory treatment of clearing members and clients of the CCPs, the draft RTS focus on three areas where CCPs should act on a non-discriminatory basis:

1. Collateral and margining requirements of economically equivalent contracts;
2. Netting of economically equivalent contracts; and
3. Cross-margining of correlated contracts (portfolio margining).

These requirements apply to derivatives contracts. Overall, since the Level 1 text already sets out the material obligations to a large extent, the incremental part of the draft RTS is low to zero. In particular, in the case of cross-margining of correlated contracts, where the draft RTS specify the application without imposing new requirements. The CBA therefore does not cover cross-margining issues.

Technical Option 8: Collateral and margining requirements of economically equivalent contracts

Policy Objective	Avoid that economically equivalent contracts get different treatment in terms of margins and collateral methodologies, damaging efficiency and proper market functioning.
Proposal	• The CCP shall apply to economically equivalent contracts the same margin and collateral methodologies, irrespective of where the contracts are executed.

	• A CCP shall consider economic equivalent contracts already covered initial by the authorisation under Article 14 of Regulation (EU) No. 648/2012 or any subsequent extension of authorisation under Article 15 of Regulation (EU) No. 648/2012. Where the contracts executed on the trading venue applying for access to the CCP do not trigger an extension of authorisation process under Article 15 of Regulation (EU) No. 648/2012, they shall be considered economic equivalent. • Where a CCP intends to introduce specific models or parameters for contracts executed on a given trading venue to which it has granted access, in order to take into account the respective risk factors of that trading venue and/or the contracts traded thereon, these specific models or parameters shall be subject to the review by the Risk Committee of the CCP as well as to the procedure established under Article 49 of Regulation (EU) No 648/2012. The CCP shall demonstrate that the new models and parameters are non-discriminatory and based on relevant risk considerations. • The CCP shall apply to economically equivalent contracts the same margin and collateral methodologies, irrespective of where the contracts are executed.

Technical Option 9: Netting of economically equivalent contracts

Policy Objective	Avoid that economically equivalent contracts are treated differently in terms of netting processes, damaging efficiency and market well-functioning due to a higher risk of disruption.
Proposal	• A CCP shall apply to economically equivalent contracts the same netting processes, irrespective of where the contracts were executed, unless it has confirmed through a sound legal analysis that such a netting process would not be valid, binding or enforceable in case of a default of the clearing member or, where relevant, of its client. • A CCP shall apply close-out netting of non-identical exchanged-traded-derivatives contracts executed on different trading venues, unless it has confirmed through a sound legal analysis that differences between the exchanged-traded-derivatives contracts prevent their close-out netting to be valid, binding or enforceable in case of a default of the clearing member or, where relevant, of its client. • Where a CCP excludes from netting economically equivalent contracts traded on different trading venues, this shall be considered a changes to its netting process that need to be reviewed by its Risk Committee and be subject to the review under to Article 49 of Regulation (EU) No 648/2012. The CCP shall demonstrate that this different netting approach is non-discriminatory and based on relevant legal risk considerations.

(5) Notification procedure for temporary exemption

The draft RTS cover the procedural aspects for the notification by CCPs and TVs to be exempted from the access provisions in Articles 35 and 36 of MiFIR under certain conditions.

Technical Option 10: Notification procedure for temporary exemption

Policy Objective	Provide a framework to ensure legal certainty and a smooth and fair procedure to assess notifications for temporary exemptions.
Proposal	***For CCPs (Article 35(6)(d) of MiFIR)*** **CCP to NCA (Article 14 RTS)** The CCP shall submit the notification using Form 1 in Annex I of the RTS and shall include the following information: (a) the identification of the CCP and relevant contact details; (b) the date of the CCP's authorisation or recognition; and (c) where a trading venue is connected by close links to the CCP, its name and the jurisdiction in which it is established. **NCA to ESMA and the CCP College (Article 15 RTS)** 1. Relevant competent authorities shall notify ESMA and the CCP college of every decision to approve a transitional in writing without undue delay and no later than one month from the decision. 2. The competent authority shall submit the notification using Form 2 in Annex I and shall include the following information: (a) the identification of the CCP and the relevant contact details; (b) the date of the CCP's authorisation or recognition; (c) the date of the approval decision; (d) the beginning and end date of the transitional period; and (e) where a trading venue is connected by close links to the CCP, its name and the jurisdiction in which it is established. ***For trading venues*** **TVs to NCA (Article 16 RTS)** Where a trading venue does not wish to be bound by that Article, it shall submit a notification to ESMA and its competent authority in written form. The trading venue shall submit the notification using Forms 3a and 3b in Annex I of the proposed RTS and shall include the following information: (a) the identification of the trading venue and the relevant contact details; (b) where applicable, information about being part of a group, including specification of any trading venues in the group and the jurisdictions in which they are established; (c) the specification of the traded notional amount in exchange-traded derivatives per asset class for 2016, where applicable, broken down for each trading venue in the group based in the Union; and (d) where a CCP is connected by close links to the trading venue, its name and the jurisdiction in which it is established.

(6) Calculation of notional amount

Under Article 36(5) of MiFIR, if the notional amount of all exchange-traded derivatives concluded on a trading venue is below the relevant threshold (set at 1 trillion euros), the TV can notify ESMA and the NCA in order to benefit from a temporary exemption for 30 months. The draft RTS define more details on the calculation of the notional amount.

Technical Option 11: Calculation of notional amount

Policy Objective	Ensure consistency and transparency in the way TVs notifying a temporary exemption calculate the annual notional amount.
Proposal	Where a trading venue wishes to continue not to be bound by that Article, it shall submit a notification to ESMA and its competent authority in written form. The trading venue shall submit the notification using Forms 4a and 4b in Annex I of the proposed RTS and shall include the following information: a. the identification of the trading venue and the relevant contact details; b. where applicable, information about being part of a group, including specification of the trading venues in the group and the jurisdictions in which they are established; c. the specification of the traded notional amount in exchange-traded derivatives per asset class broken down for each relevant rolling year in the preceding opt-out period and, where applicable, broken down for each other trading venue in the group based in the Union; and d. where a CCP is connected by close links to the trading venue, its name and the jurisdiction in which it is established. Additional details: • In accordance with Article 36(5) of Regulation (EU) No 600/2014, a trading venue that does not wish to be bound by Article 36 for a period of thirty months from the entry into application of that Regulation shall include in its calculation of its annual notional amount all exchange-traded derivatives concluded in the calendar year preceding the entry into application that are classified as transactions under its rules. • For the purposes of calculating its annual notional amount in accordance with paragraph 1, a trading venue shall use for 2016 actual figures for the period for which they are available, and, for the remaining months of that year, estimate figures, by using the ratio of the corresponding period to the full year 2015. The trading venue shall use actual figures for at least 8 consecutive months of 2016. If the notification is sent before actual data for at least 8 months of 2016 is available, the trading venue shall provide ESMA and the competent authority with updated figures once available. • Where a trading venue wishes to continue to not be bound by

	Article 36 of Regulation (EU) No 600/2014 for a further thirty month period, it shall include in its calculation of its annual notional amount all trades in exchange-traded derivatives concluded in each of the first two rolling 12 month periods of the previous thirty month period that are classified as transactions under its rules. • Where, for certain types of instruments there are equally accepted alternative approaches to calculating notional amount, but there are notable differences in the values to which these calculation methods give rise, the calculation which gives the higher value shall be used. In particular, for a future or an option, including for commodity derivatives which are designated in units, the notional amount shall be the full value of the derivative's underlying assets at the relevant price at the time at which the transaction is concluded.

6. Cost/benefit impact assessment

In the previous section 11 sets of incremental obligations from the draft RTS were identified. This section assesses qualitative benefits and costs of those obligations, split in the following areas:

(1) Conditions for denying access
(2) Orderly market functioning and systemic risk
(3) Conditions under which access is granted
(4) Conditions for non-discriminatory treatment of contracts (CCPs)
(5) Notification procedure for temporary exemption
(6) Calculation of notional amount

The legal obligations setting out the conditions in which a CCP or a TV can deny access or how access shall be granted, generate both one-off and recurring costs because decisions and the arrangements must be constantly monitored and updated. NCAs will have to monitor and enforce the implementation of these requirements, which may in some cases be imposed against the commercial interest of the infrastructure providing access. CCPs and TVs will have to make sure that providing access does not significantly affect the well-functioning of their infrastructure creating undue risks. Notification requirements will result in one off costs and in recurring costs for NCAs and entities who notify repeatedly.

Most of the benefits and costs that a broad open access regime typically generates, such as the benefits of a more competitive environment (due to lower barriers to entry) with potentially lower costs and better services, accrue to the set of effects that has been assessed by the cost-benefit analysis of the basic legal act (Level 1). The costs and benefits of the draft RTS are thus limited to only a few areas, as highlighted in the following sections.

The following sections assess the impact of each individual option vis-à-vis the baseline scenario identified above.

(1) Conditions for denying access

Technical Option 1: Anticipated volume of transactions (CCPs)

Proposal	*A CCP may deny an access request on grounds of the anticipated volume of transactions only when the reasonably anticipated volume of transactions arising from such access would create significant undue risks by:* *(a) Exceeding the scalable design of the CCP to such an extent that the CCP cannot adapt its systems so as to deal with the anticipated volume; or* *(b) Exceeding the planned capacity of the CCP in a way that the CCP would not be able to acquire the required extra capacity in due time.*
	Qualitative description
Benefits	This requirement ensures that, taking into account the timeframe in which access must be granted and made operational (3+3 months for transferable securities and 6+3 months for derivative contracts), the request of access does not exceed the capacity that a CCP can accommodate (beyond the eventual and reasonable increase of its capacity) in this timeframe.
Costs to regulator: • *One-off* • *On-going*	*Non-significant costs.* NCAs would be facing ongoing costs to supervise the scalability of CCPs in access arrangements, beyond what the EMIR authorisation already prescribes. In particular, NCAs would need to verify that reasons to deny access on this ground are effectively based on the inability to deliver the estimated additional capacity in the defined timeframe and that the process to make the access arrangements operational is run smoothly with no unjustified delays. This ongoing cost would mainly materialise from additional personnel costs and increased coordination with other authorities (e.g. competition authorities).
Compliance costs: • *One-off* • *On-going*	• *Non-significant one-off cost.* Although one of the most visible of the CCPs' compliance costs is probably the cost of investing in additional capacity, this cost should be, to a large extent, attributed to the Level 1 rules. The costs of investment in additional capacity are not linear but rather a step function, and IT investment will most probably occur by batches (i.e. the acquisition of a new server may enable a CCP to cater for the extra volume needed). • *Non-significant on-going cost.* Another compliance cost is the assessment whether the request entails foreseeable volumes of transactions above the ability for the incumbent CCP to make it operational in the defined timeframe. The CCP will have to organise internal procedures and responsibility to calculate and demonstrate what is the capacity they have installed (in use and idle). They will have to estimate (and internally validate) the impact of the additional volume on planned capacity and on the overall scalability of the infrastructure.

	The denying infrastructure will have to explain why and how the CCP is unable to cope with the needed foreseeable capacity that the access provision requires. Again this cost should be largely attributed to the Level 1 rule and should the Level 2 proposal should not entail significant costs.
Costs to other stakeholders	None identified
Indirect costs	Users of CCPs and trading venues may incur costs arising from denied access on this ground, however we anticipate these costs to be non-significant. CCPs may pass on costs to market in the form of higher fees.

Technical Option 3: Managing operational risk and complexity (CCPs and TVs)

Proposal	*A CCP/TV may deny an access request on grounds of operational risk arising from such access only when it cannot adopt arrangements to adequately manage the operational risk such that there would be significant undue risk remaining.* *Relevant operational risks are the incompatibility of CCP and TV IT systems (connectivity) and, for CCPs, the lack of human resources to deal with additional risk from instruments that are not already cleared by the infrastructure.*
	Qualitative description
Benefits	• Establishes a framework for the protection of market infrastructure from foreseeable operational risk and complexity that may improve market stability. • Protects the infrastructure from access requests made by infrastructures with poor risk management, IT or human resources. Denying access on this ground may create an incentive for less developed infrastructures to invest in innovation and increase their standards.
Costs to regulator: - *One-off* - *On-going*	NCAs would face one-off and recurring cost to supervise the application of such access arrangements to make sure that the infrastructure properly considers operational risks. Moreover, on-going supervision should also ensure that CCPs and TVs do not use these requirements strategically for commercial interest. The complexity of this evaluation may require specialised expertise, on top of cooperation arrangements with other authorities that have competence on competition matters. Again, this cost should be largely attributed to the Level 1 rule and the Level 2 proposal

	should not entail significant costs.
Compliance costs: • *One-off* • *On-going*	• *Non-significant one-off and recurring costs.* CCPs and TVs will have to set up internal procedures to verify the implications that an access request may have in terms of operational risk and complexity. For CCPs, these costs are expected to be non-significant, as they are already required, under Article 16 of EMIR (and Article 3 of Regulation 153/2013) for managing operational risk. In particular, CCPs will have to verify the IT systems and test the compatibility of the connectivity with their clearing/trading acceptance model as well as assess whether a one-off investment can overcome a divergence in IT systems. It is, for instance, current practice for "open" CCPs to decline an access arrangement to platforms that have insufficient track records in trading activity. The size of this recurring cost is also determined by the potential number of access requests that the CCP or TV may receive, after these rules are in place. • When the CCP will, pursuant to an access agreement, clear instruments it did not already clear, it may need to get hold of personnel for performing its regulatory functions. Again, this cost should be largely attributed to the Level 1 rule and the Level 2 proposal should not entail significant costs.
Costs to other stakeholders	*Costs* for members of CCPs or TVs of the Level 2 proposal are expected to be non-significant, but will depend on the degree that CCPs/TVs can pass through incurred costs to their clients.
Indirect costs and benefits	*Competition effects.* Setting down detailed rules that limit discretion in the decision to grant/deny access increase predictability and might lead to a more competitive environment.

Technical Option 4: Factors creating significant undue risk (CCPs and TVs)

Proposal	*CCPs and TVs may deny access in other cases if it creates significant undue risks.*
	Qualitative description
Benefits	Increasing certainty in the implementation
Costs to regulator: • *One-off* • *On-going*	*Non-significant one-off and on-going costs.* NCAs will face a low recurring cost to verify the information that the infrastructure provides about the inability to offer access due to one or more of the risks mentioned above. The more detailed nature of those risks may reduce the amount of time that NCAs will have to spend to review the terms and collect more information, if necessary. NCAs will have to judge as well whether access will affect the authorisation requirements of a CCP under EMIR.

Compliance costs: • *One-off* • *On-going*	*Non-significant costs.* CCPs and TVs will have to set up internal procedures to verify whether the situation mentioned above may emerge and create significant undue risk. The type of assessment involves some costs for testing, however these costs should be largely attributed to the Level 1 rule. The Level 2 proposal should not entail significant costs.
Costs to other stakeholders	*Non-significant costs* for members of CCPs or TVs, depending on how much CCPs/TVs can pass through costs arising from the assessment of operational risks resulting from access.
Indirect costs and benefits	CCPs may pass through the costs incurred to their clients

(2) Orderly market functioning and systemic risk

Technical Option 5: Orderly market functioning and systemic risk

Proposal	*Granting access will threaten the smooth and orderly functioning of the markets or adversely affect systemic risk where:* *1. one of the parties is not meeting or will not meet its legal obligations as a consequence of granting access;* *2. granting access would create significant undue risks that would have a wider negative impact on the market; and* *3. there is no remedial action.*
	Qualitative description
Benefits	The proposed requirements aim at avoiding that granting access creates or increases systemic risk or disorderly trading conditions. The requirement also ensures monitoring by NCAs of the implications that such arrangements can have because of unexpected effects of their implementation on markets. The existence of a legal violation, effective or potential, as a pre-condition for the NCA action should increase predictability and provide CCPs/TVs with certainty that the assessment will be based on objective criteria.
Costs to regulator: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* NCAs are expected to face non-significant recurring costs to monitor access arrangements and ensure that they do not put the counterparty to an access arrangement in a position that will not allow it to meet its legal obligations, nor allow risks stemming from non-compliance with legal obligations to spread as a consequence of granting access. NCAs are required to take a forward looking approach and monitor access arrangements ex ante.

Compliance costs: • *One-off* • *On-going*	*Non-significant one-off and on-going costs.* CCPs and TVs will have to comply with NCA requests to refrain from signing an access arrangement or to stop the implementation of an access arrangement if this can affect the orderly functioning of markets and ultimately systemic risk. The compliance costs for CCPs or TVs should be largely offset by the protection awarded in terms of preventing systemic risk or disorderly trading conditions.
Costs to other stakeholders	*Non-significant*
Indirect costs	*Non-significant*

(3) Conditions under which access is granted

Technical Option 6: Common access conditions for CCPs and TVs

Proposal	*Where access has been agreed, the relevant parties shall agree to a list of access arrangements (including termination of the access arrangements and coverage of one-off and on-going costs), adequate policies, systems and procedures.* *The requirements should be met by each entity on a standalone basis.*
	Qualitative description
Benefits	Minimisation of litigations costs: The proposal sets a minimum set of requirements for transparent access arrangements that can be smoothly implemented and allow for a smooth winding up of access arrangements. Limitation uncertainty and risks of market disruption: the proposal allows parties to deal with the cost of granting access on a non-discriminatory basis. Increased legal certainty around access agreements: may create a more favourable environment for interconnection (and increased interoperability) across market infrastructures. Stability of the global market structure: High-quality access arrangements may contribute to fostering the resilience of the overall market structure.
Costs to regulator: • One-off • On-going	*Non-significant one-off and recurring costs.* NCAs would have to verify that access arrangements are in line with the list of minimum requirements set above. The list is detailed enough for NCAs to check with simple procedures that they meet the standards.

Compliance costs: • One-off • On-going	*Non-significant one-off and recurring costs.* CCPs and TVs will have to meet the minimum set of requirements. Access arrangements currently adopted by part of the industry are already mostly aligned with these requirements. Those firms that are already engaged in access arrangements would already have in place internal procedures (such as risk management procedures) to ensure compliance with the policies and procedures proposed above. Nonetheless, every access arrangement has to be looked at on a case-by-case basis. For instance, the requirement to have a mechanism for dispute resolution in place might be more complex to be defined at a cross-border level, with possibly various national resolution mechanisms. CCPs and TVs may need dedicated resources and a reallocation of responsibilities to implement an effective monitoring of the access arrangements to be compliant with the Level 2 rules.
Costs to other stakeholders	*Non-significant*
Indirect costs	*Competition effects.* Setting minimum requirements for access arrangements could, in abstract, increase the barriers to entry for competing infrastructures without the resources necessary for the maintenance of these arrangements. However, those costs would stem from the Level 1 text and due to the nature of the proposal, should be largely offset by the legal certainty awarded by the proposal.

Technical Option 7: Transparent and non-discriminatory fees

Proposal	*CCPs and TVs shall charge fees related to access (one-off and recurring) on the basis of objective criteria and offered in the same way to all clearing members and trading venues (for CCPs) and to all CCPs (for trading venues), unless justified by objective criteria. Fees, related to access, applied to clearing members and other clients (for CCPs) and all of those charged by trading venues shall be easily accessible and adequately identified per service provided and sufficiently granular to be predictable.*
	Qualitative description
Benefits	Charging fees on a non-discriminatory basis ensures a level playing field, protects market efficiency (via a more competitive environment) and ultimately a proper market functioning. Transparency and granularity of fees related to access increase predictability for business planning (costs of an access request), which may ultimately lower barriers to entry.

Costs to regulator: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* NCAs would have to verify that access arrangements are non-discriminatory, easily accessible and sufficiently granular to plan costs for an access request.
Compliance costs: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* CCPs and TVs will have to put in place internal procedures and allocate responsibility for the estimation of the access costs. In addition, firms will have to make this information easily accessible and can only offer different fees if justified by objective criteria. Transparency and granularity of access costs are not a uniformly adopted market practice.
Costs to other stakeholders	*Non-significant.*

(4) Conditions for non-discriminatory treatment of contracts (CCPs)

Technical Option 8: Collateral and margining requirements of economically equivalent contracts

Proposal	*Where a CCP intends to introduce specific models or parameters for economically equivalent contracts executed on a given trading venue to which it has granted access, the CCP shall demonstrate that the new models and parameters are non-discriminatory and based on relevant risk considerations.*
	Qualitative description
Benefits	These requirements make sure that derivatives contracts that perform the same economic function are treated in the same way in terms of collateral and margin requirements. Discrimination may increase costs of efficient risk management practices, hence affecting overall market efficiency.
Costs to regulator: • *One-off* • *On-going*	*Non-significant one-off and recurring cost.* NCAs will supervise the application of non-discriminatory requirements for economically equivalent contracts in case of a change to the model via the Risk Committee of the CCP (which will process the request). In effect, NCAs could leverage on the work of the internal body, resulting in very low recurring costs of supervision.
Compliance costs: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* CCPs will have to make sure that economically equivalent derivatives contracts are treated in the same way. The identification of economically equivalent contracts will require some internal procedures and allocation of responsibility that are already covered by EMIR and the Level 1 of MiFIR. If the CCP uses a different model or parameter for a contract traded on a venue that has received

	access, it will need to have in place a procedure to explain the non-discriminatory nature of those changes to the Risk Committee. This will result in a low recurring cost for the firm, as this may happen in infrequent occasions and the cost of the procedure would be fully internalised by the firm.
Costs to other stakeholders	*Non-significant*
Indirect costs	*Non-significant*

Technical Option 9: Netting of economically equivalent contracts

Proposal	*A CCP shall apply to economically equivalent contracts the same netting processes, irrespective of where the contracts were executed, or close-out netting of non-identical exchanged-traded-derivatives contracts executed on different trading venues, unless it has confirmed through a sound legal analysis that such a netting process would not be valid, binding or enforceable in case of a default of the clearing member or, where relevant, of its client.* *Where a CCP excludes from netting economically equivalent contracts traded on different trading venues, it shall demonstrate that this different netting approach is non-discriminatory and based on relevant legal risk considerations.*
	Qualitative description
Benefits	These requirements make sure that derivatives contracts that perform the same economic function are treated in the same way in terms of collateral and margin requirements. Discrimination may increase costs of efficient risk management practices, therefore affecting overall market efficiency.
Costs to regulator: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* NCAs shall supervise the application of non-discriminatory requirements for netting processes of economically equivalent contracts in case of a change to the model via the Risk Committee of the CCP (which will process the request). In effect, NCAs could leverage on the work of the internal body, resulting in very low recurring costs of supervision.
Compliance costs: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* The CCP shall have in place a procedure in place to explain the non-discriminatory nature of those changes to the Risk Committee. This will result in a low recurring cost for the firm, as the change may happen infrequently and the cost of the

	procedure can be fully internalised by the firm.
Costs to other stakeholders	*Non-significant*
Indirect costs	*Non-significant*

(5) Notification procedure for temporary exemption

Technical Option 10: Notification procedure for temporary exemption

Proposal	*CCPs shall submit a notification to their CA including: the identification of the CCP and relevant contact details; the date of the CCP's authorisation or recognition; and where a TV is connected by close links to the CCP, its name and the jurisdiction in which it is established. Relevant CAs shall notify ESMA and the CCP college of every decision to approve a transitional exemption in writing no later than one month from the decision.* ------------------------------ *TVs shall submit a notification to ESMA and its NCA including: the identification of the TV venue and the relevant contact details; information about being part of a group, including specification of any TVs in the group and the jurisdictions in which they are established; the specification of the traded notional amount in exchange-traded derivatives per asset class broken down for each trading venue in the group based in the Union; and where a CCP is connected by close links to the TV its name and the jurisdiction in which it is established.*
	Qualitative description
Benefits	The notification procedure ensures a smooth and predictable process both for CCPS/TVs and NCAs/ESMA
Costs to regulator: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* NCAs will have to establish internal arrangements to collect the notification and to verify the information included in the notification in order to take a decision. This may require additional human resources or reallocation of responsibilities. Recurring costs are expected to be non-significant since the requirements needed to get the temporary exemption are easily verifiable. If the notification is approved, NCAs will need to inform ESMA and the CCP college. The burden of this obligation is very low, as it does not require collection of new information. Finally, the notification of TVs will

	only create a small one-off cost since it is only applied for the initial period.
Compliance costs: • *One-off* • *On-going*	*Non-significant on-going and one-off costs.* CCPs and TVs will have to establish internal procedures for the collection and validation of the data to be provided to NCAs/ESMA for the notification. The transmission using standardized formats will generate non-significant one-off costs for TVs, which may become recurring if the firm decides to renew the request after 30 months. For CCPs, the costs are only one-off, since the procedure under this Article only applies to the initial transitional period.
Costs to other stakeholders	*Non-significant.*
Indirect costs	*Non-significant.*

(6) Calculation of notional amount

Technical Option 11: Calculation of notional amount

Proposal	*The calculation shall include the annual notional amount of all exchange-traded derivatives concluded in the calendar year preceding the entry into application that are classified as transactions under its rules. A TV shall use for 2016 actual figures for the period for which they are available, and, for the remaining months of that year, estimate figures, by using the ratio of the corresponding period to the full year 2015. The TV shall use actual figures for at least 8 consecutive months of 2016. For the notification related to a further thirty month transitional period, the TV shall provide its annual notional amount of all trades in exchange-traded derivatives concluded in each of the first two rolling 12 month periods of the previous thirty month period that are classified as transactions under its rules.* *Where, for certain types of instruments there are equally accepted alternative approaches to calculating notional amount, but there are notable differences in the values to which these calculation methods give rise, the calculation which gives the higher value shall be used. In particular, for a future or an option, including for commodity derivatives that are designated in units, the notional amount shall be the full value of the derivative's underlying assets at the relevant price at the time at which the transaction is concluded.*
	Qualitative description
Benefits	Ensuring a consistent and transparent approach for the calculation of the notional amount for TV. It increases legal certainty and provides a level

	playing field in the use of the exemption for the transitional period.
Costs to regulator: • *One-off* • *On-going*	*On-going and recurring costs. ESMA* will have to verify that the numbers provided by the TV meet the requirements. Monitoring of these numbers may also require procedures for the verification of the detailed components of the calculation disclosed by the trading venue, which are not currently part of the notification form. The level of costs will depend on the number of TVs notifying.
Compliance costs: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* TVs will have to predispose an internal procedure for the collection and validation of the data to be provided to ESMA and NCAs for the notification. This information is typically readily available to the firm. The transmission via the forms available in the annex of the proposed draft RTS will generate a very low one-off cost, which may be incurred again if the firm decides to renew the request after 30 months.
Costs to other stakeholders	*Non-significant*
Indirect costs	*Non-significant*

5.6. Non-discriminatory access to and licencing of benchmarks

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[1], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to further specify the open access regime created by MiFIR, setting out detailed provisions for operationalising the mentioned regime.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a Level 1 baseline. Whenever market practices are

[1] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

compliant with what is being required by MiFID, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[2] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at fleshing out the MiFIR access provisions. The objective is to achieve a uniform application of the MiFIR access provisions, maximising its effects and minimising the cost for the relevant stakeholders.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which can be either the MIFIR text or where available current market practices.

The stakeholders identified are CCPs, trading venues, persons with proprietary rights to a benchmark and competent authorities.

The next section covers the different technical options and the options to be considered in the RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

Open, fair and non-discriminatory access to benchmarks is a cornerstone of the new MiFID regime. Open access aims at promoting greater competition among market infrastructures and ultimately reduce costs for end investors. Article 37 of MiFIR put into place a new set of requirements for the open access to benchmarks. The draft RTS define the level of information that needs to be disclosed when requesting access to the person with property rights to a benchmark for trading and clearing purposes.

The analysis is of a qualitative nature and takes into account the responses to the Discussion Paper (DP) published in May 2014, interviews carried out with stakeholders as well as desk research. A more detailed assessment will be available for the official publication of the draft technical standards.

3. Baseline

MiFIR mandates open access to benchmarks[80]. The regime aims at enhancing the ability of TVs and CCPs to trade and clear contracts on benchmarks. Several entities are typically involved in the owning of proprietary rights of components that are included in a benchmark. Market practices are (on average) not up to the standards of the framework Regulation

[2] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

[80] A **benchmark** means any rate, index or figure, made available to the public or published, which is periodically or regularly determined by the application of a formula to, or on the basis of the value of one or more underlying assets or prices, including estimated prices, actual or estimated interest rates or other values, or surveys and <u>by reference to which the amount payable under a financial instrument or the value of a financial instrument is determined</u>. (article 2(1)(39) MiFIR).

(MiFIR, Level 1). The standards of these practices, moreover, are not always transparent and adopted on the basis of non-discriminatory rules. The baseline would be in this case Article 37 of MiFIR, which grants to CCP and trading venues non-discriminatory access to “relevant prices and data feeds and information on the composition, methodology and pricing” and “licenses” (i.e. obligation to sell the benchmark at defined non-discriminatory conditions to any CCP or TV). According to Article 37(4) of MiFIR, ESMA shall develop draft RTS to specify:

1. The information to be made available through licensing;
2. Other conditions under which access is granted (including confidentiality of information); and

The standards to define when a benchmark is “new”.

4. Stakeholders

The draft RTS will directly impact the following stakeholders:

- Persons with proprietary rights to benchmarks (PBs) or individual components;
- Trading venues (TVs) and Central Counterparties (CCPs); and
- National Competent Authorities (NCAs).

PBs, which can be financial or non-financial entities, will be most affected, as they are required to fulfil the conditions attached to the access obligations. They will need to put in place procedures to handle individual access requests and provide the required information. The rules will also have an impact on owners of individual components of a benchmark, which will need to provide the information if necessary for the implementation of the access arrangements.

CCPs and TVs are expected to benefit from having more predictability in terms of accessing benchmarks, including more legal certainty around procedures and risks of potential legal disputes.

NCAs will need to have systems in place to supervise the proper implementation of the access conditions and the information to be disclosed, as well as potential circumvention via newly created benchmarks.

The draft RTS will also generate indirect costs and benefits. Better flow of information may improve the price discovery mechanism. Better access to benchmarks will reduce the pricing power of PBs, as they will be only able to price discriminate users using transparent and objective criteria, and contribute to a level playing field.

Most of these effects however stem already from the requirements set out in Level 1 and are only marginally influenced by the draft RTS.

5. Technical Options

The incremental obligations arising from the draft RTS rules can be clustered in three main areas:

1. Information to be made available through licensing (relevant price and data feeds, composition, methodology, pricing, other information);
2. Other conditions under which access is granted (access to information, information storage, information use, agreed procedures, licence agreement); and
3. New benchmarks.

(1) Information to be disclosed

For the purpose of Article 37(4)(a), technical standards shall define the set of information to be made available to CCPs and TVs through licensing with focus on the following areas:

- Principles guiding the disclosure process;
- Price and data feeds; and
- Composition of the benchmark, methodology and pricing.

Information shall be only made available for trading and clearing purposes.

Technical Option 12: Principles guiding the disclosure of information

Policy Objective	Ensuring a fair, transparent and non-discriminatory provision of information.
Proposal	TVs and CCPs shall only obtain information that is necessary for trading and clearing purposes. The information required depends on a number of factors, including the relevant financial instrument being traded or cleared and the type of benchmark that the financial instrument references. When requesting information from a PB, a TV or CCP shall explain how such information is required for trading or clearing purposes. A PB shall supply the requested relevant information either on a one-off basis, or on a continuous or periodic basis, depending on the type of information concerned. A PB shall provide information to a TV/CCP on the same basis as it provides information to other TVs/CCPs, unless a different basis can be objectively justified. A shall provide all relevant information to all TVs, CCPs and any other licensees on the same timescales. Where a PB does not have access to relevant information or cannot pass such information on to a trading venue or CCP due to non-discriminatory restrictions, the TV or CCP shall request such information directly from the third party or parties who own it. Where appropriate, the PB shall notify the

	TV or CCP of whom it may contact at the third party or parties to be able to access the relevant information. If a PB can show that certain information is available publicly or through other commercial means to a TV or CCP, it does not need to supply that information through licensing to that TV or CCP.

Technical Option 13: Price and data feeds

Policy Objective	Allowing TVs and CCPs to request information in respect of price and data feeds necessary for trading and clearing of the benchmark.
Proposal	Relevant information in respect of price and data feeds shall at least include: i. a feed of the relevant benchmark's values; ii. prompt notification of any inaccuracy in the calculation of a benchmark's value and of the updated or corrected benchmark value; iii. historical benchmark values where the person with proprietary rights to the benchmark maintains such information.

Technical Option 14: Composition of the benchmark, methodology and pricing

Policy Objective	Ensure that TVs and CCPs can access relevant information for trading and clearing activities, as well as market surveillance Disclose information about the components of a benchmark to promote a more efficient and competitive market, allowing for better-informed investment decisions and more effective market surveillance, and ensuring that it does not mislead markets about its representativeness. Make methodologies behind benchmarks transparent enough for users to have a more informed judgement about their quality and create a more competitive market (reducing barriers to entry).
Proposal	<u>Composition and methodology</u> The information provided shall allow the TV or CCP to understand how each benchmark value is developed, the actual methodology used to make benchmark's values and the rationale for adopting a particular methodology. Unless such information is not needed for trading or clearing purposes, relevant information in respect of composition and methodology shall at least include: i. definitions of key terms; ii. all criteria and procedures used to develop the benchmark,

	including input selection, the mix of inputs used to derive the benchmark, the procedures and practices that control the exercise of discretion, priority given to certain data types, minimum data needed to determine a benchmark, any models or extrapolation methods, and the methodology used to determine the benchmark's value; iii. the procedures used to calculate the benchmark in periods of market stress or disruption, or when inputs are temporarily unavailable, such as when inputs are suspended or closed; iv. the hours during which the benchmark is calculated. v. the procedures which govern the benchmarks rebalancing methodology and the resulting weightings of the constituents of the benchmark; vi. the procedures for dealing with error reports, including when a revision of a benchmark would be applicable; vii. information regarding the frequency for any internal reviews and approvals of the composition and methodology. Where applicable, information regarding the procedures and frequency for external review of the composition and methodology; viii. the circumstances and procedures under which the person with proprietary rights to that benchmark will consult with the trading venue or CCP that uses the benchmark, as appropriate; ix. the identification of potential limitations of the benchmark, including its operation in illiquid or fragmented markets and the possible concentration of inputs; x. procedures for making changes to the composition and methodology and details of any change thereof; Pricing Unless such information is not needed for trading or clearing purposes, relevant information in respect of pricing shall include the values, types and sources of inputs used to develop the benchmark's values.

(2) Other access conditions

Other conditions apply to the scope of use and conditions of redistribution of the information provided by a PB. Access must be granted on a non-discriminatory basis, based on transparent and objective criteria that treat same categories of users in the same way. The PB and the TV/CCP will need to have adequate policies, procedures and systems in place for a smooth implementation and continuation of access requests and further arrangements. The conditions aim at striking a balance between access to benchmarks and the protection of property rights of the PB. The conditions under Article 37 of MiFIR and in the draft RTS, nonetheless, cannot prevent the application of access requirements under Articles 35 and 36 of MiFIR.

Technical Option 15: Scope of use and other conditions

Policy	Ensure transparent and non-discriminatory access conditions while

Objective	protecting property rights.
Proposal	A PB shall set the conditions for licencing agreements pursuant to Article 37 of Regulation (EU) No 600/2014 and shall make those conditions freely available to any TV or CCP upon request. Where a PB sets different conditions, including fees, and the conditions for paying them, for different categories of licensees, those differences shall be objectively justified according to parameters such as the quantity, scope or field of use and that person shall make freely available to a trading venue or CCP upon request the conditions for the category to which that trading venue or CCP belongs. A PB shall make the criteria defining the different conditions per category of licensee publicly available. The conditions shall be granted on fair, reasonable and non-discriminatory terms. They shall set the same rights and obligations to the same category of licensee, including where the person with proprietary rights to a benchmark and a trading venue or CCP are connected by close links. The PB shall ensure that the conditions for licencing agreements and the specific content of the agreement do not contain any provision that restricts or creates obstacles for the establishment or future extension of the access arrangement to other entities or mandate the use of a designated CCP, where derivatives constructed on the benchmark would have to be mandatorily cleared, or in any other way hinder the rights under Articles 35 and 36 of Regulation (EU) 600/2014. In particular, the conditions shall: (a) set the scope of use and content of information for each use under the licence, clearly identifying in each case confidential information; (b) set the conditions for redistribution, if allowed, of information by trading venues and CCPs; (c) set the technical requirements to provide the service; (d) set the fees and the conditions for paying them; (e) set the conditions under which the agreement expires taking into consideration the lifespan of financial instruments that reference the benchmark; (f) set the contingency circumstances and the relevant measures to regulate the continuation, transitional periods and interruption of the service during this contingency period, which: i. cater for termination in an orderly manner; ii. ensure that termination is not triggered by minor breaches of the contract and that the relevant party is given a reasonable amount of time to remedy any breach that does not give rise to immediate termination; and

	(g) set the governing law and allocation of liabilities. The person with PB shall, where necessary, amend the conditions when an addition or modification of those conditions is agreed bilaterally with a particular TV or CCP. The PB shall make any additional or modified conditions available to all other licensees within the same category.

Technical Option 16: Policies, procedures and systems

Policy Objective	Ensure a smooth implementation of the access arrangement and the continuation of those arrangements over time on a transparent and non-discriminatory basis.
Proposal	The licensing agreement shall require that the PB and the TV or CCP put in place adequate policies, procedures and systems to ensure: (a) a prompt implementation of the service since its request according to a prearranged schedule; (b) all information provided by both parties shall be kept up-to-date throughout the duration of the access arrangement, and each party shall inform the other about any material changes, including information that could have a reputational impact; (c) a fluent communication channel between all parties that is timely, reliable and secure during the lifetime of the license agreement; (d) consulting where any change to either entity's operations is likely to have a material impact on the licence agreement or on the risks to which the other entity is exposed; (e) the provision of information and the relevant instructions to transmit and use it through the technical means agreed; (f) disclosing any modifications to the technical means agreed to the trading venue or CCP as soon as possible before they are implemented; (g) notification to the relevant party within a reasonable notice period before any change to either entity's operations is implemented, where the impact of a change is unlikely to be significant; (h) the provision of up-to-date information to persons with proprietary rights to a benchmark regarding the dissemination, if redistribution is allowed, of information to clearing members of CCPs and participants of trading venues; and (i) resolving disputes and termination of the agreement occurs in an orderly manner according to the identified circumstances.

(3) New benchmarks

In order to protect innovation and the legitimate intellectual property, Article 37 of MiFIR provides for the possibility to exempt new benchmarks from the obligation to licence for a 30-month period. The draft RTS provide guidance on how benchmarks may be proven to be new by the PB. Under Article 37(1) of MiFIR, there are two cumulative criteria for a benchmark to be proven new:

(i) the new benchmark is not a mere copy or adaptation of any such existing benchmark, the methodology, including the underlying data of the new benchmark is meaningfully different from any such existing benchmarks; and

(ii) the new benchmark is not a substitute for any such existing benchmark.

Technical Option 17: New benchmarks

Policy Objective	Preventing PBs to circumvent the legislation and/or create barriers to entry by repeatedly making small changes to existing benchmarks to benefit from the transitional period of 30 months.
Proposal	A PB shall establish whether a benchmark is "new". A benchmark is less likely to be "new" if any of the following factors apply: i. Contracts based on the newer benchmark are capable of being netted or substantially offset with contracts based on the relevant existing benchmark by a CCP. ii. The regions and industry sectors covered by the relevant benchmarks are the same, or relatively similar. iii. The values of the relevant benchmarks are highly correlated. iv. The composition of the relevant benchmarks, having regard to the number of constituents, the actual constituents, their values and their weightings, are the same, or relatively similar. v. The methodologies of each relevant benchmark are the same, or relatively similar. Each assessment shall also take into account any other factors specific to the types of benchmarks being assessed, as appropriate. Any adaptation to an existing benchmark, whether material or not, shall not constitute a new benchmark. Each newly released series of a benchmark shall not constitute a new benchmark.

6. Cost/benefit impact assessment

This section assesses qualitative benefits and costs of these incremental obligations, which cover the following areas:

1. Information to be disclosed;
2. Other access conditions; and
3. New benchmarks.

The legal obligations setting the conditions concerning the information a PB shall disclose mainly generate on-going costs to make sure that this information is available over time and modified according to the trading and clearing needs of the CCP/TV (including market surveillance and margining). NCAs will have to supervise the implementation of these requirements, which may in some cases be imposed against the will of the PBs. The draft

RTS also create organisational requirements, which will result in recurring costs. Most costs, however, already stem from Level 1.

Indirect costs are typically the main component of the costs that an access regime generates. However, most of these indirect benefits and costs, such as the benefits of a more informed and competitive trading environment with potentially lower costs and better services, accrue to the indirect effects assessment done by the Level 1 cost-benefit analysis. As a result, the indirect costs and benefits of the Level 2 rules are very limited.

(1) Information to be disclosed

Technical Option 12: Principles guiding the disclosure

Proposal	*TVs and CCPs shall only obtain information that is necessary for trading and clearing purposes. A TV or CCP may request from the PB the information and shall explain how such information is required for trading or clearing purposes.* *A PB shall supply relevant information promptly, either on a one-off basis or on a continuous or periodic basis, depending on the type of information concerned. A PB shall provide information to a TV/CCP on the same basis (including same timescales) as it provides to other TV/CCPs, unless a different basis can be objectively justified. Where a PB does not have access to relevant information or cannot pass such information on to a TV or CCP, the TV or CCP shall request such information directly from the third party or parties who own it.* *If a PB can show that certain information is available publicly or through other commercial means to a trading venue or CCP, it does not need to supply that information through licensing to that trading venue or CCP.*
	Qualitative description
Benefits	The requirements are expected to ensure a fair, transparent and non-discriminatory treatment of CCPs and TVs asking for information about the benchmark for trading and clearing purposes. This will improve access to financial benchmarks and ultimately allow fairer competition in secondary trading and a better information flow, resulting in greater market efficiency.
Costs to regulator: • *One-off* • *On-going*	*Non-significant on-going and recurring costs.* NCAs will supervise the application of these principles on an on-going basis. This might require internal procedures and allocation of responsibilities to supervise their implementation.
Compliance costs:	*Non-significant one-off and recurring costs for PBs.* Commercial practices in the area of benchmarks currently only meet the principles to a limited

• *One-off* • *On-going*	extent. In particular, PBs often have price discrimination power, which allows them to offer different terms on a case-by-case basis. The requirement to provide the information in a fair, transparent and non-discriminatory matter is expected to limit the pricing power of PB. However, most of these compliance costs stem from Level 1. As a result of the implementation of such principles, the PBs will have to cancel existing contracts and enter into new ones to be compliant with those principles. This might entail one-off costs to review existing contracts and approve modifications, but also recurring costs to make sure future contracts and modifications are compliant with such principles. *Non-significant for CCPs and TVs.* CCPs and TVs may have low recurring costs to verify compliance of the PBs with the principles, as well as the information duty to explain how the information will be used for clearing and trading purposes. This may require the re-organisation of resources and responsibilities within the firm to some extent.
Costs to other stakeholders	*Non-significant.*
Indirect costs	*Quality effects.* Reduced price discrimination power of PBs may affect their returns on investment and reduce incentives to invest in new products. However, this already stems from Level 1 and is counterbalanced by the possibility to exempt new benchmarks from the access requirements.

Technical Option 13: Price and data feeds

Proposal	*Relevant information in respect of price and data feeds shall at least include:* • *a feed of the relevant benchmark's values;* • *prompt notification of any inaccuracy in the calculation of a benchmark's value and of the updated or corrected benchmark value;* • *historical benchmark values where the PB maintains such information;*
	Qualitative description
Benefits	The requirements aim at preserving the quality of the information flow over time, so as to protect trading and clearing functions, as well as promoting a better price discovery. The data also allow compliance with legal obligations related to trading and clearing.

Costs to regulator: • *One-off* • *On-going*	*Non-significant on-going and recurring costs.* NCAs will supervise the application of these rules, most likely ex post, i.e. once violations occur and are detected.
Compliance costs: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* PBs may incur some costs to produce updates and notifications with no additional revenues. However, these services can be integrated within the current data feed through which information is transmitted. Hence, one-off IT costs and recurring personnel costs for the PBs are expected to be low.
Costs to other stakeholders	*Non-significant.*
Indirect costs	*Non-significant.*

Technical Option 14: Composition of the benchmark, methodology and pricing

Proposal	<u>*Composition and methodology*</u> *The information provided shall allow the TV or CCP to understand how each benchmark value is developed, the actual methodology used to make benchmark's values and the rationale for adopting a particular methodology. Relevant information includes: key terms; criteria and procedures to develop the benchmark; the procedures used to calculate the benchmark in periods of market stress or when inputs are unavailable; rebalancing methodology and the resulting weightings of the constituents; procedures for dealing with error reports; information regarding the frequency and procedures for internal and external reviews of the composition and methodology; the identification of potential limitations of the benchmark; procedures for making changes to the composition and methodology and details of any change thereof.* <u>*Pricing*</u> *Relevant information in respect of pricing shall include the values, types and sources of inputs used to develop the benchmark's values.*
	Qualitative description
Benefits	The rules are expected to ensure that TVs and CCPs can always access relevant information for trading and clearing activities. Increased transparency: the disclosure of information about the components of a benchmark should ensure that the benchmark does not

	mislead the market about its representativeness. Improved market functioning: Methodologies for benchmarks will be more transparent to users which will be in a better position to take informed decisions. Overall, the quality of price discovery should improve and the rules are expected to contribute to more competitive markets (reducing barriers to entry).
Costs to regulator: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* NCAs will supervise the application of these rules, most likely ex post, i.e. once violations occur and are detected.
Compliance costs: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* PBs may incur one-off costs to modify current procedures in order to produce the additional information to be transmitted to clients. In addition, they will incur recurring costs to make sure that this information is constantly updated and available to clients. This may entail investments in both IT and personnel to ensure the monitoring of the information flow.
Costs to other stakeholders	*Non-significant.*

(2) Other access conditions

Technical Option 15: Scope of use and other conditions

Proposal	*Where a PB sets different conditions for different categories of licensees, those differences shall be objectively justified. A PB shall make the criteria defining the different conditions per category of licensee publicly available. The conditions shall be granted on fair, reasonable and non-discriminatory terms and set the same rights and obligations to the same category of licensee.* *The PB shall ensure that the conditions for licencing agreements do not contain any provision that restricts or creates obstacles for the establishment or future extension of the access arrangement to other entities or mandate the use of a designated CCP, where derivatives constructed on the benchmark would have to be mandatorily cleared. The conditions shall, in particular: set the scope of use and content of information; set the technical requirements to provide the service; set the fees and the conditions for paying them; set the conditions under which the agreement expires; set the contingency circumstances and the measures for the continuation, transitional periods and interruption of the service during this contingency period, and set the governing law and allocation of*

	liabilities. *The PB shall make any additional or modified conditions available to all other licensees within the same category.*
	Qualitative description
Benefits	The rules are expected to ensure a smooth implementation of the access requests and the continuation of the arrangements over time on a transparent and non-discriminatory basis.
Costs to regulator: • *One-off* • *On-going*	*Non-significant on-going and recurring costs.* NCAs will supervise the application of these rules, most likely ex post, i.e. once violations occur and are detected.
Compliance costs: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* PBs may incur one-off costs to modify current procedures in order to ensure compliance with these principles. PBs will incur one-off costs to update market practices and align them with the new principles. The rules also generate recurring costs to make sure that this information is constantly updated and available to clients. Depending on the size of the business, the requirements may require both an IT investment and dedicated personnel.
Costs to other stakeholders	*Non-significant*
Indirect costs	*Quantity effect.* Implementation costs may be high enough to make some benchmarks not profitable, so the owner may decide to discontinue those. However, these effects stem rather from Level 1 than from the draft RTS.

Technical Option 16: Policies, procedures and systems

Proposal	*The PB shall put in place among others adequate policies, procedures and systems to ensure: a prompt implementation of the service; each party shall inform the other about any material changes; a fluent communication channel between all parties during the lifetime of the license agreement; consulting where any change to either entity's operations is likely to have a material impact on the licence agreement or on the risks to which the other entity is exposed; notification to the relevant party within a reasonable notice period before any change to either entity's operations is implemented; resolving disputes and termination of the agreement occurs in an orderly manner according to the identified circumstances.*
	Qualitative description

Benefits	Conditions are granted in a fair, reasonable and non-discriminatory way. Better information flow should provide for a more effective tool to adapt to different market conditions.
Costs to regulator: • *One-off* • *On-going*	*Non-significant to significant recurring cost.* NCAs will have to supervise the application of these rules, most likely ex post intervention, i.e. once violations occur and are detected.
Compliance costs: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* The PBs may incur recurring costs to further develop the information flow and to establish a fluent communication channel beyond the data feed, which allows prompt notification of relevant changes to the operations and technical means. Counterparties to the PBs are expected to incur non-significant recurring costs to notify some of the information described above.
Costs to other stakeholders	*Non-significant.*
Indirect costs	*Non-significant.*

(3) New benchmarks

Technical Option 17: New benchmarks

Proposal	*A benchmark is less likely to be new (and so benefit of the exemption) if:* *a. Contracts based on the newer benchmark are capable of being netted or substantially offset with contracts based on the relevant existing benchmark by a CCP.* *b. The regions and industry sectors covered by the relevant benchmarks are the same, or relatively similar.* *c. The values of the relevant benchmarks are highly correlated.* *d. The composition of the relevant benchmarks, having regard to the number of constituents, the actual constituents, their values and their weightings, are the same, or relatively similar.* *e. The methodologies of each relevant benchmark are the same, or relatively similar.* *Each assessment shall also take into account any other factors specific to the types of benchmarks being assessed, as appropriate.* *Any adaptation to an existing benchmark or a newly released series of a benchmark shall not constitute a new benchmark.*
	Qualitative description
Benefits	The rules aim at preventing PBs to circumvent the legislation by repeatedly making small changes to their existing benchmarks to benefit from the transitional period of 30 months and provide guidance on which factors to

	consider when establishing whether a benchmark is new or not.
Costs to regulator: • *One-off* • *On-going*	*Non-significant one-off and recurring costs.* NCAs will have to ensure that the request for exemption comply with the requirements for the identification of new benchmarks. It is expected that recurring costs to verify that the product meets those requirements are non-significant. It is considered likely that NCAs will reallocate of responsibilities for the occasional assessment within a broader procedure for the on-going supervision of benchmark owners' practices.
Compliance costs: • *One-off* • *On-going*	*Non-significant recurring costs.* The PB may incur some recurring costs to make sure that new benchmarks are properly identified. Most of the compliance costs already stem from Level 1.
Costs to other stakeholders	*Non-significant.*
Indirect costs	*Non-significant.*

6. Requirements applying on and to trading venues

6.1. Admission to trading

Obligations applying on and to trading venues regarding admission to trading (Article 51(6) of MiFID II)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[81], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft RTS and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft RTS.

The purpose of the proposed draft RTS is to establish the obligations that apply to trading venues regarding admission to trading, as described by MiFID II Article 51(6).

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed draft RTS against a MiFID II baseline. Whenever market practices are above what is being required by MiFID II, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[82] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at providing consistency and clarity in specifying the characteristics a financial instrument should have to be admitted to trading, specifying arrangements to provide more consistent monitoring by regulated markets of issuers' obligation to provide disclosure (initial, ongoing and ad-hoc), and facilitating access to information on as equal terms as possible.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's RTS, which can be either MiFID I Level 2 or MiFID II Level 1 requirements, or the existing market practices when those are above MiFID II.

The stakeholders identified are regulated markets, the participants of those, National competent authorities (NCAs) and issuers.

[81] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
[82] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

The next section covers the different technical options and the options to be considered in the draft RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the draft RTS.

2. Introduction

Financial instruments need to fulfil some basic requirements to be admitted to trading on regulated markets. These requirements include both the characteristics that financial instruments need to have for being considered eligible for trading and the arrangements regulated markets need to have related to disclosure and access to information. These requirements are in addition to those imposed by the Consolidated Listing Directive, the Transparency Directive, the Prospectus Directive and the Market Abuse Regulation.

ESMA is asked in Article 51(6) of MiFIR to establish the *characteristics* that financial instruments need to have for being considered eligible for admission to trading on a regulated market, clarify the arrangements that regulated markets shall have in place regarding *disclosure* and clarify the arrangements needed to facilitate members' *access to information.*

The analysis that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014. The technical options proposed by ESMA in this CP may be different than those proposed in the DP as they have been informed by the feedback received since the publication of the DP. No mention to quantification of costs and benefits was made in the responses to the DP.

3. Baseline

The relevant legal text is a combination of MiFID II Level 1 (for the whole draft RTS) and MiFID I Level 2 (in some areas). Article 51 of MiFID II deals with the basic requirements that need to be fulfilled for the admission to trading of financial instruments to regulated markets. It requires that regulated markets (i) have clear and transparent rules regarding admission of financial instruments to trading, ensuring those instruments are capable of being traded on a fair, orderly and efficient manner and are freely negotiable (if they are transferable securities); (ii) have arrangements to review regularly the compliance with the admission requirements; (iii) establish and maintain arrangements to verify that issuers of those securities comply with their obligations regarding initial, ongoing and ad-hoc disclosure obligations; and (iv) have arrangements which facilitate its members or participants having access to public information. The impact assessment of such policy decisions covering the general aspects of the Directive has been already performed and published by the European Commission as part of the impact assessment of MiFID II[83].

Article 51(6) of MiFID II requires ESMA to develop a draft RTS to address the following a) specify the *characteristics* that financial instruments need to have for being considered eligible for admission to trading on a regulated market (those that determine when an

[83] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

instrument can be traded in a fair, orderly and efficient manner (same as in existing MiFID I Level 2); b) clarify the arrangements that regulated markets shall have in place regarding *disclosure* (to verify that the issuer of a security complies with the initial, ongoing and ad-hoc disclosure obligations), and c) clarify the arrangements needed to facilitate members' *access to information.* Both b) and c) represent a new request to ESMA. The topic was covered in ESMA's MiFID/MiFIR Discussion paper (DP) published in May 2014, section 6.1.

We expect costs of minimal significance to arise from the implementation of 51(6)(a), as the requirements considered by ESMA largely mirror the ones already in existence. MiFID Article 51 is virtually identical to Article 40 of MiFID I in respect of which implementing measures have been adopted in the MiFID I Level 2 Regulation (Commission Regulation (EC) No 1287/2006), Articles 35-37. MiFID I Level 2 only addresses aspects related to MiFID I Level 1 Article 40(1) and 40(2) (equivalent to MiFID II Article 51(1) and 51(2)) and establishes the *criteria* regulated markets should follow to admit a share to trading (distribution to public and historical financial/issuer/business information), to determine when a transferable security is capable of being traded in an orderly, fair and efficient manner (clear terms, price reliable and publicly available, sufficient information publicly available to value the security, adequate settlement and derivative procedures and that settlement arrangements reflects properly the price or value of the underlying). For units in collective investment undertakings, it requires the undertaking complies with the necessary conditions for its marketing, and sets the criteria for open and close ended units in collective investment undertakings to be considered capable of being traded in a fair, orderly and efficient manner (distribution, market making arrangements or appropriate arrangements to redeem the units, NAV publication).

For ETFs, ESMA's Guidelines already foresee that Undertakings for collective investments in transferable securities (UCITS) ETFs offer market making arrangements and direct redemption facilities at least in cases where the regulated market value of units or shares significantly varies from the net asset value. Some regulated markets already require that for non-UCITS ETFs as well.

Regarding *disclosure*, there are no Level 2 rules that apply under MiFID I, and existing practice on regulated markets seems to vary significantly : some regulated markets only require that issuers are aware of their obligation under disclosure rules and transparency rules applicable to listed companies, others require issuers to adopt an appropriate management control system, others require that a sponsor (or other independent financial advisers) undertake the duty to inform the management body with regard to the responsibilities and obligations resulting under the laws in force from admission to trading.

Regarding arrangements to *verify compliance with disclosure obligations*, there are no Level 2 rules either. In terms of market practice, some jurisdictions require in addition to filing a prospectus to be approved by the local regulator, that there are also procedures in place to verify that disclosures of periodic information take place. Three models seem to exist:

1. Trading venue and NCAs verify compliance
2. NCA verifies compliance
3. Trading venue verifies compliance

Some jurisdictions offer premium and standard listings. Premium listings require higher levels of disclosure than standard listings.

In terms of *access to information* for investors, the Prospectus, Transparency and Market Abuse Directives (in the future the Market Abuse Regulation) establish the information to be provided. The Transparency Directive and its implementing measures require regulated information for issuers on regulated markets to be disseminated through an information service provider that complies with specified minimum standards. Specifically, regulated information must be disseminated in a manner ensuring that it is capable of being disseminated to as wide a public as possible. In addition, each Member State has a repository to act as a storage mechanism for information on all issuers on the regulated markets for that Member State.

The responses to the DP show the information is made public in a number of ways: regulated markets website or related web service developed by the regulated market itself, NCA's website or special information systems operated by the NCA, market operator website, officially appointed mechanism, which include the regulated market or the NCA, websites of issuers, system of central data repositories, NIS (Network information system), approved regulatory information services, printed media or media with a website accessible to investors.

The purpose of this document is to CBA the incremental obligation of ESMA's draft RTS against the MiFID I (Implementing Regulation) and MiFID II baselines described above. The actual impact of these draft RTS will depend on the current state of play, and the existing market practice if above the standards required by MiFID I/II.

4. Stakeholders

The stakeholders that are relevant for this standard are:

Regulated markets may be affected as they may need to implement (one-off costs) and maintain (ongoing costs) ESMA's specifications of arrangements to verify issuers compliance with the required disclosures (initial, ongoing and ad-hoc) and of arrangements to facilitate members or participants' access to information (i.e. website publication of key issuer's events). The extent of the costs will depend on the exact specification of the draft RTS vs. the existing market practice. We expect no incremental significant costs related to ESMA's specification of 51(6)(a), as this is expected to mirror existing regulations.

Members/participants of regulated markets may be impacted as some of ESMA's requirements may marginally change the way they access information made public. We expect that this group overall will likely benefit from access to public information in more equal terms, and also from issuers providing the required information disclosures in a timely manner.

NCAs may be affected as their supervision units may need to set new systems or procedures to monitor compliance with ESMA's requirements.

Issuers may be affected when listing new securities, particularly ETFs. They may incur some incremental costs associated with complying with regulated markets' more consistent monitoring of their disclosures and information provision. These costs need to be separated from those related to MiFID Level 1 legislation or other rules related to admission to trading (listing), transparency and market abuse, which should have been subject to CBA separately.

5. Technical Options

We summarize below the options considered by ESMA in this draft technical standard, in relation to Article 51(6)

1. Characteristics of financial instruments for admission to trading, covering:
2. Arrangements to verify issuer's required disclosures
3. Arrangements to facilitate access to information

Regarding *characteristics of financial instruments* to be admitted to trading, ESMA is considering to keep the existing Level 2 regulations with minor adjustments on requirements to be imposed on ETFs, UCITS and non-UCITS.

(1) Technical Option 1: Characteristics of financial instruments for admission to trading

Technical Option 1.a: Transferable Securities

Policy Objective	Provide consistency and clarity in specifying the characteristics a financial instrument should have for admission to trading.
Proposal	Keeping existing MiFID I Level 2 requirements in Article 35.

Technical Option 1.b.: Units in collective investment undertakings

Policy Objective	Provide consistency and clarity in specifying the characteristics that units of collective investment undertakings should have for admission to trading.
Proposal	Keeping existing MiFID I Level 2 requirements in Article 36, adding to them the following: 3.c) in the case of exchange-traded funds, whether in addition to market making arrangements appropriate alternative arrangements for investors to redeem units are provided at least in cases where the value of the units significantly varies from the net asset value.

Technical Option 1.c.: Derivatives

Policy Objective	Provide consistency and clarity in specifying the characteristics that derivatives should have for admission to trading.
Proposal	Keeping existing MiFID I Level 2 requirements in Article 37.

(2) Technical Option 2: Arrangements to verify issuer's required disclosures

Policy Objective	More consistent monitoring by regulated markets of issuers obligation to provide disclosure (initial, ongoing and ad-hoc).
Proposal	To establish requirements asking regulated markets to have a policy in place to determine how they verify compliance of obligations by an issuer, and to publish that on their website and to effectively check compliance with obligations. That policy should disclose the arrangements (processes and how an issuer should demonstrate compliance) that regulated markets use to efficiently verify issuers' compliance on a periodic basis. Regulated markets should ensure as well that issuers are aware of their obligations upon admission to trading and upon request.

(3) Technical Option 3: Arrangements to facilitate access to information

Policy Objective	Provide access to publicly available information on an as equal basis as possible
Proposal	To keep existing requirements related to disclosures required by the Prospectus, and Transparency Directives and the Market Abuse Regulation. Regulated markets should provide easily accessible and free of charge description of how they facilitate access to this information, and should publish that on their website.

6. Cost/benefit impact assessment

No mention to costs and benefits arising from these draft RTS was made in any of the responses to the DP. We summarize below a qualitative cost benefit analysis of the options considered by ESMA and mentioned above. This section will list the technical options that represent the incremental obligations resulting from the implementation of Level 2 requirements.

(1) Technical Option 1: Characteristics of financial instruments for admission to trading

	Qualitative description
Benefits	Aligns requirements for UCITS and non-UCITS ETFs and provides more investor protection in case of unit redemption for non-UCITS ETFs, particularly in periods of market turmoil.
Costs to regulator: - *One-off* - *On-going*	It could imply additional supervision costs for ETFs depending on the jurisdiction and the final drafting of the technical standard.
Compliance costs: - *One-off* - *On-going*	It may imply incremental compliance costs for ETFs currently not complying with this requirement, both one-off (to set the arrangement missing) and ongoing costs to keep operating it. May also imply incremental costs for regulated markets currently requiring just one way of liquidity provision. However, this requirement reflects current practice existing in some regulated markets, and for those there should be no incremental cost.
Costs to other stakeholders	None
Indirect costs	Potential increased costs for ETFs currently not providing alternative liquidity facilities may be passed on to investors in those funds through higher costs.

(2) Technical Option 2: Arrangements to verify issuer's required disclosures

	Qualitative description

Benefits	Requirement may ensure more clarity and consistency for investors to timely receive relevant disclosures from issuers. It could also aid a more efficient price formation for those securities were issuers do not voluntarily comply with required disclosures.
Costs to regulator: - *One-off* - *On-going*	High level requirements should impose minimal costs, if any, on NCAs. The costs related to supervision and monitoring related to the compliance verification policy to be implemented by exchanges should be attributed to MiFIR and not to ESMA's requirements.
Compliance costs: - *One-off* - *On-going*	Regulated markets may have costs arising from drafting and implementation (one-off), as well as subsequent monitoring (ongoing costs) of a policy to verify compliance, if not existing already. We assume most regulated markets will already have similar arrangements in place and the resulting compliance costs to be of minimal significance. Issuers should incur no additional costs to those arising from implementation of MiFIR and other legislation mandating when disclosure should be made.
Costs to other stakeholders	None
Indirect costs	Any wider market costs arising from closer supervision of compliance should be attributed to MiFIR.

(3) Technical Option 3: Arrangements to facilitate access to information

	Qualitative description
Benefits	Requirement may ensure a clearer and more consistent description of where to find information that has been made public by users, which may benefit investors, users and NCAs to some extent
Costs to regulator: - *One-off*	High level requirements should impose minimal costs, if any, on NCAs. The costs related to supervision and monitoring of the incremental

- *On-going*	obligation should be minimal.
Compliance costs: - *One-off* - *On-going*	Regulated markets may incur some IT development costs related to update their website to make the public information displayed clearer and more accessible. Some regulated markets that currently do not provide issuer information on their websites may also incur the cost of linking to the national repository on issuer information, in addition to adding the information to their websites. We anticipate this cost to be minimal as most regulated markets already disseminate publicly available information about the issuers listing through their platforms.
Costs to other stakeholders	None
Indirect costs	Any wider market costs arising from closer supervision of compliance should be attributed to MiFIR.

6.2. Suspension and removal of Financial Instruments from trading – connection between a derivative and the underlying financial instrument

Obligation to specify the cases in which a derivative is also suspended or removed from trading (regulated markets, MTFs and OTFs) (Articles 52(2)(7) and 32(2)(8) of MiFID II)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[84], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such

[84] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to establish the cases in which a derivative should also be suspended or removed from trading by regulated markets, MTFs and OTFs.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFID II baseline. Whenever market practices are above what is being required by MiFID II, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[85] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at limiting market abuse in cases of suspension or removal from trading of a financial instrument. The objective is that the behaviour that the suspension is designed to prevent cannot simply transfer to a related market while at the same time supporting fair and orderly trading markets.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which can be either the MiFID requirements or the existing practices of regulated markets when they are above MiFID.

The stakeholders identified are investment firms, including systematic internalisers, which trade in regulated markets, MTFs or OTFs, ESMA/National Competent Authorities (NCAs) and market operators (MOs) operating an MTF, OTF or a regulated market.

The next section covers the different technical options and the options to be considered in the RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

Articles 32(1) and 52(1), both of MiFID II empower respectively an investment firm or an MO to suspend or remove from trading financial instruments which no longer comply with the rules of the regulated market, unless such a step would be likely to cause significant damage to investors' interests or the orderly functioning of the market. Articles 32(2) and 52(2) also require that "a market operator that suspends or removes from trading a financial instrument also suspends or removes from trading the derivatives that relate or are referenced to that financial instrument where necessary to support the objectives of the suspension or removal of the underlying financial instrument".

[85] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

According to Articles 32(2) and 52(2) of MiFID II the NCA in whose jurisdiction the suspension or removal originated has to decide whether it is necessary to expand the suspension or removal if one of the three reasons for doing so exists: suspected market abuse, a take-over bid or the non-disclosure of inside information about the issuer or financial instrument in breach of Articles 7 and 17 of Regulation (EU) No. 596/2014 on market abuse (MAR).

ESMA is asked in MiFID Articles 32(2)(8) and 52(2)(7) to specify the situations where a MO of a MTF, OTF or regulated market should remove or suspend a derivative when their underlying is suspended or removed from trading.

The analysis that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014. The technical options proposed by ESMA in this CP may be different than those proposed in the DP as have been informed by the feedback received since the publication of the DP. No mention to quantification of costs and benefits was made in the responses to the DP.

3. Baseline

The relevant legal text is MiFID II (Articles 32 and 52) which coves suspension and removal of financial instruments from trading on an MTF, OTF or regulated market. This regime is without prejudice to the power of NCAs to initiate a suspension or removal from trading at their own initiative under Article 69(2)(m) and (n) of MiFID II. The impact assessment of such policy decisions covering the general aspects of the Directive has been already performed and published by the European Commission as part of their impact assessment of MiFID II.

In order to ensure that the obligation to suspend or remove from trading such derivatives is applied proportionately, the European Securities Markets Authority (ESMA) has been empowered to implement this Level 1 rule by developing draft regulatory technical standard (Level 2 measures) - Articles 32(2) and 52(2) of MiFID II. The mandates are to specify the cases in which the connection between a derivative relating or referenced to a financial instrument suspended or removed from trading and the original financial instrument implies that the derivative is also to be suspended or removed from trading in order to achieve the objective of the suspension or removal of the underlying financial instrument. The topic was covered in ESMA's MiFID/MiFIR Discussion paper (DP) published on May 2014, section 6.1.

No current Level 2 rules are set at European level to specify the cases in which derivatives should also be suspended from trading, therefore the baseline for this CBA are MiFID Articles 32 and 52.

The purpose of this document is to CBA the incremental obligation of ESMA's Regulatory Technical Standards against the MiFID II baseline described above. Whenever market practices (including NCA practices) are above what is being required by MiFID, we will take that into consideration to determine costs and benefits.

4. Stakeholders

Three types of stakeholders are especially relevant for this standard: Investment firms, including systematic internalisers trading in relevant instruments, NCAs and MOs (market operators and, where relevant investment firms operating regulated markets, MTFs and OTFs).

Investment firms will be affected in their trading operations if some derivatives traded by them are suspended or removed from trading.

NCAs may be affected regarding the request and monitoring of the suspension or removal obligation.

MOs will be impacted as they will need to implement and comply with the obligation of trading suspension or removal. This provision also falls within the fair and orderly trading obligations of regulated markets, and so even in cases where a trading venue is not required to suspend a derivative, it is subject to an overarching responsibility to consider whether it is offering particular contracts that can continue to trade in an orderly way.

5. Technical Options

ESMA considered in its DP two main aspects to take into consideration: connection between the derivative and the relevant financial instrument and the objective for which the financial instrument is suspended or removed (suspected market abuse, a take-over bid or non-disclosure of inside information), and concluded that the reason for suspension should not be taken into consideration.

Another issue was to consider whether the extension of the suspension obligation should apply just derivatives with one single underlying or also those relating to baskets or indexes. In the case of the latter, there was also a question of whether that was feasible and how that extension could or should be applied. The inability to correctly price related derivatives, leading to a disorderly market, would be strongest for the cases where the price or value of the related derivative is completely dependent on the prevailing price or value of the financial instrument that is suspended or removed from trading as its sole underlying. When the underlying is a basket of financial instruments or an index of which the suspended financial instrument is only one part, the ability of market participants to determine the correct price would be diminished, at least to some extent.

After reviewing the responses received to the DP as well as views from NCAs and other stakeholders, ESMA is proposing to limit the extension of the trading suspension to derivatives with only one underlying.

Technical Option 1: Suspension of derivatives when related to only one financial instrument

Policy Objective	To support fairly and orderly trading markets, ensuring that the behaviour that a suspension is designed to prevent cannot simply transfer to a related market, and

Proposal	To suspend or remove from trading derivatives that are related or referenced to only one financial instrument.

6. Cost/benefit impact assessment

No mention to costs and benefits was made in any of the responses to the DP. For the technical options considered by ESMA we summarize below a qualitative description of the costs and benefits arising from them.

Technical Option 1: Suspension of derivatives when related to only one financial instrument

	Qualitative description
Benefits	Ensure that the behaviour that a suspension is designed to prevent cannot simply transfer to a related market. Support fairly and orderly trading markets, limit market abuse or use of insider information through derivatives. Ease of implementation, as derivatives which have more than one underlying (baskets or indexes) are excluded from the suspension or removal obligation. Those derivatives present significant challenges to feasibly determine the best way to extend the suspension of the trading obligation to them. Limited potential indirect unintended effects.
Costs to regulator: - *One-off* - *On-going*	NCAs and ESMA will have to have systems in place to determine which derivatives are connected to which financial instruments to request and monitor suspension of removal from trading for those derivatives affected. This information may need to be communicated to other NCAs as well. However, we do not expect significant costs here as it should be already regular practice and SARIS (ESMA's managed Suspension and Removal information System) allows the identification of the related derivatives. Furthermore, it should be noted that this obligation arises from Level 1 legislation and not from the provisions of this RTS.
Compliance costs: - *One-off* - *On-going*	Compliance costs would arise for regulated markets to establish systems and controls to be able to suspend those derivatives linked to financial instruments removed or suspended from trading, and to shift to trading again if necessary, in case they do not already exist. They would need as well as to notify their NCA, However, we do not expect significant costs here as it should be already market practice.

Costs to other stakeholders	Investors will not have access to trading in a derivative instrument if the underlying is suspended or removed from trading.
Indirect costs	Any indirect effects that could be identified would be already caused by the MiFID II (Level 1 legislation) as opposed to ESMA's specifications of the cases in which suspension has to occur for derivatives contracts. Market abuse could still be possible in some cases. Some derivative contracts in which one underlying has a significant weight will not be suspended when that underlying is suspended from trading, so it would still be possible to buy or sell the index and the components, and to profit in abnormal market conditions. However, this effect should be mitigated by NCAs being able to still suspend a particular derivative from trading in their own jurisdictions if they think it is appropriate to do so, even though that derivative may be connected to more than one underlying.

6.3. Information requirements of MTFs and OTFs

Trading process and finalisation of transactions in an MTF and an OTF (Article 18(10)(11) of MiFID II)

1. Executive Summary

Pursuant to Article 15 of the Regulation establishing ESMA[86], ESMA is empowered to develop draft implementing technical standards where the European Parliament and the Council delegate power to the Commission to adopt implementing technical standards ("ITSs") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft implementing technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft implementing technical standards.

The purpose of the proposed draft ITS is to determine the content and format of the detailed description of the functioning of an MTF or OTF that market operators of those venues should provide to their competent authorities (NCAs).

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed ITS against a MiFID II baseline. Whenever market practices are above what is being required by MiFID, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to

[86] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

disentangle the effects of the Level 1 provisions, for which an impact assessment[87] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at establishing the specific information to provide by MTFs and OTFs to NCAs and ESMA.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Implementing Technical Standard (ITS), which can be either the MiFID II authorisation requirements for MTF and OTFs, the existing authorisation practices of NCAs when are above what is required by MiFID II, or the different requirements for MTFs and OTFs already established by Level 1 provisions.

The stakeholders identified are market operators and investment firms operating MTFs or OTFs and ESMA/National Competent Authorities (NCAs).

The next section covers the different technical options considered in the ITS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals made in the ITS.

2. Introduction

Article 18(10) of MiFID II requires investment firms and market operators running an MTF or an OTF to provide a detailed description of the functioning of the trading venue to their NCA, including any links to or participation by a regulated market, an MTF, an OTF or a systematic internaliser owned by the same investment firm or market operator, and a list of their members and users.

This information should build upon the information an investment firm or market operator is required to provide as part of the general authorisation requirements under MiFID II.

The analysis that follows consists of a high level qualitative assessment of the technical options considered in the ITS.

3. Baseline

The relevant legal texts to consider are the authorisation requirements for investment firms established both in MiFID I and MiFID II. MiFID II Article 5 establishes the requirements for authorisation and also that member states should authorise any market operator to operate an MTF or an OTF subject to the prior verification of their compliance with MiFID II Chapter I: Conditions and procedures for authorisation. Article 5 also establishes that member states should register all investment firms and that ESMA has to establish a list of all investment firms in the Union.

[87] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

There are also other provisions within MiFID II and MiFIR that determine the information that MTFs and OTFs have to collect, store and publish. This ITS establishes the content and format of this information, which in most cases should already exist within the MTF.

In terms of incremental obligations arising from this RTS, we assume MiFID II as the baseline for OTFs. For MTFs we use MiFID II as well unless NCAs have in place stricter authorisation requirements for MTFs in their local jurisdictions.

When looking at incremental costs we differentiate between existing MTFs, SME growth markets and OTFs. In the case of existing MTFs, NCAs can make use of their supervisory powers to request the information needed to assess compliance with MiFID and MiFIR rules, therefore the expected incremental costs should be driven by Level 1 provisions and not from this RTS. SME growth markets are expected to provide more information, however the incremental costs from that extra information should be driven by Level 1 provisions as well and not from this RTS. OTFs will have to provide the information requested on this ITS for their initial authorisation, which should already be contained in their business plan. Therefore we anticipate no significant incremental costs overall arising from the provisions in this ITS.

The purpose of this document is to CBA the incremental obligation of ESMA's Implementing Technical Standards against the MiFID II baseline described above and the existing market practices of the different NCAs and MTFs/OTFs when those are above MiFID II.

4. Stakeholders

Two types of stakeholders are relevant for this standard: market operators/investment firms and ESMA/National Competent Authorities (NCAs).

Market operators/investment firms may incur costs related to put a package together that compiles all relevant information of the firm in one place (similar to a business plan). As the information requested should either exist already in the firm or be requested by MiFIR or MiFID II, we estimate the costs arising from this ITS to be non-significant.

NCAs may be affected regarding authorisation and registration of new operators of MTFs and OTFs, as well as their supervision activities to verify compliance of existing market operators with MiFID II and MiFIR obligations. They may need to upgrade as well the requirements requested to OTFs in their authorisation processes, or the ones to SME growth markets. The extent of the incremental obligations, and related costs, will be driven by what NCAs currently request and the market practice of existing MTFs and OTFs in relation to the requirements of this ITS.

5. Technical Options

Technical Option 1: Information to be provided to NCAs and ESMA

Policy Objective	To make sure NCAs have access to key information that may affect the regular functioning of a market operator and that ESMA has access to

	information needed to publish the list of MTFs and OTFs in the Union by establishing what key information should be provided by MTFs and OTFs.
Technical proposal 1	An investment firm or a market operator operating an MTF or OTF should provide to its NCA: (a) information on the asset class and number of financial instruments traded on the MTF or OTF; (b) the rules and procedures: - for making financial instruments available to trade together with details of the publication arrangements used to make that information available to the public; - to ensure the objective and non-discriminatory access to the facility together with details on the publication arrangements used to make that information available to the public; - for suspension and removal of financial instruments from trading required by Article 32 of MiFID; (c) the measures and procedures to ensure that sufficient information is publicly available to users of the MTF or OTF to form an investment judgement, taking into account both the nature of the users and the classes of financial instruments traded; (d) the systems, procedures and arrangements to facilitate compliance with the conditions laid down by Articles 48 and 49 of MiFID as required by Article 18(5) thereof; (e) a detailed description of the arrangements to facilitate the provision of liquidity to the system (such as market maker or liquidity incentive schemes); (f) the arrangements and procedures: - to monitor transactions undertaken by members or participants by means of its facilities, such as to identify potential breaches of its trading rules, disorderly trading conditions, systems disruptions or conduct that may involve market abuse required by Article 31 of MiFID; - to comply with pre and post-trade transparency obligations, as

	applicable to the financial instruments traded and the trading functionality of the MTF or OTF together with information on the intention to use waivers under Articles 4 and 8 and deferred publication under Articles 7 and 11 of MiFIR; - for the efficient settlement of the transactions effected under its systems and to ensure that users are aware of their respective responsibilities in this regard; (g) a list of the members or users of the MTF or OTF which it operates.
Technical proposal 2	An investment firm or a market operator operating an MTF or OTF should provide to its NCA as well: 1. a detailed description of the functioning of the system (voice, electronic or hybrid functionality). In the case of an electronic or hybrid trading system, also the nature of any algorithm or program used to determine the matching and execution of trading interests; in the case of a voice trading system, the rules and protocols used to determine the matching and execution of trading interests; 2. how and in what instances the operation of the MTF or OTF will give rise to any potential conflicts between the interests of the MTF or OTF, its operator or its owners; 3. information on its outsourcing arrangements that relate to the management, operation or oversight of any MTF or OTF which it operates; 4. information on any links to or participation by a regulated market, MTF, OTF or systematic internaliser owned by the same relevant operator.
Technical proposal 3	ESMA considers also necessary that MTFs also provide the following in relation to Article 19(3) of MiFID: a) a description of the arrangements and the systems implemented to manage the risks to which it is exposed and to put in place effective measures to mitigate those risks; b) a description of the arrangements implemented to facilitate the efficient and timely finalisation of the transactions executed under its systems;

	c) the financial resources considered sufficient to facilitate its orderly functioning. In the case of an MTF applying for registration as an SME growth market, the information provided needs to identify which functionalities or arrangements are applicable to the SME growth market. OTFs operators shall provide further information - for each asset class traded on the OTF, if relevant- in addition to that outlined for MTFs operators, and including in particular: a) information on whether another investment firm is engaged to carry out market making on its OTF on an independent basis; b) a detailed description of how and under what circumstances it executes orders on the OTF on a discretionary basis; c) the rules, procedures and protocols which allow the operator to route the trading interest of a member or participant outside the facilities of the OTF; d) a description of the use of matched principal trading which complies with Article 20(7) of MiFID; e) the rules and procedures to ensure compliance with Articles 24, 25, 27 and 28 of MiFID for transactions concluded on the OTF where those rules are applicable to the investment firm or market operator operating the OTF in relation to an OTF user.
Technical proposal 4	An investment firm or a market operator operating an MTF or an OTF shall provide its NCA with the detailed information by fulfilling a standard template in electronic format. In particular: • it is mandatory to include references to the appropriate provisions of the rules of their MTF or OTF, agreements or contracts with participants or relevant third parties; and • no need to include information that is minor, technical or not relevant to NCAs supervisory duties; • where the same entity requests authorisation to provide more than one service at the same time, it will submit one application per service and the application shall clearly identify the services to which the information provided applies.

	The notification to ESMA needs to be in electronic format and done through a standard template in order to facilitate ESMA's publication of the list of all MTFs and OTFs in the Union and contain information on the services provided and the unique code identifying the MTF and the OTF.

6. **Cost/benefit impact assessment**

For the technical options considered by ESMA we summarize below a qualitative description of the costs and benefits arising from them.

Technical Option 1: Information to be provided to NCAs and ESMA

	Qualitative description
Benefits	The exhaustive list of information established in this ITS provides further clarity and certainty regarding the obligations MTFs and OTFs are subject to from the perspective of authorisation and supervision. Facilitates the collection of information by ESMA to publish the list of MTFs and OTFs in the Union.
Costs to regulator: - *One-off* - *On-going*	The costs for different NCAs may differ based on their current authorisation requirements for MTFs and OTFs. For some already requiring all the information provision mandated by the ITS and in a similar format, incremental costs should be non-significant. For some others, it may imply adapting their systems and procedures to receive electronic information. Finally, for some other NCAs it could be that the ITS requires a complete change of their authorisation procedures for MTFs and OTFs, and their registration procedures. We will investigate further the extent of these incremental costs arising from this ITS for the final CBA. The costs incurred by ESMA to publish the list of MTFs and OTFs should be attributed to Level 1 legislation and not to this RTS.
Compliance costs: - *One-off* - *On-going*	Most of the information requested in the ITS is already required in MiFID/MiFIR provisions, therefore most of the costs should be attributable to Level 1 legislation. Compliance costs for MTFs and OTFs arising from this RTS per se should be minimal, as the information should be available across the organization or already provided to regulators. There could be some additional staffing costs for SME growth markets and new applications of OTFs and MTFs. The extent of the incremental costs will depend on how the new requirements compare to what NCAs currently require in their authorisation

	and registration process.
Costs to other stakeholders	None identified
Indirect costs	None identified

7. Commodity Derivatives

7.1. Ancillary activity

Ancillary activity (Article 2(1)(j) of MiFID II)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA88, ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to establish a narrower interpretation of allowed exempt activities from MiFID II, with the aim of preventing market abuse, systemic risk and achieving a level playing field

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFID II baseline. Whenever market practices are above what is being required by MiFID, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[89] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which determines the criteria for establishing when an activity is to be considered ancillary to the main business at group level, and the transactions that firms can exclude when undertaking the calculations

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which should be MiFID II.

The stakeholders identified are firms not currently authorised under MiFID or the Banking Act (non-financial firms) which trade in commodity derivatives, emission allowances and derivatives of emission allowances (e.g. airlines), and national competent authorities (NCAs).

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[88] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
[89] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

The next section covers the different technical options and the options to be considered in the RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

With the aim of preventing market abuse, systemic risk and achieving a level playing field, this technical standard provides for a narrower interpretation of allowed exempt activities from MiFID II, thereby capturing within the scope a range of firms previously excluded. The purpose of implementing Article 2(4) of MiFID II is also to address competitive distortions that may arise under the existing (MiFID I) exemptions with regard to commodity firms.

This analysis is of a qualitative nature and takes into account the responses to the Discussion Paper (DP) published in May 2014 and the responses to bilateral interviews. A more detailed assessment will be available for the official publication of the final technical standards. As the feedback to the previous consultation has helped inform ESMA's thinking, the technical options proposed by ESMA in this Consultation Paper (CP) may differ from those proposed in the DP.

3. Baseline

MiFID I, Article 2(1)(i) exempts persons dealing on own account in financial instruments, or providing investment services, in commodity derivatives to the client, provided this is an ancillary activity to their main business on a group basis and the main business is not the provision of investment services within the meaning of MiFID or banking services under Directive 2000/12/EC. However, MiFID I does not provide any further clarification regarding how 'ancillary activity' should be defined, measured and monitored. MiFID I, Article 2(1)(i) is carried over to MiFID II in Article 2(1)(j), but with some significant changes. The MiFID II Level 1 text both narrows the scope of the existing exemptions available to commodity firms and sets a more prescriptive approach to defining, measuring and monitoring what is ancillary activity. Article 2(4) of MiFID II mandates Level 2 rules, which must set:

- the criteria for establishing when an activity is to be considered ancillary to the main business at group level, which must include "at least":
    1. the ancillary activities constituting a minority of activities at group level; and
    2. the size of trading activity compared to overall market activity in that asset class; and
- the transactions that firms can exclude when undertaking the calculations (the "privileged transactions", broadly identified as intragroup transactions, hedging, and liquidity provision on a trading venue).

The scope of the RTS mandate is to specify in more detail the criteria for the exemption; however, it only applies to Article 2(1)(j) of MiFID II in relation to trading commodity derivatives, emission allowances and emission allowance derivatives. This exemption is not available to persons who (1) deal on own account when executing client orders, (2) are market makers and (3) apply high frequency algorithmic trading techniques. Persons using the exemption must notify annually the relevant competent authority that they are making use of such exemption, whereas under MiFID I there is no notification requirement.

MiFID II also provides for an exemption under Article 2(1)(d) which exempts persons from dealing on own account providing (1) they do not deal in commodity derivatives/emission allowances/ derivatives of emission allowances, (2) are not market makers, (3) are not members of an RM or MTF or have direct electronic access (DEA) to a trading venue (4) do not apply high frequency algorithmic trading techniques and (5) do not deal on own account when executing client orders. Persons can combine the exemptions under Articles 2(1)(d) and 2(1)(j), i.e. they could deal on own account in instruments other than commodity derivatives/emission allowances/ derivatives of emission allowances and undertake activity in commodity derivatives/emission allowances/ derivatives of emission allowances without being authorised under MiFID II or the Banking Directive, provided that these firms separately meet the respective conditions.

Currently market participants do not typically notify competent authorities of their use of this exemption or calculate the scale of their activities in specific instruments with regard to determining how much MiFID business they undertake compared to their main business. Therefore, as MiFID II Level 1 sets for the first time a detailed regime for this exemption, the baseline for this CBA is the Level 1 text which imposes criteria for the minimum two tests (Article 2(4) of MiFID II). However, in some areas of the RTS there are consolidated market practices that can be a partial baseline for the impact assessment.

4. Stakeholders

The following entities are those which will be mainly impacted by the new Level 2 requirements:

- *National Competent Authorities (NCAs);*
- *Firms not currently authorised under MiFID or the Banking Act (non-financial firms) which trade in commodity derivatives, emission allowances and derivatives of emission allowances.*

The supervisory practices of NCAs are not currently harmonised regarding how to assess the criteria used to identify when a MiFID activity is "ancillary" to the main business of a person that is not a MiFID investment firm or a bank. NCAs typically make a case-by-case assessment on whether the activity is related to the main business activity in a subordinated position, taking into account different factors for key areas of business (such as revenues, profits, employees, etc.). Therefore, NCAs will need to put in place procedures to evaluate whether the data provided with the annual notification of the exemption are in line with the Level 2 criteria to benefit from the exemption. The new Level 2 regime may also require an enforcement mechanism for firms that do not notify the relevant competent authority that they are using the exemption.

Commodity derivatives traders which will use the exemption under Article 2(1)(j) of MiFID II do not currently notify authorities that they use the exemptions under Articles 2(1)(i) or 2(1)(k) of MiFID I. Consequently, it is not possible to quantify the potential number of firms that could be affected by the new requirements given the current absence of a notification procedure. It is also not common for these persons to calculate and compare the capital employed for different trading activities on a regular basis, even though proxies of capital for different trading activities are available. Non-financial firms, which are benefitting from the exemption for "hedging transactions" in OTC derivatives under the European Market Infrastructure Regulation (EMIR), can continue to use this hedging exemption when calculating the scale of their MiFID II activity. However, these firms will need to extend the estimation of their hedging to exchange-traded products, which are typically the biggest components of the derivatives exposures of commodities firms.

The frequency of the data collection can also have an impact on several firms that usually collect audited accounting data only once a year. Firms will need to put in place procedures to monitor and collect data on a regular basis and also to anticipate and plan the impact on their business, should they not be able to meet the requirements for the exemption. The collected data will then need to be verified and approved before the notification is sent to the relevant NCA. The relevant NCA will be the authority in the jurisdiction of the place of incorporation of the entity concerned which is consistent with regulatory supervisory regimes already in place and avoids potential conflicts, double regulation and inconsistencies if more than one financial regulator is the competent authority over the same firm. If an entity situated in a third country undertakes ancillary activities in the EU and wishes to benefit from the exemption it shall make the notification to the NCA of the Member State where its subsidiary is situated.

For small firms or firms that have a more intermediary function, these procedures may require to scale up their IT systems and their back office and compliance personnel.

The introduction of trade repositories under EMIR, which collect data on commodity derivatives, could contribute to some of the data collection (e.g. overall market trading activity) for the assessment of the "ancillary" nature of the business and so diminish the impact and costs incurred by competent authorities and firms arising from some of the new requirements on this RTS.

5. Technical Options

According to Article 2(4) of MiFID II, ESMA has to define Level 2 technical standards in order to have a clear methodology on when MiFID II activity can be considered as "ancillary activity" to the main business of the group. ESMA proposes the following options for each of the elements below in order to determine whether an activity is 'ancillary':

- the "minority of activities" test;
- the "size of a person's trading activity" test;
- the privileged transactions; and
- the reference period for calculations.

(1) "Minority of activities"

In using capital to establish thresholds under which an activity is considered to be ancillary, ESMA has to determine how to define 'capital', 'group', at what level the threshold should be set and the methodology for calculating that threshold.

Therefore, ESMA considers technical options in the following areas:

- definition of "capital";
- level of the minority threshold;
- definition of group; and
- calculation methodology.

Technical Option 1: Definition of "capital"

Policy Objective	Determine a measure of capital to assess the scale of the MiFID II activity which is comparable across businesses within the same firm in order to assess whether the MiFID II activity is disproportionate compared to the main business.
Proposal	To use accounting capital, i.e. capital that is calculated as a result of established accounting requirements. Capital includes equity, current and non-current debt.

Technical Option 2: Level of the "minority threshold"

Policy Objective	Establish a level (common benchmark) against which the size of MiFID II activity in commodity derivatives, emission allowances and derivatives thereof is compared to the size of the main business and which can be similarly compared for all the firms applying for the exemption.
Proposal	Capital employed for MiFID II activity shall be less than 5% of the capital employed for the main activities of the group to meet the "minority of activities" test and so permit use of the exemption, providing the group is also below the threshold set for size of trading activity.

Technical Option 3: Definition of "group"

Policy Objective	Define the perimeter of the legal entity benefitting from the exemption for the minority test. An appropriate group definition should minimise the risk of regulatory circumvention.
Proposal	The term 'group' comprises the parent undertaking and all its

	subsidiaries undertakings (whether located inside or outside the EU). According to Article 2(11) of the Accounting Directive 2013/34/EU, firms already consolidate at the group level activities of both EU and non-EU subsidiaries. The MiFID II activity considered as potential "ancillary activity" is that which is undertaken in the EU. This activity will be then compared to the main business of the group on a global level.

Technical Option 4: Calculation methodology

Policy Objective	Establish a methodology, with harmonised criteria, which ensures a common methodology across the EU and a level playing field.
Proposal	***<u>Calculation for determining % capital employed for ancillary activity</u>*** Capital employed for MiFID II activity at group level in the EU (numerator) ――――――――――――――――――――――――― Capital employed for business globally at group level (denominator) *equals* *% of capital used by a group for MiFID II activity* ――――――――――――――――――――――――― ***<u>Calculation for capital employed for MiFID II activity at group level in the EU (the numerator of the calculation):</u>*** Capital for ancillary (MiFID II) activities at group level in the EU is the sum of: • The capital employed for dealing on own account (excluding the execution of client orders); and • The capital employed for the provision of other investment services in the EU to customers or suppliers of the main business in commodity derivatives, emission allowances and derivatives thereof. *Minus:* • The sum of capital employed for privileged transactions (intra-group transactions, transactions in derivatives reducing commercial and treasury financing risk, and transactions

	entered into to fulfil obligations to provide liquidity). *Minus* • Capital employed for licensed activity (i.e. trading activity that is undertaken by a MiFID authorised entity of the group) *equals* • Capital employed for MiFID II activity at group level in the EU

(2) Size of trading activity

The size of the firm's trading activity, calculated by the firm, must be compared to the overall market trading activity. ESMA has to define the geographical perimeter of the overall market trading activity that will be compared with the individual firm's trading activity. As a result, ESMA defines the following options for each of the elements:

- the reference market;
- standard thresholds;
- the calculation methodology; and
- the commodity asset classes.

Overall, ESMA aims to capture firms that have a level of trading activity (excluding hedging activities) comparable to authorised firms.

Technical Option 5: Reference market

Policy Objective	Establish the geographical reference for the calculation of the firm's activity and the overall market trading activity.
Proposal	The firm's trading activity in the European Union will be the activity taken into account in the calculation and overall market trading activity will be defined as trading activity in the European Union.

Technical Option 6: Standard threshold

Policy Objective	Establish the level of the threshold at which a firm's trading activity is considered to be comparable to an authorised firms'.
Proposal	ESMA has identified a standard threshold, which exempts firms that have trading activity in the European Union below 0.5% of the overall market trading activity in the European Union in each asset class, providing the firm is also

	below the threshold set for the 'minority of activities' test.

Technical Option 7: Calculation methodology

Policy Objective	Establish a standardised methodology for calculating the volume of trading that will be used to establish whether a person's level of trading activity is comparable to authorised firms' activity.
Proposal	***<u>Calculation for size of trading activity</u>*** Size of the trading activity at group level in the relevant commodity asset class in the EU (numerator) ――――――――――――――――――――――― Size of the overall market trading activity in the relevant commodity asset class in the EU (denominator) *Equals* % of firm's trading activity in a commodity asset class compared with the size of the overall market trading activity in the EU in that asset class ***<u>Calculation for determining the size of the firm's trading activity in a commodity asset class at group level in the EU (numerator)</u>*** Volume of the overall trading activity in the relevant commodity asset class of the person seeking the exemption at group level in the EU *minus* Volume of privileged transactions (i.e. for intra-group transactions, transactions in derivatives reducing commercial and treasury financing risks, and transactions entered into to fulfil obligations to provide liquidity) in the relevant commodity asset class at group level in the EU *minus* Volume of trading licensed activity (i.e. trading activity that is undertaken by a MiFID authorised entity of the group) in the relevant commodity class at group level in the EU *equals* Size of the firm's trading activity in a commodity asset class at group level

	in the EU.

Technical Option 8: Commodity asset classes

Policy Objective	Ensure that the calculation of trading activity is consistent across diverse markets and pool together linked trading activities and even substitutable activities to some extent.
Proposal	The calculation should aggregate individual data in eight **commodity asset classes,** according to the following list: - Metals - Oil and oil products - Coal - Emissions - Gas - Power - Agricultural products - Other commodities, including freight and commodities referred to in Section C 10 of Annex 1 of Directive 2014/65/EU If a firm is captured under one commodity asset class, it will fall under the scope of MiFID II.

(3) Privileged transactions

ESMA defines the details of which transactions shall fall under the three categories of exempted transactions (or “privileged transactions”) as defined by Article 2(4) of MiFID II. The three categories are:

- intra-group transactions, as referred to in Article 3 of EMIR, which serve group-wide liquidity and/or risk management purposes;
- transactions in derivatives that are objectively measurable as reducing risk directly related to the commercial activity or treasury financing activity; and
- transactions in commodity derivatives and emission allowances entered to fulfil obligations to provide liquidity on a trading venue, in accordance with Union or national laws, regulations and administrative provisions or by trading venues.

For intra-group transactions, ESMA will rely on Article 3 of EMIR and its implementation. No further guidance is foreseen.

Technical Option 9: Risk-reducing transactions

Policy Objective	Avoid an increase in costs for transactions that are necessary to ensure a proper hedging of commercial and treasury financing activities for non-financial firms.

Option 1	ESMA proposes to follow the definition developed in Article 10 of the Commission Delegated Regulation (EU) No 149/2013 (EMIR Level 2) but have it apply to all derivatives, not limited to OTC derivatives as is the case in EMIR. According to Article 10 of the Commission Delegated Regulation (EU) No 149/2013, an OTC derivative contract is objectively measurable as reducing risks directly relating to the commercial activity or treasury financing activity of the non-financial counterparty when, whether by itself or in combination with other derivative contracts, and whether directly or through closely correlated instruments, it meets one of the following (non-cumulative) conditions: - It covers risks arising from the potential change in the value of assets, services, inputs, products, commodities or liabilities that the non-financial counterparty or its group owns, produces, manufactures, processes, provides, purchases, leases, sells or incurs or reasonably anticipates owning, producing, manufacturing, processing, providing, purchasing merchandising, leasing selling or incurring in the normal course of business; - It covers the risks arising from the potential indirect impact on the value of assets, services, inputs, products, commodities or liabilities referred to in the first bullet point, resulting from fluctuation of interest rates, inflation rates, foreign exchange rate or credit risks; - It qualifies as a hedging contract pursuant to International Financial Reporting Standards (IFRS) adopted in accordance with Article 3 of Regulation (EC) No 1606/2002.

(4) Reference period

ESMA's incremental obligations to the MiFID II baseline, which requires annual notification to the relevant authority, focus on the reference period for the calculations firms must undertake to determine whether they can use the exemption or not. These data need to be attached to the notification sent to the NCA.

Technical Option 10: Reference period for calculation

Policy Objective	Define a suitable reference period for the calculations firms must undertake to determine whether they can use the exemption or not on an ongoing basis.
Proposal	Annual test based on a 3-years rolling average of monthly data. For the first two years, the reference period for the calculation will be shorter until a time horizon of 3 years is reached.

6. Cost/benefit impact analysis

The previous section identified 10 sets of incremental obligations from the Level 2 text. This section assesses benefits and costs of these incremental obligations, which cover the following areas:

Under the “minorities of activities” test:

1. Definition of ‘capital’;
2. “Minority” threshold;
3. Definition of ‘group’;
4. Calculation methodology.

Under the “trading activity” test:

5. The reference market;
6. Standard threshold;
7. The calculation methodology;
8. The commodity asset classes.

And:

9. Risk-reducing transactions;
10. Reference period for calculation and data collection to be included in the annual notification.

The following sections will provide a qualitative assessment of the impact of each individual option vis-à-vis the baseline scenario identified above. They include the list of positive and negative impacts, either direct (e.g. regulatory compliance costs/administrative burden) or indirect (e.g. widening of bid/ask spread). It also includes impacts in the EU and outside the EU, where relevant (e.g. if extraterritorial impact emerges). The text should also explain where there is uncertainty about the impact.

(1) “Minority of activities”

This section assesses benefits and costs of the proposed technical options for the “minority” of activities test and covers the following areas: capital employed, “minority” threshold, group definition and calculation methodology.

Technical Option 1: Definition of “capital”

	Qualitative description
Benefits	May enable a consistent application across borders, as the measure will apply recognised international standards. Relies on financial statement information already produced by the firms subject to the RTS, which could be audited information. This may minimise errors, divergences in interpretation and the monitoring costs for NCAs.

	Minimises costs for firms that would otherwise need to calculate the capital employed for the different activities and be audited separately from the standard procedures foreseen for accounting measures.
Costs to regulator: - *One-off* - *On-going*	Competent authorities will need to embed supervision and enforcement procedures to verify compliance with this RTS requirement.
Compliance costs: - *One-off* - *On-going*	No costs anticipated, except for those firms that allocate capital to the trading activities mentioned in this RTS using an alternative to accounting capital.
Costs to other stakeholders	None identified
Indirect costs	The lack of a uniform implementation of international accounting standards may result in discrepancies, which can affect the quality of information in case of comparison across firms. This type of capital may also not take into account the composition of the exposure created by the trading activity, in particular for leveraged transactions (such as commodity derivatives).

Technical Option 2: Level of the "minority threshold"

	Qualitative description
Benefits	A fixed threshold provides greater legal certainty regarding implementation. Allowing non-financial entities to undertake a certain level of trading activity in commodity derivatives, emission allowances and emission allowance derivatives which are not included in the privileged transactions, but are part of those activities that support a long position in the physical market.
Costs to regulator: • *One-off* • *On-going*	Supervision and enforcement costs related to verify compliance with the RTS from the firms subject to it.
Compliance costs: • *One-off* • *On-going*	None identified

Costs to other stakeholders	None identified.
Indirect costs	Competition effects. The use of a fixed threshold may result in an impact on market structure. If the threshold results in a higher level of trading activity being executed out of the scope of MiFID II than is currently market practice, this might result in more trading activity that could go via non-financial entities and reduce market share of financial entities and so services provided by MiFID licensed firms. The opposite result could occur if the threshold is set too low. No data is available to run a simulation with different threshold levels. Quality effects. A fixed threshold does not allow adjustment of the threshold according to qualitative considerations, such as calibrating it according to the type of trading activity in which the entity is engaged.

Technical Option 3: Definition of "group"

	Qualitative description
Benefits	Defining the perimeter of the group's main business at a global level should reduce the risk of putting entities with greater main business activities in Europe at a competitive advantage in comparison to those entities that may have a comparable level of MiFID II activity with higher presence outside the EU at group level. The proposal minimizes the potential circumvention through the use of separate legal entities under the same group.
Costs to regulator: • *One-off* • *On-going*	None identified.
Compliance costs: • *One-off* • *On-going*	Legal entities already compliant with the Accounting Directive should be able to reconcile accounting capital under the standard consolidation activity. This also depends on how much the accounting capital definition will use existing accounting measures. There will be a cost with regard to determining the capital employed for ancillary activities in the EU, principally to define internal procedures for the calculation and the verification of this estimate.
Costs to other stakeholders	None identified.

Indirect costs	*Quantity effects*. It may reduce costs for international groups with non-European operations to provide ancillary activities in the EU, because their European ancillary activities will be compared with the total activities of the group at global level. This may ultimately increase the volume of exempt activities run in the European Union by groups with global scale.

Technical Option 4: Calculation methodology

	Qualitative description
Benefits	• It sets a standardised approach applicable to all non-financial firms, irrespective of the sector in which they operate. • It increases legal certainty, providing the definition of capital is properly established
Costs to regulator: • *One-off* • *On-going*	• There will be costs for NCAs as they will need to put in place procedures to review the methodology and the data used for the calculations, which will be prepared directly by the firm that applies for the exemption.
Compliance costs: • *One-off* • *On-going*	• On-going compliance costs to set up procedures for calculation, validation and approval.
Costs to other stakeholders	• None identified.
Indirect costs	• *Quality effects.* The calculation does not take into account the nature of the business or other qualitative aspects. It does not address the incentives that shape the quality of the business activity under the ancillary exemption. These aspects may also include the geographical location.

(2) Size of trading activity

This section assesses benefits and costs of the proposed technical options for the "trading activity test" in the following areas: reference market, calculation methodology, and commodity groups.

Technical Option 5: Reference market

	Qualitative description
Benefits	It offers a standardised approach that is easier to implement than one based on a global market figure, as data for global market trading activity

	may be either unreliable or missing. It minimises the risk of circumvention for EU entities operating within the jurisdiction which must apply MiFID II.
Costs to regulator: • *One-off* • *On-going*	There could be on-going costs regarding calculation of the European market size (per commodity asset classes).
Compliance costs: • *One-off* • *On-going*	Firms may incur on-going compliance costs because it requires, on top of the calculation of the firm's trading activity in every commodity derivative, emission allowance and emission allowance derivative, the calculation of the European market size. This cost will vary according to the diversification of the business, i.e. the number of contracts that the firm is engaged in. The on-going cost will mainly be the cost of employee hours spent in calculating and validating those numbers, plus the cost of access to market data for every contract. However, we think this should be already part of firms market practice and risk management procedures,
Costs to other stakeholders	None identified.
Indirect costs	Quality effects. The technical option does not take into account the business mix of the firm, the market structure (e.g. the presence of national champions) or regulatory requirements (e.g. price regulation) among member states within Europe, which could determine a higher or lower level of concentration of trading activity.

Technical Option 6: Standard threshold levels

	Qualitative description
Benefits	The proposal only considers firms that are of a size which is likely to have a market impact at EU level. The threshold defines a benchmark for firms operating in the EU to assess whether their business is comparable to authorised firms.
Costs to regulator: • *One-off* • *On-going*	The costs for NCAs are concentrated in the supervision of the information and the calculation methodology provided in the notification procedure.
Compliance costs:	The costs for firms applying for the exemption would arise from collecting

• *One-off* • *On-going*	the data, estimating the indicators and notifying them to the NCA.
Costs to other stakeholders	None identified.
Indirect costs	Quantity effects. The use of a fixed threshold may result in an impact on market structure. Some firms, whose size is close to the thresholds, may decide to scale down their activities in order to limit compliance costs. Quality effects. A fixed threshold does not allow adjustment of the threshold according to qualitative considerations, such as calibrating it according to the type of trading activity in which the entity is engaged.

Technical Option 7: Standard threshold levels - Calculation methodology

	Qualitative description
Benefits	Standardised methodology that will enable a consistent implementation of the calculation for all firms benefitting from the exemption when engaged in MiFID II activity in commodity derivatives, emission allowances and emission allowance derivatives irrespective of the sector in which they operate.
Costs to regulator: • *One-off* • *On-going*	A cost for NCAs may arise to ensure that firms are compliant with this calculation methodology in order to grant, suspend or reject the possibility of being exempt. NCAs will also need to verify the methodologies used for the estimation of the gross notional value.
Compliance costs: • *One-off* • *On-going*	Firms will incur On-going compliance costs in order to set up procedures for the calculation of the gross notional value and for its validation and approval, in case not currently done or done in a different way than established in the RTS. It may also require additional costs to source market data for the calculation of the overall market trading activity. However, under EMIR non-financial counterparties are already required to calculate their notional positions for OTC derivatives and monitor on an ongoing basis whether they reach the clearing obligation threshold. This shall partially limit the costs arising from the RTS. Nonetheless, the methodology shall be extended also to exchange-trade derivatives, which are typically a larger part of the overall derivative exposure of a commodity trader. However, this should be part of overall risk management for most of the firms subject to the RTS.
Costs to other	None identified.

stakeholders	
Indirect costs	Quality effects. The approach proposed by the technical option does not measure the frequency of the trading activity nor give a different weight to different types of trading activity (for instance, dealing on own account versus execution on behalf of clients).

Technical Option 8: Commodity asset classes

	Qualitative description
Benefits	• This policy option allows capturing positions in correlated contracts, which may serve the same business or economic purposes. This option may avoid circumvention of the trading activity threshold via contracts in highly correlated commodities markets. • Aids implementation and supervision by NCAs by limiting the number of commodity markets for which NCAs will need to supervise the trading activity in a more granular way.
Costs to regulator: • *One-off* • *On-going*	• None identified.
Compliance costs: • *One-off* • *On-going*	There could be costs of aggregating data following these categories if the firm does classify contracts differently. However, we anticipate this to be marginal, as these asset classes are commonly used.
Costs to other stakeholders	If the clustering of commodities in different groups means there is a greater or lesser probability of a firm being captured by MiFID, this situation may respectively reduce or increase the volume of trading activity diverted to a licensed MiFID investment firm that is external to the group (outsourcing).
Indirect costs	Quantity effects. Those firms that would fall under MiFID, but are still close to the threshold, may decide to scale down activities in some commodities to remain outside the scope of regulation.

(3) Privileged transactions

The RTS mandate for the hedging exemption requires ESMA to define technical options in the following areas: Risk-reducing transactions.

Technical Option 9: Risk-reducing transactions

	Qualitative description

Benefits	Limiting a potential cost increase for transactions that are necessary to ensure a proper hedging of commercial and treasury financing activities. Ensuring a broad coverage of risk-reducing transactions. Alignment with EMIR and IFRS requirements, thereby providing a consistent approach that may reduce implementation costs.
Costs to regulator: • *One-off* • *On-going*	NCAs may incur costs to ensure that positions are correctly captured (or not) under the risk-reducing definition of EMIR from extending their procedures to exchange-traded derivatives.
Compliance costs: • *One-off* • *On-going*	Firms may incur on-going compliance costs from setting up of calculation procedures for the risk-reducing transactions and a validation process. These procedures would need constant application, on top of the complexity of the measurement of direct and indirect impact on the value of the underlying. For non-financial firms that are using the EMIR exemption, costs may be substantially lower because they already flag risk-reducing transactions for their OTC contracts. However, they would still need to do so for exchange-traded derivatives, which are on average a larger part of the market. It is not common market practice for individual trading desks to identify and to flag risk-reducing transactions.
Costs to other stakeholders	None identified.
Indirect costs	Quantity effects. If the transactions that are executed to minimise the direct and indirect impact on the value of assets belonging to the firm are too broadly defined, there is a possibility that the vast majority of the transactions in commodity derivatives, emission allowances and emission allowance derivatives might be captured under the risk-reducing category.

(4) Reference period

For the notification procedure, ESMA identifies benefits and costs for the reference period used to establish whether or not the firm meets the criteria for the exemption.

Technical Option 10: Reference period for calculation

	Qualitative description
Benefits	Smoothens the impact of exceptional events on a standard annual seasonal cycle. Allows regular monitoring of the business model. The review will be more

	stable and less subject to short-term fluctuations.
Costs to regulator: • *One-off* • *On-going*	Marginal supervision costs for NCAs to verify that the firm has used a 3 year rolling average of monthly data.
Compliance costs: • *One-off* • *On-going*	There will be ongoing costs for firms subject to this RTS to collect and store data on a monthly basis. An independent firm would review the data, in the case of data on accounting capital. To establish this process, the firm may require IT, back office and compliance resources.
Costs to other stakeholders	None identified.
Indirect costs	None identified.

7.2. Application of position limits

7.3. Position reporting

Format for position reporting in commodity derivatives (Article 58(5) of MiFID II)

1. Executive Summary

Pursuant to Article 15 of the Regulation establishing ESMA[90], ESMA is empowered to develop draft implementing technical standards where the European Parliament and the Council delegate power to the Commission to adopt implementing technical standards ("ITSs") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft implementing technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft implementing technical standards.

The purpose of the proposed draft ITS is to determine the formats of the daily position reports made by investment firms to competent authorities (NCAs) and the weekly reports published by trading venues (Commitment of Traders (COTs) reports) in respect of commodity derivatives, emission allowances and derivatives thereof.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed ITS against a MiFID II baseline. Whenever market practices are above

[90] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

what is being required by MiFID, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[91] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the ITS, which aims at establishing uniform templates for reporting positions in commodity derivatives, emission allowances and derivatives thereof. The objective is to improve the oversight and transparency of these markets.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's ITS, which can be either the MiFID requirements, or the existing practices when they are above MiFID.

The stakeholders identified are trading venues (TVs) which trade commodity derivatives, emission allowances and derivatives thereof, investment firms which conduct OTC activity in commodity derivatives, emission allowances and derivatives thereof and NCAs.

The next section covers the different technical options and the options to be considered in the ITS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the ITS.

2. Introduction

MiFID II introduces position limits in commodity derivatives (Article 57) in order to improve the stability and integrity of European financial markets. In order to monitor compliance with these limits, MiFID II also introduces reporting requirements regarding positions held in commodity derivatives. The position reporting regime is wider in scope than the position limits regime as it applies to emission allowances and derivatives thereof as well as commodity derivatives whereas the position limits regime itself only applies to commodity derivatives.

Members of trading venues must report at least daily a detailed break-down of their positions and those of their clients (down to the end client) to the trading venue, which then passes on the reports to the competent authority. Investment firms which conduct OTC activity must report at least daily a detailed break-down of their positions and those of their clients (down to the end client) to the competent authority. In addition, each trading venue must issue a weekly report of aggregate open positions per contract, by type of market participant, where to-be-determined thresholds are exceeded. ESMA has to develop ITS determining the formats of the daily position reports made by investment firms to competent authorities and the weekly reports published by trading venues (Commitment of Traders (COTs) reports).

[91] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

The analysis that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014, the responses to qualitative interviews and desk research. A more detailed assessment will be available in the CBA to be published with the final ITS. The technical options proposed by ESMA in this Consultation Paper may differ from those proposed in the consultation in May, as they have been informed by the feedback subsequently received. Respondents did not detail costs and benefits in their responses to the DP.

3. Baseline

There are currently no EU wide standards specifying the format of position reports in commodity derivatives, emission allowances and derivatives thereof. Therefore, from a legal perspective, the relevant baseline from which to assess the impact of the proposed ITS is Articles 58(1) to 58(4) of MiFID II.

ESMA is mandated under Article 58(5) to specify the format of the reports referred to in Article 58(1)(a) (COTs Reports) and in Article 58(2) (daily position reports to regulators from investment firms) in an ITS in order to allow monitoring of compliance with the position limits in commodity derivatives and provide greater transparency to these markets and those of emission allowances and derivatives thereof.

Preliminary desk research indicates that current market practice is such that positions are monitored by firms for internal risk management and general monitoring purposes. Furthermore, the reporting requirements laid out in EMIR (European Markets Infrastructure Regulation) as well as those contained in MiFID II require investment firms engaged in commodity derivative trading to have information on derivative trades and involved parties readily available. However, there are differences between the reporting regimes. EMIR, for example, does not cover emission allowances and derivatives thereof. Also it does not include the concept of linking positions in on-venue contracts with ‘economically equivalent’ OTC contracts.

Nonetheless, current market practice indicates that most of the information requested in this ITS in order to comply with the new position reporting regime is already available within the covered entities, such as identifiers (e.g. Legal Entity Identifier (LEI), Alternative Instrument Identifier (AII), Market Identifier Code (MIC) and information about positions such as the number of contracts entered into and maturities. However, preliminary research indicates that trading venues have different methodologies for aggregating positions, and there could be costs from adapting their systems to report what is mandated by the ITS. There could be also issues regarding the reporting channels to be used and confidentiality of the transmitted data. In some of these areas, costs may not arise from operational complexity or administrative burden but rather from risk of predatory trading and divulgation of confidential proprietary information, however while important to take into consideration, this is a direct consequence of Level 1 provisions.

4. Stakeholders

Three sets of stakeholders have been identified as those most affected by this standard:

- Regulated markets or market operators that trade commodity derivatives, emission allowances and derivatives thereof;
- investment firms which conduct OTC activity in commodity derivatives, emission allowances and derivatives thereof and the investment firms' clients (down to the end client); and
- NCAs.

Regulated markets/market operators: Trading venues will need to report on a weekly basis aggregate positions (subject to thresholds which will be determined by the Commission) in commodity derivatives, emission allowances and derivatives thereof that are traded on their venue. This will have an impact on the internal processes and procedures of venues trading the instruments mentioned in this ITS. The format developed in this ITS will entail costs for the trading venue in cases they have to provide information not already subject to other reporting requirements. However, the content of the information, which drives the format for the weekly report, is established by MiFID II and not by this ITS, which means the costs stem from Level 1 legislation. Article 58(1)(a) requires that each trading venue prepare a weekly report (subject to thresholds) showing aggregate positions by different categories of persons and specifies:

- the five different categories of persons (defined under Article 58(4));
- the long and short positions by such categories;
- changes since the last report;
- percentage of open interest in each category; and
- number of persons in each category.

Article 58(4) further requires the report to differentiate between hedging positions and other positions. ESMA does not specify further information to be provided in the reporting format for the COT reports. Therefore, any costs that could arise for trading venues in producing this report should be attributable to MiFID II and not to this technical standard.

Investment firms: Investment firms which conduct OTC activity in commodity derivatives, emission allowances and derivatives thereof will be obliged to report on a daily basis to their NCA their position and those of their clients' (down to the end client) in on-venue and off venue commodity derivatives. They will be obliged to break that report down and identify the end client where the position taken was not in a principal capacity. Some of the specifications developed in this ITS build on formats and information required by other reporting regimes such as EMIR. Legal certainty regarding the liability for sensitive data that has to be passed on in this context will have an impact on the investment firm's risk exposure, however, that is a direct consequence of Level 1 provisions. The format mandated in this ITS will entail costs for investment firm to the extent they are not currently required to provide the same information for other reporting requirements, or they store it in a different format.

NCAs: National competent authorities will need to set the IT systems and infrastructure to receive the position reports electronically, process them and provide an aggregate overview of positions in the market. This information will be used for different functions including market surveillance and integrity. NCAs will incur compliance costs in the form of IT systems, development and storage costs. There will also be costs from having dedicated personnel to process this information and establish coordination with other reporting regimes introduced by other regulations, such as EMIR. However, all these costs arise from Level 1 provisions and not from this ITS.

5. Technical Options

When defining the format to be used for the reporting obligation laid down in Article 58(2) (daily position reports to NCAs from investment firms which are engaged in OTC activity), ESMA has developed the following technical options:

Technical Option 1: Level of aggregation required in daily position reports

Policy Objective	Ensure consistent and meaningful position reporting by specifying the level of aggregation of reported positions.
Proposal	Positions should be reported on a gross basis in terms of lots indicating whether the position is long or short, maturity and whether or not it is a hedging position. Positions should not be netted in the reports: netting will be performed by the NCAs.

Technical Option 2: Timing of submission of daily position reports

Policy Objective	Ensure timely availability of position data to the NCAs by defining the deadline for the submission of the report.
Proposal	The report should be produced at the close of business day and submitted by 9.00 am local time on the next business day.

Technical Option 3: Identification of clients and instruments in daily position reports

Policy Objective	Ensure that NCAs can monitor effectively individual exposures in commodity derivatives, emission allowances and derivatives thereof by defining the identifiers to be used.
Proposal	The reporting investment firm should be identified using the Legal Entity Identifier ("LEI"). In order to identify the end client of a position, the LEI should be used where the end client is a legal entity and in cases where the end client is a natural person, the identifier used will be that as specified by ESMA under Article 26 of MiFIR. The Alternative Instrument Identifier (AII) should be used in order to identify on-venue contracts. In order to identify the trading venue where the contract was traded, either

	the Market Identifier Code ("MIC") should be reported or in cases of off-exchange positions in economically equivalent OTC contracts, the code "XOFF" should be used.

Technical Option 4: Definition of position quantity in daily position reports

Policy Objective	Ensure informational value of the reports by specifying the information to be provided on the position itself.
Proposal	The report shall include information on the position quantity by expressing the position in the number of contracts held.

Technical Option 5: Information on maturities in daily position reports

Policy Objective	Facilitate monitoring of compliance with Article 57(1) by specifying the information to be provided on the composition of the position.
Proposal	Information on positions across all maturities of all contracts must be provided for by preparing separate reports for spot months contracts and all other months.

Technical Option 6: Treatment of options in daily position reports

Policy Objective	Allow for the convertibility of positions in options into easily interpretable data.
Proposal	For the daily position report, the different option and futures contracts will be reported separately. Options shall be reported on a gross basis in terms of lots.

Technical Option 7: Reporting of spread trades and other complex strategies in daily position reports

Policy Objective	Enable appropriate monitoring of positions in more complex strategies.
Proposal	Positions that are the result of spread trades[92] or other complex strategies should be reported on a disaggregate level, meaning separate reporting of each of the constituent elements that are within the scope of the reporting obligation rather than the reporting of these positions in aggregate.

Technical Option 8: National competent authority to which the daily position reports should be made

[92] A spread trade is the simultaneous buying and selling of two related securities (legs) separately or as a single unit in order to profit from difference narrowing or widening of prices (spread).

Policy Objective	Provide legal certainty for reporting entities and national authorities.
Proposal	Where the same contract is traded on multiple trading venues in different jurisdictions, the positions should be reported to the competent authority where the most significant volume of on-venue contracts is traded.

6. Cost/benefit impact assessment

For the technical options considered by ESMA we summarize below a qualitative description of the costs and benefits arising from them. The extent of the actual costs and benefits will be determined by the exact wording of the final ITS. While the individual parts of the ITS may have marginal costs, when combined together the different requirements of the ITS, the cumulative costs may be significant. We will explore this in more detail for the further CBA, as well as the potential indirect effects that may arise as a direct consequence of the provisions in the ITS.

Format for the purpose of Article 58(2) – Daily Position Report by Investment Firms

Technical Option 1: Level of aggregation required in daily position reports

	Qualitative description
Benefits	This option allows NCAs to use data that has not been netted via the different methodologies applied by market infrastructures. It enables NCAs to obtain a complete overview of the market and identify, through netting themselves, where concentration of long or short positions may represent a threat for market integrity, without having to assess the netting procedures of individual investment firms or market infrastructures to reconstruct the gross value.
Costs to regulator: • *One-off* • *On-going*	NCAs will need to set up IT systems/ adapt existing systems, implement procedures and controls and deploy staff to receive these reports, perform netting of positions, undertake monitoring and follow up. However, those costs are driven by MiFID II, which requires a complete breakdown of the positions held by each person to be made to the NCA daily, and not by this ITS.
Compliance costs: • *One-off* • *On-going*	Investment firms may incur one-off compliance costs from setting up new IT systems or adapt existing ones to connect to their NCA, as well as development and storage costs and setting up of controls within their compliance function. However, this should be driven by Level 1 provisions. What is requested in terms of level of aggregation may create some costs for investment firms trading in commodities from looking at gross instead of netting positions. However, that information should already exist at the investment firm for risk management purposes, so no significant incremental

	costs should arise from this ITS provision. There may be also ongoing costs for investment firms from running controls, and deploying staff to complete the reports in the specified format. However, those costs are driven by MiFID II and not by this ITS. TVs may incur also one off costs from setting up or adapting their existing IT systems, as well as setting up procedures and controls to report in the way mandated by the ITS. Most of these costs should be driven by MiFID II.
Costs to other stakeholders	None identified
Indirect costs	Most of the indirect effects in the market arising from potential changes in trading patterns, volumes, spreads or venues used should be attributable to MiFID II Level 1 provisions.

Technical Option 2: Timing of submission of daily position reports

	Qualitative description
Benefits	NCAs will receive the position report at the start of the trading day and therefore may assess potentially destabilising positions early on, allowing for early intervention. The proposal avoids transmission of information, which is likely to be subject to change, during trading hours.
Costs to regulator: • *One-off* • *On-going*	One-off costs are expected in relation to setting up new or adapting existing IT systems to ensure that reports can be received before 9.00 am on a daily basis. On-going costs will arise in relation to monitoring that reports are submitted in the specified time frame, which should be already included in the regular supervisory activities of investment firms and trading venues, so incremental costs should not be significant.
Compliance costs: • *One-off* • *On-going*	One off costs may arise in relation to setting up new or adapting existing IT systems in order to collect the data at the end of the business day and complete reports for submission to the NCAs (which may be multiple) by 9am the following day. On-going costs will arise in relation to ensuring that the correct position is collected and validated (staffing and controls) at the end of the business day and submitted in the specified time frame.

Costs to other stakeholders	None identified
Indirect costs	None identified

Technical Option 3: Identification of clients and instruments in daily position reports

	Qualitative description
Benefits	This option minimises the costs arising from Level 2 as it aligns the reporting regime as much as possible with the existing and proposed reporting regimes (trade transparency and transaction reporting in MiFID II) and relies on the more readily accessible identifiers. Using a common identifier should allow the NCAs to more easily aggregate the positions of individual persons that may be held across different investment firms or venues and therefore allow for more a speedy monitoring of positions. Using the LEI to identify the end client is also the simplest method and requires the least number of fields in the position report. It hence bears the lowest costs for regulators as they will not need to decode the identifier. This would be the case where an internal identifier is used. Also this approach should exclude the possibility of double counting.
Costs to regulator: • *One-off* • *On-going*	Potential one-off costs to adapt IT systems, however those should be marginal as other regulations are also mandating LEI. On-going supervision and or market surveillance costs for the NCAs to verify that the correct type of indicator has been used, which should be marginal.
Compliance costs: • *One-off* • *On-going*	Potential one-off costs to adapt IT systems and adjust existing procedures for internal monitoring purposes. On-going compliance costs arising from this option are expected to be low as all identifiers used in this technical option are already used in the context of other reporting regimes such as EMIR. Also, alignment with the reporting requirements under Article 26 of MiFIR for the identification of natural persons should minimise resulting costs.
Costs to other stakeholders	None identified
Indirect costs	Issues of confidentiality and market impact may arise where potentially sensitive information on positions is disclosed through a chain of investment firms so that the reporting entity receives the identity of the end client. This

	creates exposure risk for the end client. Using the LEI to identify the end client amplifies these concerns as the LEI can be understood by all investment firms. Most of the indirect effects in the market arising from potential changes in trading patterns, volumes, spreads or venues used should be attributable to MiFID II Level 1 provisions.

Technical Option 4: Definition of position quantity in daily position reports

	Qualitative description
Benefits	The position limits will be expressed in terms of lots and through aligning the position reporting accordingly, this approach does not require converting the quantity into notional amounts for reporting purposes.
Costs to regulator: • *One-off* • *On-going*	Potential one-off costs to adapt IT systems. On-going costs arise where the NCA has to verify the stated number of contracts, these costs should not be significant.
Compliance costs: • *On-going*	Recurring costs to complete the reports.
Costs to other stakeholders	None identified
Indirect costs	None identified

Technical Option 5: Information on maturities in daily position reports

	Qualitative description
Benefits	This option provides regulators with a further breakdown of positions, especially enabling comparison of the composition of positions with similar concentration levels, so as to see whether there is a risk of a "market squeeze" in some contracts with a defined maturity. This option hence provides crucial information which can be used for the protection of market integrity and also for the purpose of identifying spread positions, and allow regulators to identify potentially abusive behaviour that otherwise could not be detected.
Costs to	*One-off cost* may occur to create internal procedures for the processing of

regulator: • *One-off* • *On-going*	this information. *On-going costs* for the regulator to verify that such a distinction is being made in the position reporting, should be marginal.
Compliance costs: • *One-off* • *On-going*	*One-off costs* may occur where internal systems are adapted for collecting this information. *On-going costs* may arise where the reported positions need to be separated into the two sets of maturities. Market practice is such, however, that reporting entities make a distinction based on maturities for internal purposes, so we anticipate costs to be non-significant.
Costs to other stakeholders	None identified
Indirect costs	None identified

Technical Option 6: Treatment of options in daily position reports

	Qualitative description
Benefits	The position limits will be expressed in terms of lots and through aligning the position reporting accordingly, this approach does not require converting the quantity into notional amounts for reporting purposes.
Costs to regulator: • *One-off* • *On-going*	Potential one-off costs to set up the necessary internal procedures and adapt the existing IT systems. *On-going costs* arise for supervisors to verify the stated number of contracts and that the correct delta is applied and subsequent calculations are correct when undertaking netting of positions.
Compliance costs: • *One-off* • *On-going*	*One-off costs* arise in order to adapt existing systems and procedures. Recurring costs to complete the reports, which once automated should consist mainly on validation and transmission costs.
Costs to other stakeholders	None identified
Indirect costs	None identified

Technical Option 7: Reporting of spread trades and other complex strategies in daily position reports

	Qualitative description
Benefits	The benefit of this approach is that it avoids the necessity to construct and maintain separate additional position identifiers for all specific strategies and product combinations. This holds for all parties involved: NCAs, investment firms, and trading venues. This option hence minimises costs while optimising the monitoring capabilities of NCAs. Requiring the data to be reported on a disaggregate level allows NCAs to follow up on reporting where trading venues have different methodologies for aggregating positions.
Costs to regulator: • *One-off* • *On-going*	*On-going costs* will arise for regulators where they will need to reconstruct the applied strategy based on the reported individual elements. *One-off costs will* arise in order to set up the necessary internal procedures and update the existing systems to do so.
Compliance costs: • *On-going*	Recurring costs arise to complete the reports.
Costs to other stakeholders	None identified
Indirect costs	None identified

Technical Option 8: Competent authority to which the daily position reports should be made

	Qualitative description
Benefits	This option has the benefit of ensuring that reporting for the same instrument is concentrated at one NCA rather than being dispersed among different NCAs where the instrument is traded on multiple venues. This reduces legal uncertainty. It also means entities do not need to send duplicate reports to different NCAs. This option also excludes the possibility of allowing firms to choose to which jurisdiction they will make the report.
Costs to regulator:	*NCAs will incur one-off costs* to set up IT systems and transmission mechanisms to receive the position reports submitted by investment firms and trading venues, as well as to establish procedures and controls to

• *One-off* • *On-going*	validate and aggregate them. *On-going costs will* arise to ensure that reporting has been made to the correct NCA. Additional costs will arise where NCAs have to communicate position reports between each other. ESMA will incur staffing and IT costs from republishing the information received from NCAs.
Compliance costs: • *One-off* • *On-going*	*On-going compliance costs* arise for reporting entities to monitor the volumes traded on the different venues so as to ensure that reporting is made to the correct NCA. *One-off costs* will arise regarding setting up internal procedures for identification of the competent authority in line with the requirements above, in case different than the ones used currently.
Costs to other stakeholders	None identified
Indirect costs	None identified

8. Market Data Reporting

8.1. Data standards and formats

8.2. Obligation to report transactions

8.3. Obligation to maintain records of orders

Determination of relevant order data that constitutes the characteristics of the order (Article 25 of MiFIR)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA[93], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same Article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to define the details and format of order records to be maintained by trading venues.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against the MiFID/MiFIR baseline. Whenever market practices are above what is being required by MiFID/MiFIR, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[94] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at facilitating processing of order data made available by trading venues to National Competent Authorities (NCAs) upon request from the latter.

The Baseline section explains the starting point for assessing the incremental rules related to ESMA's Regulatory Technical Standard, which can be either the MiFID requirement, or existing order data stored by the trading venue where it exceeds the MiFID requirement.

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[93] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.

[94] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

The stakeholders identified are NCAs, trading venues, market members and participants, portfolio managers and investment firms executing transactions on behalf of clients.

After a summary description of the order elements proposed in the RTS to be kept by trading venues and the format in which such elements should be provided to NCAs upon request, an interim qualitative analysis provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

National Competent Authorities (NCAs) need data on transactions and/or orders in financial instruments in order to fulfill their market integrity responsibility and to ensure that investment firms act "in a manner which promotes the integrity of the market" (Article 24 of MiFIR). The demonstration that information which is not publicly available has been used (insider dealing) or that the price-setting mechanism of financial instruments has intentionally been distorted (price manipulation) generally stems from the precise time stamp and characteristics of orders transmitted to trading venues by market members or participants or received by the latter from their clients. Moreover, in an environment with high levels of High Frequency Trading (HFT), the precise time of transmission/cancelation/modification of orders might be more significant than the date of the actual transactions to detect potential market abuse which may happen even though no transaction has been executed.

NCAs currently face two main limitations on the data available to them on orders: relevant and harmonised information is not readily available and there is a lack of format standardization. NCAs market monitoring is made difficult as some of the key details of an order such as trader or algorithm identification, sequence numbers, etc. cannot be always obtained from trading venues. In addition, the lack of format standardization in some key areas also make NCAs' market surveillance difficult, especially in the case of cross-venue operations.

The capacity for NCAs to obtain records of orders in a standardized format from trading venues will facilitate their monitoring of markets in financial instruments and the detection and prosecution of market abuse. Harmonized identification of clients in the records of trading venues will also help NCAs to monitor activities on several markets and to detect potential fraudulent activities conducted through several market members.

Article 26 of MiFIR sets the obligation for investment firms to report transactions in financial instruments to their NCA no later than the close of the following working day. While the corresponding information on orders does not have to be reported, Article 25 of MiFIR requires both investment firms and operators of a trading venue to keep records of orders available upon request from NCA for five years.

3. Baseline

Article 43 of MiFID I foresees that regulated markets "should establish and maintain effective arrangements and procedures for the regular monitoring of the compliance by their members or participants with their rules. Regulated markets shall monitor the transactions undertaken by their members or participants under their systems in order to identify breaches of those rules, disorderly trading conditions or conduct that may involve market abuse". Article 43 of MiFID I also foresees that regulated markets should supply the relevant information without delay to the authority competent for the investigation and prosecution of market abuse on the regulated market.

Such requirements necessarily imply that trading venue operators keep record of all events happening at the trading venue, including orders received from their members and transactions.

Articles 7 and 8 of the MiFID I implementing regulation establish the items that investment firms should record when receiving orders from clients, which are transferred to Article 16(6) of MiFID II.

Before MiFIR, there was no specific requirement defining the content, format and duration of order records to be kept by trading venue operators in the EU legal environment of financial markets and services.

In terms of legal baseline, the legislation to consider is Article 25(3) of MiFIR that requires ESMA to develop draft regulatory standards specifying the details of the order items of order record keeping by trading venues:

- Identification code of the member or participant which transmitted the order,
- Identification code of the order,
- Date and time the order was transmitted,
- Characteristics of the order, including:
  - type of order,
  - limit price,
  - if applicable, the validity period,
  - any specific order instructions,
  - details of any modification, cancellation, partial or full execution of the order,
  - the agency or principal capacity.

"Details of orders" is understood as the precise content of the records including the format. Moreover, a sub-set of items is grouped under the headline "Characteristics of the order, including…". The word "including" implies that characteristics are not limited to the list that follows.

Since there was no specific requirement for trading venues to keep records of orders before MiFIR, incremental rules consist of all provisions of the draft RTS that are not yet met in current practices of trading venues (the "economic baseline"). This will be an upper bound estimate as some of the incremental costs assessed this way may be related to Level 1 legislation.

As compared to the Level 1 rule (article 25(3) of MiFIR), incremental rules envisaged by ESMA are the following:

- Definition of the elements to be kept by trading venues: trader identification, algorithm identification, client ID, technical intermediaries, sequence numbers, priority of orders, liquidity provision, and data on functioning of order books that determine how such orders interact within the order book.

- Standardized format in which the above should be kept at the disposal of NCAs. Trading venues may maintain a raw order database under their own specific format, but some specified order data elements shall be maintained or converted by the trading venues in a specified format as mandated in the RTS, upon request by the competent authority.

In terms of market practice, some NCAs currently receive transaction reports only and ask for information on orders when needed in conducting their market monitoring and market abuse functions. Some others receive both transaction reports and venues' order books.

In terms of trading venues, based on preliminary exchange of information with some market operators and the desk research conducted, where ESMA looked at historical data proposed by operators in their product offerings, one could infer that the majority of trading venues maintain databases that include the requirements of Article 25(3) of MiFIR and most of the characteristics and parameters of orders requested on this RTS.

Therefore, as the requirements of Article 25(3) of MiFIR should already be in place in trading venues, we will use exiting market practice in recordkeeping of orders as our baseline to assess the costs of the new elements to be kept and the standardized format. In case some of the venues are not yet compliant with Level 1 our estimate of costs should represent an upper bound as some of the incremental costs assessed this way may be related to Level 1 legislation.

4. Stakeholders

We identified five categories of stakeholders:

- NCAs
- Trading venue operators
- Market members or participants
- Portfolio managers and investment firms executing transactions on behalf of clients

NCAs:

NCAs use transaction and/or order data to conduct their regular functions of market monitoring and detection of market abuse. When suspicious transactions are identified based on the alerts triggered by their systems, NCAs currently require market participants involved in those transaction to provide all necessary information, including identification of clients on behalf of which they transmitted orders to the trading venues (or the fact that they were trading in a principal capacity), and the details of orders they received from such clients.

For example, one authority contacted explained that they receive order and transaction data by a real time data feed originating from the venues for which they are the NCA, to perform real time surveillance. Overnight, the authority receives a data feed with more details for post-trade surveillance. For financial instruments traded on multiple venues, for which this authority is the relevant NCA, the authority occasionally asks for order and transaction data via the NCA of such trading venues for investigation of potential (cross-market) market manipulation.

Another authority explained that they receive a daily data feed, including orders from the venues for which it is the NCA, while a third authority requires trading venues for which it is the NCA to convert and transmit data in a determined format upon request.

NCAs may conduct further investigation by requiring the client who transmitted the suspicious order to identify its own final client (e.g. in the case of a portfolio manager acting in the framework of a management mandate). If the client of the investment firm is a foreign financial intermediary, the NCA may have to exchange information with foreign authorities to identify the final beneficiary, in the framework of EU legislation if the foreign intermediary is based in the EEA or of a "Memorandum of Understanding" if it is based outside the EEA.

This sequence of steps may take a long time. Some authorities have developed sophisticated algorithms to detect price manipulation and face the challenge that data provided by trading venues other than the ones of which they are the competent authority need to be converted into a format that enables running those algorithms. A competent authority explained that such conversion needs to be processed on a case by case basis in the absence of harmonization of formats across Member States. Moreover, order types vary across trading venues and change over time but national authorities often receive raw files without any documentation.

The RTS proposed by ESMA under article 25(3) of MiFIR should help overcoming these difficulties.

ESMA is aware that trading venues may be currently limited in requesting information from investment firms that is not strictly necessary for completing the trade, which may imply some blank fields in the order data provided to regulators. The new regulatory landscape may change that situation.

On the other hand, the degree of standardization of contents and formats of orders will have significant benefits for regulators arising from better efficiency and lower costs of the surveillance tools developed by NCAs, lower on NCA's cost of implementing better surveillance tools, and the ongoing use of them. The more standardized the data received by NCAs, the lower the cost for NCAs in processing the data made available to them by trading venues.

Trading venue operators:

Trading venues will be required to store the data required by MiFIR and this RTS for five years after the order has been received, a requirement imposed by Article 25(2) of MiFIR.

The granularity of time stamps envisaged in the draft RTS might also generate different costs for different trading venues. For example, one consulted authority explained that data are stored with a granularity of one microsecond by the largest trading venue in their country and one tenth of microsecond by another venue.

Costs for trading venues might also result from the requirement to convert data into a format defined in the RTS. One consulted authority explained that trading venues currently send order data upon request in their own format and that the authority uses conversion algorithms to transform the data received to their own generic format.

In terms of indirect effects, clients' identification may have an impact on confidentiality arrangements between trading venues and market participants.

The final CBA will aim to look into more detail at trading venues existing practices on record keeping of orders to better estimate the scale of the cost of compliance with the RTS.

Market members and participants:

Since the proposed RTS foresees that most order details to be maintained by trading venues will have the same content and format as those defined for the purpose of transaction reporting, the impact on market members and participants submitting orders will be minor.

For example, they might have to identify clients with their LEI instead of internal codes used in back-offices or for commercial purposes but this impact will be the consequence of Article 26, without any additional impact of Article 25 and the related RTS.

A specific IT processing may have to be implemented for aggregated orders: the number of clients whose orders will be aggregated will have to be computed and included in the parameters of orders transmitted to trading venues.

Finally, confidentiality agreements between market members or participants and trading venues may be needed to protect the confidentiality of client identification, with the compliance costs attached to them, and potential indirect effects on volume of trading and type of venue used for trading.

Portfolio managers and investment firms executing transactions on behalf of clients:

The RTS may impose indirect costs on other stakeholders. Portfolio managers and brokers may be impacted as they will be required to transmit the identification codes of their clients. Identification of clients will have an impact on confidentiality arrangements between portfolio managers and market participants, since client identification will be stored by trading venues.

5. Technical Options

(1) Relevant parties, trading capacity and liquidity provision flag

ESMA proposes requiring trading venue operators to keep records of the identification code of the member or participant who transmitted the order, and some elements on the relevant parties, trading capacities and liquidity providers.

Policy objective		Providing all necessary information to run inquiries on operations of market members or participants
Format of the identification code of the member or participant which transmitted the order		Article 25(3) of MiFIR requires trading venues to keep records of the identification code of the member or participant which transmitted the order. For that purpose, ESMA is considering requiring the use of the Legal Entity Identifier (LEI). Trading venues will still be allowed to maintain an internal identification of their members or participants but they would be required to convert it into the LEI when the information is requested by the competent authority.
Relevant parties	Trader Identification	ESMA is considering the possibility of requiring trading venues to keep records of trader IDs and proposes referring to the same method and format used to identify the trader for transaction reporting purposes (Article 26 of MiFIR).
	Algorithm identification	ESMA is considering the possibility of requiring trading venues to keep records of the algorithm responsible for the investment decision and the submission of the order. ESMA proposes referring to the same method and format used to identify the algorithm for transaction reporting purposes (Article 26 of MiFIR). Orders submitted manually by a natural person will be flagged as “NONE”.
	Non-executing broker	ESMA is considering the possibility of requiring trading venues to keep records of the non-executing broker - a members or participants of a trading venue that routes orders on behalf of other trading venues’ members, using the latter’s IDs, as opposed to its own.
	Client ID	ESMA is considering the possibility of requiring trading venues to keep records of the client ID on behalf of which the order was initiated and submitted to the trading venue. ESMA proposes referring to the same method and format used to identify the client for transaction reporting purposes (Article 26 of MiFIR). In case of aggregated orders transmitted by market members or

		participants on behalf of several clients, ESMA proposes that the member or participant of the trading venue uses the default reference "AGREGATED X" with "X" representing the number of clients whose orders are aggregated.
Trading capacity		ESMA is considering the possibility of requiring trading venues to keep records of the trading capacity in which the market member or participant submitted the orders and proposes referring to the same method and format used to identify the trading capacity for transaction reporting purposes (Article 26 of MiFIR).
The liquidity provision		ESMA is considering the possibility of requiring trading venues to flag and keep records of orders placed by either market makers or other liquidity providers due to their liquidity provision activity.

(2) Date and time, validity period and trade restrictions

Policy objective	Enabling NCAs to process time parameters adequately when assessing market operations
Date and time the order was transmitted	Article 25(3) of MiFIR requires trading venues to keep records of the date and time the order was transmitted. ESMA is considering requiring trading venues to maintain the following granularity of the date and time of order events, including the date and time the order was received and processed by the matching engine. - Operators of electronic trading systems: The accuracy of the time stamp will be at least of one millisecond. However, where the roundtrip latency time of trading systems is measured in less than one millisecond, the trading venue operator shall maintain time stamps with the accuracy corresponding to the latency it operates. - Operators of voice-trading systems shall maintain a time stamp accuracy of one second.
Format of the date and time of order events	Article 25(3) of MiFIR explicitly refers to the date and time of the order. ESMA is considering imposing two standards for these parameters: - The use of UTC clock (Coordinated Universal Time) - In case of electronic trading systems, the ISO 8601 format: YYY-MMM-DDthh:mm:ss:sssssssZ with an accuracy of one nanosecond, except for voice-trading systems, which shall maintain data with an accuracy of one second. Where: Y is the year, M is the month, D is the day, T signifies the time section, h is the hour, m is the minute, s is the second, small s is the fraction of a second and Z signifies Zulu (UTS) time. In the case of trading engines processing a less fine granularity, the

	operator of the trading venue shall add zeros.
Validity period/trade restrictions	ESMA is considering requiring trading venue operators to keep records of the maximum validity period of orders according to a specified classification: - Good-For-Day - Good-Till-Cancelled - Good-Till-Time - Good-Till-Date - Good-Till-Specified Date and Time - Good After Time - Good After Date - Good After Specified Date and Time - Good For Closing Price Crossing Session - Valid For Auction - Valid For Continuous Trading only - Immediate-Or-Cancel - Fill-Or-Kill - Other
Format of validity period/trade restrictions	The format of the maximum date and time of following types of validity periods would be standardized: Good-For-Day, Good-Till-Time, Good-Till-Date, Good-Till-Specified Date and Time, Good After Time, Good After Date, Good After Specified Date and Time.

(3) Priority time stamp and sequence number

Policy objective	Enabling NCAs to assess time priorities when running an inquiry
Priority time stamp	ESMA envisages requiring trading venues to maintain their order priority under either one of the following methods: a) Trading venues that operate trading systems on a price-time priority shall maintain a priority time stamp for all orders in financial instruments that are advertised on their systems. The priority time stamp shall be in the same granularity as order event time stamps. It should change to reflect any priority changes to the specific order, and it should be different from the date and time of event when the event has no impact on the order priority. b) Trading venues that operate trading systems on a size priority shall maintain the relevant quantity that determines their priority for all orders in financial instruments that are advertised on their systems. The priority size shall be a positive number and shall change to reflect any priority changes to the specific order; c) Trading venues that operate models which use a combination of time-price priority and size priority shall follow one of the two methods indicated in a) and b), depending on the method in which the orders are displayed. If the trading venue's orders are displayed in that venue's order book in time priority then it shall

	comply with the method specified under subparagraph a). If the trading venue's orders are displayed in their order book in size priority then it shall comply with the method specified under subparagraph b); d) Trading venues that operate models where the concept of priority does not exist (including Request for Quote) shall not be required to maintain details of the priority time stamp and size.
Format of the priority time stamp	The same as the format of time stamps required for order events.
Sequence number	ESMA envisages requiring trading venues to maintain a sequence number to identify the correct sequence of events where multiple events have exactly the same time stamp. The sequence number should be unique for each event. It should be consistent across all events processed by the trading venue and it should be persistent and robust for the date that the event occurs.
Format of the sequence number	The sequence number would start at a positive integer and increase in ascending order for each event with each increment being an integer.

(4) Identification of the order, details of order events

Policy objective	Harmonizing the processing of order data by NCAs in case of an inquiry
Format of the order identification code	Article 25(3) of MiFIR explicitly refers to the identification code of the order. The content and format of the identification code would be: - The denomination of the trading venue according to a standardized format: The segment MIC code (ISO383). - The financial instrument identification according to a standardized format (the ISIN code or, if there is no ISIN code, the AII product code). - The date of receipt by the trading venue. - The alphanumerical code established for each and every order book of the trading venue. - An internal code assigned by the trading venue to the individual order, that would be unique per order book, per day and which shall be numerical and ascending during the trading day. Strategy orders ESMA would be stored as a separate field: - The order status for strategy orders on the strategy order book would be populated with "active" or "inactive" accordingly - The order status for the strategy orders in the outright contracts would be populated "implicit". - The order ID would be the same for all outright contracts corresponding to a strategy order. - The price field of the relevant outright contracts will be

	populated with zero until execution. Upon execution, the traded prices would be shown using the limit price field of the order for that event (partial fill or fill) - The price for an order entered into a strategy market would be displayed in the strategy spread price field. Trading venues would be required to use the specific status "Routed" where they route orders to other trading venues. The order ID would remain the same for the lifetime of the routable order including if any residual is re-posted on the order book of entry.

Content and format of order event	Standardization of the content and format of events relating to new orders, order modifications, order cancellations and partial/full execution.
	
	- New order (or rejected order)
	- Order modification
	    o Triggered
	    o Replaced by the member or participant
	    o Replaced by market operations
	    o Change of status at the initiative of the member/participant
	    o Change of status due to market operations
	- Order cancellation
	    o At the initiative of the member/participant
	    o By market operation
	    o Rejected by counterparty
	    o Expired
	- Partial/full execution
	    o Partially filled
	    o Filled
	
	The list will apply to trading venues operating Request-for-Quote or voice broking systems only where such events are relevant to the specific trading model.

(5) Type of order, prices and specific instructions

Policy objective	Enabling NCAs to easily process the types of orders
Type of order	ESMA is considering the possibility of requiring trading venues to keep records of the type of orders according to a generic classification of orders that groups all order types into two broad categories: limit orders and stop orders.
Format of the generic classification of the	ESMA is considering standardizing generic types of orders: "LIM"

types of orders	for limit orders; “STOP” for stop orders.
Price in the case of market orders, stop orders, pegged orders, other specific orders	ESMA proposes the following rules: - In the case of a market order that has no predetermined limit price: The price will be set equal to zero. - In the case of a stop order triggered by events independent of the price of the traded instrument: The price will be set equal to zero. - Pegged orders will have a price reflecting the peg. - ESMA is considering adding a field that allows for the inclusion of more relevant prices, such as implied prices on derivative markets or Strike orders.
Specific order instruction	Specific order instructions would be maintained according to a specified content and format. Where a trading venue’s trading model does not make use of some of such order instructions, trading venues would populate such field as N/A

(6) Reference to the transaction(s) following the order in case of execution

Policy objective	Enabling NCAs to detect possible market abuses
Link of the transaction with the corresponding order	Article 25(2) of MiFIR requires trading venues to keep records of the link of an order with the executed transaction that stems from that order. For that purpose, ESMA proposes to require the transaction identification code that links each order with executed transaction to be unique, consistent, persistent and robust at least within the trading day, according to the method and format used to identify the algorithms for transaction reporting purposes.

(7) Elements relating to the functioning of the order book

Policy objective	Enabling NCAs to detect possible market abuses
	ESMA is considering requiring trading venue operators to maintain data on the functioning of the order book that are not related to the characteristics of specific orders but determine how such orders interact within the order book. This would include when trading phases start and finish, information about unscheduled trading phases like a circuit breaker auction call period, indicative prices and volumes during auction call periods. Each element would be linked with the relevant sequence number.

	ESMA does not envisage requiring a standardized format to maintain such information.

6. Cost/benefit impact assessment

As an introduction to the cost/benefit assessment, it should be noted that formats under which specific order characteristics and parameters should be converted by trading venues upon request by national authorities shall be harmonized through the requirements of the RTS.

As mentioned in the section on stakeholders, this will facilitate for NCAs the processing of order databases, especially those databases that they will receive from trading venues of which they are not the competent authority. For NCAs that did not yet develop an automatic process of order data treatment, harmonization of formats will lower the cost of entry to start developing this function.

Trading venues will not be required to store data in the harmonized formats. It will be sufficient for them to be able to convert the specified set of data according to the harmonized format upon request by NCAs. Trading venues will bear the cost of an ad-hoc conversion tool but they will not have to change historical nor on-going databases.

We evaluate below the incremental cost of the different provisions in the RTS. While the cost of each one in isolation may be non-significant, the combined effect of the different provisions of the RTS may have a higher impact on costs than the sum of the individual components. Therefore, we will look at the cumulative effect of the different provisions of the RTS as well for the final CBA.

(1) Relevant parties, trading capacity and liquidity provision flag

Proposal	ESMA proposes that trading venues keep records of the ID of the member or participant which transmitted the order, of the trader ID, of the algorithm ID, of the non-executing broker ID, trading capacity and of the liquidity provision
	Qualitative description
Benefits	The use of the LEI to identify members or participants will facilitate cross-market use of this information by NCAs, e.g. for cross venue activities and where a client transmits orders to several market members or participants. Standardized identifiers for market members or participants will enable an easy consolidation of data across multiple markets. Standardization of other parameters will lower the entry cost for those NCAs that have not yet implemented such automatic monitoring of

	orders. Record keeping of trader IDs will contribute to the identification of potential market abuse. Algorithm identification will contribute to monitoring algorithm trading and high frequency trading in an efficient way. In particular, transaction reporting available to NCAs is not sufficient to monitor high frequency traders' activity, which may consist of a large number of orders that are not executed. It is also necessary to know which specific algorithm may have generated an order to understand trading patterns and potential market abuses. Trading capacity, liquidity provision flag and non-executing broker code will allow NCAs to have a first approach in the analysis of a given order flow.
Cost to regulator	Small IT one-off costs in the case of NCAs currently using internal codes of trading venues to identify market members or participants.
Compliance costs	Trading venues may have to implement one-off IT processes to create new fields in orders submitted to matching engines and to keep records of those data, in case they do not already exist, and/or to provide them in the format requested There may be marginal ongoing IT storage costs from storing the additional order information required by the RTS, and to convert the data to send to the NCA upon request in case not stored in the same format prescribed by the RTS.
Cost to other stakeholders	Members or participants may incur one-off costs to implement the new elements to be included in any order submission. Many of them already have an LEI, so they will not incur incremental costs. For those who do not have yet an LEI, they will need to register at a Local Operating Unit (LOU) to get it. The one-off and annual costs of registration are very low (less than 200 € for the initial registration and less than 100 € for the annual maintenance).
Indirect costs	Potential higher costs for trading venues may be passed on to clients.

Client identification (general case)

Proposal	ESMA proposes to require trading venues keeping records of clients

	on behalf of which the order is initiated and submitted. Clients would be identified with the same codes and format prescribed to identify clients for transaction reporting purposes, i.e. the Legal Entity Identifier (LEI) in the case of legal persons.
	Qualitative description
Benefits	NCAs should be enabled to conduct far-reaching inquiries to detect market abuse by final beneficiaries running suspicious activities that do not necessarily translate into actual transactions (e.g. market manipulation; attempt of market abuse). Harmonized information on client orders will facilitate and accelerate inquiries run by NCAs on multiple markets.
Cost to regulator	One-off cost to process records of client identification.
Compliance cost	This requirement has a more significant scope than previous ones because most existing trading venues currently do not include this information in the parameters of orders transmitted to the matching engine. One-off costs for trading venues to include the new field in order reception and recording. One-off and on-going costs related to entering into and maintaining confidentiality agreements between trading venues and market members or participants.
Cost to other stakeholders	One-off and on-going costs related to confidentiality agreements between trading venues and market members and between market members and their clients.
Indirect costs	Effects on market participants related to confidentiality provisions, which may affect overall market trading activity and/or type of venue used for trading. Potential higher costs for trading venues may be passed to clients

Client identification (case of aggregated orders)

Proposal	ESMA envisages requiring trading venues to have a specific reference in the Client ID field: “AGGREGATED X”, where X is the number of clients being aggregated
	Qualitative description

Benefits	Easy to implement even where the distribution of orders is not possible at the time of order submission. The simplest and least costly solution for identifying aggregated orders as it would avoid a specific data collection on the breakdown of such orders. The storage of the number of clients in the order record by the trading venue would be a first mean for the NCA to detect discrepancies between the breakdown of orders and of transactions.
Cost to regulator	On-going costs of ad-hoc request by NCAs to market members for detailed information on the allocation of orders.
Compliance cost	Very small cost arising from creating a new field in case it does not already exist at the trading venue
Cost to other stakeholders	Very small cost arising from creating a new field in case it does not already exist at the trading venue, or an alternative means of communicating that information to the trading venue
Indirect costs	None

(2) Date and time, validity period and trade restrictions

Granularity of time stamps

Proposal	Accuracy of time stamp at least one millisecond for electronic trading systems (or the roundtrip latency time of the trading matching engine where the latter is inferior to one millisecond); accuracy of one second for voice-trading systems.
Benefits	Will track high frequency trading and other market practices of members able to react immediately to market events. Will enable NCAs to better monitor HFT, which is considered a potential source of concern in relation to market disruption. Will avoid unnecessary changes in order time stamps where the finest granularity is not relevant for a trading venue. A suitable solution for each trading system.
Cost to regulator	NCAs might have to dedicate IT resources to differentiate the processing of data provided by trading venues whose matching engine supports a granularity of one microsecond and the ones that do not. The costs arising from this requirement are considered in the CBA of Clock Synchronization

Compliance cost	IT cost where the required granularity of time stamps is finer than the one used in existing order databases maintained by trading venues. IT costs where outcries have time codes corresponding to time intervals instead of time stamps. The costs arising from this requirement are considered in the CBA of Clock Synchronization
Cost to other stakeholders	It may have compliance costs as well for members or market participants to accommodate to the accuracy of the time stamps requested by the RTS.
Indirect costs	See CBA of Clock Synchronization

<u>Format of time stamps</u>

Proposal	Maintenance of the time stamp in UTC For electronic trading systems, fields populated with an accuracy of 9 digits after the decimal point according to ISO 8601
Benefits	Harmonization of time stamps will allow for an efficient cross-venue monitoring by NCAs, especially in the context of arbitrage strategies. It provides a suitable solution for each trading system.
Cost to regulator	Some NCAs might have to dedicate IT resources to be able to process data according to the harmonized format. In particular, NCAs running investigations on investment firms that use GPS synchronization and are not members or participants of trading venues will have to reconcile the data from such investment firms with data based on UTC.
Compliance cost	IT cost where the required granularity of time stamps is finer than the one used in existing order databases maintained by trading venues. See more details on CBA of Clock Synchronization
Indirect costs	None

<u>Validity period/trade restriction</u>

Proposal	Standardization of the content and format of the types of validity periods/trade restrictions and of the maximum data and time of validity, where such precision is relevant for the concerned validity period.

Benefits	Enables NCAs to conduct cross-venue investigations, especially in the case of non-executed orders. Clarification and standardization of maximum validity periods will be particularly useful where NCAs will process data from multiple trading venues, including those for which the concerned NCA is not the competent authority. Lowers the cost of entry for NCAs to start automatic detection processes
Cost to regulator	NCAs that have already implemented automatic procedures to process validity periods and to detect market abuses will encounter minor one-off IT cost to take into account the new formats of order types and maximum order date and time. For other NCAs, the entry cost of such automatic processes will be lowered by the proposed standardization.
Compliance cost	One-off IT costs to trading venues to be able to convert upon request proprietary formats of types of validity periods and of maximum date and time of validity into types and formats defined by the RTS.
Indirect costs	None.

(3) Priority time stamp and sequence number

Priority of time stamps

Proposal	ESMA suggests maintaining order priority time stamps according to methods depending on whether trading venues operate on a price-time priority basis, a size priority basis or a combination of the two. Priority time stamps would not be required in the case of different market models (such as Request For Quotes systems).
Benefits	Will enable NCAs to “replay” the market on the basis of the order databases when the replication of the matching algorithm is not sufficient for that purpose. For example, the time priority of a Peg order depends on the technical latency after the event (a change in the order book) that triggers a change of the price limit of the Peg order. The latency may depend on the volume of operations on the trading venue at the time of the event. The required information could be provided by trading venues without changing their current raw databases.
Cost to regulator	There may be some incremental costs arising for regulators from

	processing or adapting for their functions the data received from the RTS on this topic, based on their current market practice. Some authorities consulted already use custom tools to "replay" the market. Those authorities may encounter one-off costs to convert existing processes using the definitions and formats defined by the RTS. For those that have not yet implemented such a tool, they may incur one-off costs from IT systems to "replay" the market.
Compliance cost	We assume compliance costs for trading venues to be of minimal significance, as they will not be required to maintain raw data according to the specifications of the RTS. Trading venues will have to replay the order book according to their own algorithm and available data upon request of NCAs.
Indirect costs	None.

<u>Sequence number</u>

Proposal	ESMA suggests maintaining standardized sequence numbers to identify the correct sequence of events where multiple events have exactly the same time stamp.
Benefits	Will enable NCAs to "replay" the market on the basis of the order databases when two events have exactly the same time stamp.
Cost to regulator	None
Compliance cost	We assume compliance costs for trading venues to be of minimal significance, as they will not be required to maintain raw data according to the specifications of the RTS. Trading venues will have to replay the order book according to their own algorithm and available data upon request of NCAs.
Indirect costs	None.

(4) Identification of the order, details of order events

<u>Identification of the order</u>

Proposal	ESMA is considering the possibility of standardizing the content and format of the identification code of the order.
Benefits	To enable NCAs to make a search of suspicious orders using a unique IT process across trading venues.

Cost to regulator	IT cost where NCAs have already implemented an IT process using codes different from those proposed by ESMA (staffing and IT costs).
Compliance cost	IT cost where existing order databases maintained by trading venues are different from those proposed by ESMA.
Indirect costs	None

Events relating to orders

Proposal	Standardization of content and format of events relating to new orders, order modifications, order cancellations and partial/full execution.
Benefits	To enable NCAs to make a search of suspicious orders using a unique IT process across trading venues.
Cost to regulator	IT cost where NCAs have already implemented an IT process using codes different from those proposed by ESMA.
Compliance cost	One-off IT cost where existing order databases maintained by trading venue operators are different from those proposed by ESMA.
Indirect costs	None

Classification of order events

Proposal	ESMA proposes a list of order events
Benefits	The generic classification will enable NCAs to have clear view of events, with a distinction between those generated by the member or participant and those generated by the trading system, using a well-recognized typology of events.
Cost to regulator	No specific cost
Compliance cost	Trading venues will have to adapt their list of possible events to the lists proposed by ESMA. Further types of events that trading venues introduce in the future will have to be re-classified in existing types or classified in a default category.
Indirect costs	None

(5) Type of order, prices and specific instructions

Type of order

Proposal	ESMA is considering requiring trading venues to classify all the orders submitted to them in one of the two following fundamental order types namely, limit orders (tradable) and stop orders ("triggerable") before transmitting the order details to a competent authority.
Benefits	Using only these two states of order is sufficient to describe the order within the order book at any given time (i.e. the price at which the order is tradable or "triggerable"), independently from the specificities, potentially complex, of the order type. NCAs will be able to reconstruct with certainty an order book, whilst the more granular information contained within the specific order instructions can be used to conduct more detailed analysis. NCAs would not need to maintain a detailed knowledge of how TV's internal systems work (e.g. very specific technicalities, for instance the interaction between orders and priority specificities). Trading venues would not be restrained from creating new order types as any order's state can fall into one of the two categories of fundamental orders. NCAs would only have to develop a single processing system to handle the order data details received, irrespective of the EU trading venue transmitting them. Limited risk of improper classification compared to the classification being done by the NCAs themselves.
Cost to regulator	IT cost where NCAs have already implemented an IT process using a different classification of orders from the one proposed by ESMA.
Compliance cost	The compliance cost will consist for trading venues in developing and maintaining a software that systematically tracks each order's state from submission to removal from the order book (modification, execution, etc.). The ongoing costs should mainly consist of the costs relating to the upgrading of the software in case the trading venue releases a new type of order.
Indirect costs	None

<u>Order price</u>

Proposal	Classification of order prices into five categories: limit price; additional

	limit price; strategy spread price; stop price; pegged limit price. Conventions for filling the price field for market orders, stop orders triggered by events independent of the prices of the traded instrument; pegged orders.
Benefits	Enable NCAs to unify the processing of order data from multiple trading venues.
Cost to regulator	For NCAs that have already set up an order data processing, cost of converting existing programs and adapt to harmonized definitions and conventions.
Compliance cost	Trading venues will have to maintain lists of correspondence between their own proprietary list of price types and the classification into four categories defined by the RTS.
Indirect costs	None

<u>Specific instructions</u>

Proposal	ESMA is considering the possibility of requiring trading venues to keep records of specific instructions in specified fields
Benefits	To provide essential information on orders without which data on the orders would be meaningless such as the buy/side indicator, quantity, Standardization of formats will enable NCAs to process cross-venue analysis of order flows.
Cost to regulator	For NCAs that have already set up an order data processing, cost of converting existing programs and adapting to harmonized definitions and conventions.
Compliance cost	Trading venues will have to maintain lists of correspondence between their own proprietary specific order instructions and the standardized one.
Indirect costs	None

(6) Reference to the transaction(s) following the order in case of execution

Proposal	ESMA proposes requirements for the characteristics of the transaction identification code, that should be unique, consistent, persistent, robust at least within the trading day and consistent with methods and

	formats used for transaction reports.
Benefits	These data will enable NCAs to detect possible market abuses, especially for qualifying insider trading according to the date and time a person may have used privileged information.
Cost to regulator	One-off IT cost to implement data processing for linking transaction data with order data.
Compliance cost	No compliance cost as identification codes are a current general market practice.
Indirect costs	None

(7) Elements relating to the functioning of the order book

Proposal	ESMA proposes a requirement for trading venues to keep records of events that have an impact on the order book aside from the characteristics and events of orders.
Benefits	These data will enable NCAs to get a consolidated and consistent picture of the market dynamics and to “replay” the market.
Cost to regulator	One-off IT cost to implement the processing of information related to trading venues of which the NCA is the regulator of. Additional IT-cost, as and when data will be requested by NCAs from other trading venues.
Compliance cost	IT one-off and ongoing costs of adding data to existing databases and storing it.
Indirect costs	None

8.4. Requirement to maintain records of orders for firms engaging in high-frequency algorithmic trading techniques

8.5. Clock synchronisation

Level of accuracy to which clocks are to be synchronised in accordance with international standards (Article 50(2) of MiFID II)

1. **Executive Summary**

Pursuant to Article 10(1) of the Regulation establishing ESMA[95], ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards ("RTS") by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to specify the level of accuracy to be used for clock synchronization across all trading venues and their members or participants in the EEA, according to international standards.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFIR/MiFID II baseline. Whenever market practices are above what is being required by MiFID, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment[96] covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS, which aims at establishing which level of accuracy should be implemented to synchronize clocks within the EU.

The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard, which can be either the MIFIR/MIFID II requirements, or the existing practices of regulated markets when are above MiFIR/MiFID II.

The stakeholders identified are trading venues, members or participants of trading venues, ESMA and National Competent Authorities (NCAs).

The next section covers the different technical options and the options to be considered in the RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals set out in the RTS.

2. Introduction

Clocks usually show differences compared to the reference time used (CET, GMT, etc.). The reason for the divergence is known as 'clock drift', or 'offset' and is in practice the steady accumulation of inaccuracy over time. This is due to the fact that normal clocks are not very

[95] Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC.
[96] See http://ec.europa.eu/internal_market/securities/docs/isd/mifid/SEC_2011_1226_en.pdf

accurate so the frequency with which time increases in them is never exactly right. For example, an error of 0,001% would make a clock be off by almost one second per day. The drift of a clock depends on their quality, the exact power they get from the battery, the surrounding temperature and other environmental variables. Thus the same clock can have different clock drift rates in different situations. Even if the systematic error of a clock model is known, the clock will never be perfect because the frequency varies over time, or there is a random phenomenon or 'jitter'.

Accuracy of a clock determines how close the clock is to an official time reference such as Coordinated Universal Time (UTC). Atomic clocks are very precise and have nearly no clock drift, with modern atomic clocks having less clock drift than the rotation of the Earth itself. Unfortunately none of the more common clock hardware is very accurate, so the time recorded by different computers may differ after some time, even when initially set accurately. To continuously keep a computer clock sufficiently accurate, a structural form of error correction is needed, known as offset correction or synchronization, which involves setting the most inaccurate clock to the most accurate one (usually an official time reference, such as UTC).

Time on a computer is stored in a number of bits, and adding to these bits makes time go on. The usage of more bits widens the range of the time value, or it can increase the resolution of the stored time. For example, with 64 bits we achieve a nanosecond. Due to speed requirements, the storing of transaction and order data is done in a linear time scale like seconds instead of dealing with seconds, minutes, hours, days, etc. Only if a human is in need of the current time, the time stamp is read and converted to the time format we use.

Clock synchronisation is required by MiFID II in Article 50 and has a direct impact in many areas within trading in financial markets. For example, it is critical for accurate and reliable time-stamping (recording of date and time). Time-stamping is needed to define the exact moment when an event occurs (e.g. execution, pre- or post-trade publication, etc.). The role of a time-stamp is to establish evidence indicating that data existed or an event took place at a particular time. This is highly important to have a clear audit trail of which market events took place when, particularly in jurisdictions where trading is fragmented amongst multiple trading venues or in cases where markets trade different but related instruments (e.g., a derivative and the associated underlying asset). As such, it is an essential component of any surveillance system, especially for ensuring compliance with time sensitive regulatory requirements such as trade-through obligations or front running.

We will distinguish the concepts of “accuracy" and “granularity” when evaluating this RTS and other related provisions. “Accuracy” refers to the clock’s allowed divergence from UTC, while “granularity” refers to the "resolution" of the clock. While both accuracy and granularity are interconnected, this RTS strictly speaking is only addressing accuracy requirements, which will depend on the granularity that the trading venue is using.

While the implementation of clock synchronization in practice presents some challenges[97], it will have significant benefits. It is essential for conducting cross-venue monitoring and detecting instances of market abuse, to ensure that post-trade transparency data can readily be part of a reliable consolidated tape and to effectively assess best execution.

Under MiFID II Article 50(2) ESMA is required to develop draft RTS to specify the *level of accuracy* to be used for clock synchronization in the EEA, according to international standards

The analysis that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014. The technical options proposed by ESMA in this CP may be different than those proposed in the DP as have been informed by the feedback received since the publication of the DP.

3. Baseline

The relevant legal text is MiFID II Article 50 which establishes the clock synchronization obligation. MiFIR Article 26 and MiFID II Article 65 have related provisions that may have an effect on clock synchronization.

Article 50 of MiFID II introduces accuracy requirements, as it refers to the obligation of trading venues and their members/participants to record the date and time of any "reportable event using an accurate time source". In particular, Article 50(1) of MiFID II requires Member States to oblige all trading venues and those accessing the venues to trade to synchronise the business clocks they use to record the date and time of any reportable event. No MiFID Level 2 regulations exist on clock synchronization.

The legislation that follows relates to granularity requirements and it may indirectly affect the accuracy provisions contained in MiFID Article 50. MIFIR Article 26 introduces specific requirements to harmonise the format and standard of timestamps in transaction reports. MiFIR Article 25 introduces specific requirements to harmonise the format and standards of timestamps to be record kept by trading venues. MiFID II Article 17(2) introduces specific requirements to harmonise the format and standards of timestamps to be record kept by firms engaging in high frequency trading.

In terms of market practice, different trading venues in different jurisdictions offer some sort of internal and/or external clock synchronization. Generally, trading venues' trading or surveillance systems automatically assign time-stamps, with all jurisdictions having time-stamps attached to their audit trail data. However, there are differences in precision and accuracy, with time-stamps ranging from one nanosecond to one-second accuracy, although most are accurate to one millisecond.

[97] IOSCO's report on Technological Challenges to Effective Market Surveillance Issues and Regulatory Tools describes not only the increasing need for clock synchronisation in highly fragmented and automated markets but also the practical challenges that such synchronisation would entail. http://www.iosco.org/library/pubdocs/pdf/IOSCOPD412.pdf

To ensure the maintenance of accurate time-stamps, NCAs have integrated time synchronization into their system architecture. The mechanisms and sources for clock synchronization, however, vary between jurisdictions, in accordance with local needs, market structures and how surveillance is organized. According to IOSCO's Report on Technological Challenges of Effective Market Surveillance, Issues and Regulatory tools, there are differences in business clock synchronization within a jurisdiction and amongst different jurisdictions within the EU. We provide below further details on the U.K., Netherlands and Germany.

U.K.

- LSE: The trading system is synchronized with the atomic clock.
- BATS Europe: Utilizes a precision time protocol (PTP) and synchronizes its systems to this to ensure the accuracy of timestamps across multiple systems.
- LIFFE: There is a system clock maintained within the overall trading architecture, which is synchronized with an atomic clock.
- PLUS: Timestamps are synchronized across servers using NTP "daemons" pointed at www.uk.pool.ntp.org.

Netherlands

- Overall trading architecture is synchronized with an atomic clock.

Germany

- The TSOs of the Eurex and the FSX: Timestamps are originated within the trading engines of Deutsche Börse Group, which use a cluster of three Meinberg clocks (one per data centre location) and are synchronized by GPS and DCF77 as backup; these serve the time via NTP protocol to all backend servers resulting in an overall time precision of better than one millisecond.

According to the DP feedback, at present, investment firms' business clocks are usually accurate to one hundredth of a second, or 10 milliseconds. Synchronisation of clocks for investment firms would affect numerous systems or interfaces (up to several thousand) within every investment firm or group.

The purpose of this document is to CBA the incremental obligation of ESMA's Regulatory Technical Standards against the MiFID II baseline described above, and the existing market practices when those are already above MiFID II.

4. Stakeholders

Two types of stakeholders are relevant for this standard: trading venues and their members or participants and ESMA/National Competent Authorities (NCAs).

Trading venues (TVs)/ Members or participants of trading venues may incur IT hardware and software, systems and controls related to how to synchronize their clocks based on the internal and external synchronization and the level of accuracy prescribed by ESMA.

NCAs/ESMA may be affected regarding their supervision responsibilities related to what is mandated on this standard. There could be also indirect effects arising from the adaptation of their systems to accommodate the higher accuracy of the timestamps reported. However, the bulk of the costs should be driven by MiFID II.

5. Technical Options

Before addressing the technical options, we will review briefly what mechanisms will determine how costs will arise for this RTS. Cost will arise from ensuring that the time recorded by each slave and master clock within a given trading venue or participant's system is synchronised to the common external time reference and does not diverge more than a specified unit of time. Compliance costs will arise mostly from the need of synchronization to the common external time reference within the divergence allowed, as technologies and protocols needed to achieve the standard of accuracy required will be different and will have different costs. It could be the case that some firms achieve slightly different levels of accuracy and synchronization with the protocols used across different points of their networks. Then the challenge would be to synchronize together the systems and applications needed within the tolerance permitted by the standard.

The incremental costs arising from this standard may be different depending on the size of the system, number of clocks and how they are synchronized, the applications to be changed, the existing network topology, switches, routers, software and hardware currently used, and the IT technology (hardware and software) that would need to be used to achieve what the RTS requires, as well as the IT staffing and management time needed to implement the change.

Table 1: Higher accuracy may require different protocols

Protocol	**Typical synchronization accuracy**
NTP	1-100 milliseconds
IRIG-B	1-10 microseconds
PTP	20-100 nanoseconds

Table 2: A brief description of reference time scales

Scale	**Description**
TAI	International Atomic Time. It is based on a particular resonance frequency

	using a Caesium atom
UTC	Coordinated Universal Time, presently slower than TAI by a fraction of a second per year
GPS	Global Positioning System. It is the atomic time scale implemented by the atomic clocks in the GPS ground control stations and satellites

If investment firms were to have to convert from hundredths of a second to milliseconds it would impose a considerable burden. Conversion to microseconds would necessitate the replacement or expansion of existing IT hardware and software facilities, with costs in the hundreds of millions of euros.

After the feedback received to the DP, ESMA is modifying the initial options presented. The main issues raised by the respondents related to cost and the following topics:

1. *Reference time*: concerning the requirement to synchronise to a common reference clock, respondents raised concerns about the proposal to mandate a specific reference clock as this may create monopolistic positions; introduce barriers to entry in the market and limit the rules' flexibility to adjust to innovation/market developments. The majority of stakeholders recommended focusing the rules on the maximum divergence to UTC allowed.

2. *Level of accuracy*: concerning the requirement to have clock synchronised at the microsecond level, respondents raised concerns about the proposal to apply a blanket requirement to different market models. The level of accuracy required should be calibrated and adjusted for different types of market participants (e.g. HFT firm vs. others) and trading venues (electronic order book vs. voice trading platforms). Taking into consideration the outcome of the consultation, the draft RTS on clock synchronisation will focus on the maximum divergence permitted with respect to the given reference time.

ESMA intends to prescribe a requirement that would be technology neutral. The final goal is that the time recorded by each master and slave clock is synchronized to the reference time and accurate.

Therefore, we will consider the following Technical Options in this CBA:

1. Reference time

2. Level of accuracy

Technical Option 1: Reference time

Policy	To allow that all events affecting an order are time stamped according to the

Objective	same internal reference and to enable cross-venue monitoring by time stamping events using the same reference clock for orders submitted by the participants on different trading venues
Technical proposal	1. Trading venues and their members or participants shall synchronise the business clocks they use to record the date and time of any reportable event against a common reference time (UTC). 2. Reportable events include but are not be limited to: (a) transactions to be reported under Article 26 of Regulation (EU) No 600/2014; (b) publication of data under Articles 6, 7, 10 or 11 of Regulation (EU) No 600/2014; (c) any event affecting the orders placed on a trading venue to be kept at the disposal of the competent authority by the trading venue and its members or participants pursuant to Articles 25 of Regulation (EU) No 600/2014 and Articles 16(6) and 17(2) of Directive 2014/65/EU

Technical Option 2: Level of accuracy

Policy Objective	Establish a time accuracy that would be sufficient and relevant for the purpose of market surveillance, in particular with respect to market manipulation
Technical proposal	5. A trading venue operating an electronic system shall ensure that its business clocks do not diverge more than one millisecond from the reference time. However, a trading venue measuring its gateway-to-gateway latency time in less than one millisecond shall synchronise its business clocks in accordance with Table 1 below based on the trading venue's gateway-to-gateway latency. The trading venue shall use as a reference the gateway-to-gateway latency time measured at the ninety ninth percentile of all orders advertised through their system. 6. A trading venue that only operates voice trading systems shall ensure that its business clocks do not diverge more than one second from the reference time. 7. The members or participants of a trading venue shall ensure that the business clocks used by the relevant system to connect to that specific trading venue are synchronised according to the same time accuracy applied by the trading venue. Where a member or participant has a

	system that connects to multiple trading venues, all business clocks used by that system shall have the same or higher granularity and accuracy compared to the most accurate trading venue of which they are a member or participant. 8. Where a trading venue changes the accuracy of its business clocks, the members or participants of that venue shall ensure that they implement a corresponding change in the accuracy of the business clocks that are used by the relevant system in a timely manner. 9. Trading venues and their members or participants shall record the date and time of any reportable event to the level of granularity required under Table 1 below.

Table 1: Level of accuracy and granularity table

	Gateway-to-gateway latency time of the trading venue	**Time divergence allowed from UTC and level of granularity required for timestamps**
1	1 millisecond or greater (equivalent to 1.0x10-3 seconds or higher)	1 millisecond divergence from UTC and all timestamps for reportable events shall be to the nearest millisecond.
2	1 microsecond to 999 microseconds (equivalent to 1.0x10-6 second to 9.99x10-4 second)	1 microsecond divergence from UTC and all timestamps for reportable events shall be to the nearest microsecond.
3	999 nanoseconds or less (equivalent to 9.99x10-7 seconds or less)	1 nanosecond divergence from UTC and all timestamps for reportable events shall be to the nearest nanosecond.

6. Cost/benefit impact assessment

Some estimates of cost were made in the responses to the DP. It was mentioned that it will be challenging and costly to implement what is required by MiFID II Article 50. However, the cost of compliance with Article 50 should be attributable to MiFID II and already covered in the Impact Assessment of MiFID II Level 1.

ESMA has taken the comments made regarding difficulty of implementation and costs involved to revise the initial proposals considered in the DP. We summarize below a qualitative description of the costs and benefits arising from the technical options considered on this RTS.

Technical Options 1 and 2: Reference time and level of accuracy

	Qualitative description
Benefits	Allows NCAs/ESMA to conduct better market surveillance by time stamping the events affecting an order according to the same internal reference and to conduct cross-venue monitoring Achieves policy objective limiting unintended effects. Avoids creating monopolistic positions and barriers to entry that would arise by mandating a specific reference Allows for better technologies/innovation to be adopted as they emerge (as it establishes the expected precision and accuracy (deviation) to a reference time (and not a particular technology). It also makes latency linked to gateway-to-gateway latency of orders advertised through the TVs' systems, to accommodate potential further changes in speed of trading
Costs to regulator: - *One-off* - *On-going*	NCAs may incur costs from regular supervision of compliance of the RTS provisions, which should not be significant compared to their existing supervision efforts. There could be also indirect IT compliance costs related to longer fields needed to accommodate the higher precision of timestamps as mandated by the RTS, and related changes to their market surveillance activities
Compliance costs: - *One-off* - *On-going*	The compliance costs that would arise will depend on the type and size of TV or market participant based on what kind of system they use in their current market practices, and will consist on one-off IT hardware and systems costs (could include specialised hardware and network cards, and rewriting of existing systems in some cases) as well as IT maintenance costs While ESMA has tried to minimize the costs for the different entities affected by establishing different requirements based on their business model and type of traded conducted, we understand that requiring time-stamping of orders below milliseconds may result in a considerable cost implication for some TVs serving HFT firms, as may require an upgrade of the existing infrastructure of the live trading and position systems, potential reconfiguration of network topology, including dedicated hardware, specific enhancements and some alterations to the protocols, new routers and switches. In addition, some of the TVs do not provide timestamp fields across all trade events that are large enough to accommodate this level of precision, so an upgrade of the infrastructure may be needed as well. We have not received any monetary estimates of costs. We will try to collect additional information on specific costs arising from the final drafting of the

	RTS for the final CBA For TVs operating at the millisecond/second level, there could be also additional one-off and maintenance IT compliance costs of similar type to the ones described above in order for firms to maintain their synchronization within the maximum divergence allowed There will be also one-off IT costs arising for venues that do not currently use UTC to synchronize their clocks and relevant internal systems There will be costs to investment firms that are members or participants of trading venues to synchronize their clocks to the latency of trading venues, in case not currently done, and will impact a significant number of applications. To synchronize below milliseconds will be quite expensive for these firms on average
Costs to other stakeholders	None anticipated
Indirect costs	Compliance costs incurred by trading venues and investment firms subject to this RTS may be passed to end users as an increase in the cost of trading and/or market data services Synchronization below milliseconds may be prone to errors. As it can take multiples of microseconds to read the clock, microsecond timestamps would still be subject to inaccuracy FIX protocol does not support timestamps below 1 millisecond, implying that every FIX implementation would need to be revised and updated to implement that level of precision, affecting the industry more widely

8.6. Obligation to supply financial instrument reference data

Obligation to supply financial instrument reference data (Article 27 of MiFIR)

1. Executive Summary

Pursuant to Article 10(1) of the Regulation establishing ESMA, ESMA is empowered to develop draft regulatory technical standards where the European Parliament and the Council delegate power to the Commission to adopt regulatory technical standards (RTS) by means of delegated acts under Article 290 TFEU in order to ensure consistent harmonisation in the areas specifically set out in the legislative acts within the scope of action of ESMA. The same article obliges ESMA to conduct open public consultations on draft regulatory technical standards and to analyse the related potential costs and benefits, where appropriate. Such

consultations and analyses shall be proportionate in relation to the scope, nature and impact of the draft regulatory technical standards.

The purpose of the proposed draft RTS is to specify technical standards in relation to the obligation to supply reference data, including standards and formats of data to be submitted by trading venues and systematic internalisers, as well as methods and arrangements for submission of these data and its use by the competent authorities.

This document provides an interim cost-benefit analysis of the incremental obligations arising from the proposed RTS against a MiFIR/MiFID II baseline. Whenever market practices are above what is being required by MiFIR/MiFID II, current market practices will be taken into consideration to assess costs and benefits. However, in practice, it may sometimes be very difficult to disentangle the effects of the Level 1 provisions, for which an impact assessment covering the general aspects of the Directive has been already performed and published by the European Commission, and the effects of the Level 2 provisions.

This document has five sections. The introduction sets out the background for the RTS. The Baseline section explains the starting point for assessing the incremental rule related to ESMA's Regulatory Technical Standard. In the next section the relevant stakeholders are identified: trading venues, systematic internalisers, ESMA and National Competent Authorities (NCAs). The section Technical options sets out the options considered in the RTS, followed by an interim qualitative analysis which provides a first overview of the benefits and costs associated with the proposals covered in the RTS.

2. Introduction

ESMA received the legal empowerment under Article 27(3) of MiFIR to draft RTS to specify: data standards and formats for the financial instrument reference, including the methods and arrangements for supplying the data to competent authorities and transmitting it to ESMA, and the technical measures that are necessary in relation to the arrangements to be made by ESMA and the competent authorities.

The interim assessment that follows is of a qualitative nature and takes into account the responses received to the Discussion Paper (DP) published in May 2014. The technical proposals proposed by ESMA in this Consultation Paper may differ from those proposed in the DP published in May, since they have been informed by the feedback subsequently received. Respondents did not detail costs and benefits in their responses to the DP.

3. Baseline

Article 11 of the Commission Regulation (EC) No 1287/2006 already requires regulated markets to submit to their home NCA, in an electronic and standardised format, the identifying reference data on each financial instrument they admit to trading. This information is required to be submitted before trading commences in that particular financial instrument. ESMA is currently managing the Instruments Reference Data System (RDS), an IT system which stores reference data for all instruments admitted to trading on EEA regulated markets. NCAs have access to this database for the purpose of exchanging the relevant transaction reports further to the requirements of Article 25(3) of MiFID.

Consideration of the future landscape of markets in financial instruments is particularly important. Under MiFIR, the scope of financial instruments subject to identifying reference data requirements defined has been substantially broadened and diversified. Under Article 27 of MiFIR, the submission of identifying reference data obligation extends to financial instruments traded on a MTF or an OTF. Comparable requirements apply to systematic internalisers for financial instruments covered by Article 26(2) of MIFIR other than those admitted to trading on regulated markets or traded on MTFs or OTFs. The MiFIR requirements also envisage publication of the instrument reference data on ESMA's website.

4. Stakeholders

ESMA and NCAs must have in place robust systems, arrangements and procedures to ensure correct, complete and timely delivery of the financial instrument reference data by trading venues and systematic internalisers. Of particular importance is the coordination between the NCAs and ESMA. The CAs will be forwarding to ESMA the files submitted by the TVs and SIs. ESMA will be responsible for managing an extended Instruments Reference Data System (RDS).

Trading venues (TVs)

According to ESMA DP (p. 484), certain trading venues transmit to their NCAs a file which contains information about the financial instruments traded on their platforms. Several TVs already generate from their own centralised instrument database different types files containing up-to-date reference information about the financial instruments. These files may also be part of a service package commercialized by trading venues, e.g. master file or daily data feeds. On the proposed fields of the files, it might be the case that not all of them are available to trading venues, except for when they are also a primary listing venue. In some other instances (e.g. fixed income products or indices), the trading venues are not the source of the reference data venues and are very much reliant on third party data providers.

Systemic internalisers (SIs)

SIs may be affected from having to build a solution for reporting reference data for instruments not admitted to trading on regulated exchanges or traded on MTFs and OTFs. However, this obligation comes from Level 1 legislation and not from this RTS.

5. Technical Options

The analysis based on the baseline and the stakeholders described above has identified three main areas where incremental obligations emerge:

1. Data standards and formats for reference data;
2. Methods and arrangements for supplying reference data; and

3. Organisation requirements.

(1) Data standards and formats for reference data

Technical Option 1: Form and content to be reported as instrument reference data

Policy Objective	*Enrich the information in transaction reports submitted by investment firms, facilitate the exchange of the transaction reports between the NCAs and enhance the monitoring activity conducted by NCAs.*
Proposal	1. Submissions of Instrument reference data shall include the fields, formats and contents prescribed in the technical specifications in Table 1 of Annex I of this Regulatory Technical Standard. 2. Regulated markets shall provide instrument reference data pursuant to paragraph (1) for the instruments that the will be admitted to trading or traded on their market. 3. Multilateral trading facilities, organised trading facilities and systematic internalisers that use a specified list of financial instruments shall provide instrument reference data pursuant to paragraph (1) for those financial instruments included in the specified list. 4. Multilateral trading facilities, organised trading facilities and systematic internalisers that do not use a specified list of financial instruments shall provide instrument reference data pursuant to paragraph (1) for instruments traded on those markets or for which orders or quotes were placed on those markets.

Technical Option 2: Use of instrument identifiers

Policy Objective	*Designating identifiers for all instruments under the scope of MiFIR, so to facilitate the collection and retrieval of data on individual transactions. It also standardises the information flow.*
Proposal	1. For instrument reference data purposes, trading venues and systematic internalisers shall use one of the following instrument code types to identify financial instruments: a. Instrument Securities Identifier Number (ISIN) b. Alternative Instrument Identifer (AII) 2. Where a trading venue or systematic internaliser chooses to use both instrument code types, the trading venue shall ensure a single instrument code type is used per market segment and segment Market Identifier Codes are applied accordingly. 3. Trading venues and systematic internalisers shall notify the home competent authority of the following details: a. Segment Market Identifier Code(s) of the trading venue or systemic internaliser. b. Instrument code type, as specified in paragraph 1, used as the method of identification for financial instruments

	admitted to trading or traded per segment Market Identifier Code.

(2) Methods and arrangements for supplying reference data

Technical Option 3: Frequency of submissions of financial instruments reference data

Policy Objective	*Ensure a systematic provision of reference data, in order to ensure completeness and timely submission of the instrument reference data at all times*
Proposal	1. Trading venues and systematic internalisers shall submit instrument reference data to the home NCA once per working day and no later than 21:00 CET.

Technical Option 4: Exchange and use of financial instruments reference data

Policy Objective	*Enable the creation of a common platform, among competent authorities, to access consolidated information about all financial instruments. It would increase the effectiveness of market monitoring and therefore its integrity.*
Proposal	1. Competent authorities and ESMA shall establish arrangements designed to ensure that the financial instrument reference data is available to all competent authorities in a timely manner. 2. All competent authorities shall use the consolidated financial instrument reference data for a given day to validate the financial instruments of the transactions reported on that given day by investment firms pursuant to Article 26 of Regulation (EU) No 600/2014. 3. All competent authorities shall use the consolidated financial instrument reference data to route transaction reports in accordance with Article 15 of Regulation on transaction reporting.

(3) Organisational requirements

Technical Option 5: Effective reception of financial instrument reference data

Policy Objective	*Ensure that CAs and ESMA will receive correct, complete and timely instrument reference date from trading venues and systematic internalisers.*
Proposal 1	1. Trading venues and systematic internalisers shall have policies, arrangements and technical capabilities in place to be able to

	comply with the technical specifications determined by the competent authority to whom they submit the reference data, for the purposes of the trading venues or systematic internalisers connecting to the competent authority's system. 2. Trading venues and systematic internalisers shall have policies, arrangements and technical capabilities in place to ensure completeness and accuracy of the instrument reference data before submitting the data to their Home competent authority. Where LEI codes, ISIN codes or AII codes are included in the instrument reference data, trading venues and systematic internalisers shall ensure those codes are valid in terms of content and format.

Technical Option 6: Back-up facilities

Policy Objective	*Ensure that TVs and SIs have effective business continuity arrangements to address disruptive incidents, so to be able to provide the information in every market circumstance.*
Proposal 1	1. The systems used by the trading venues and systematic internalisers shall be well adapted to the activity which takes place through them and robust enough to ensure continuity and regularity in the performance of the services provided. 2. In order to comply with the obligation under Article 27 Regulation (EU) No 600/2014 at all times, trading venues and systematic internalisers shall periodically review and evaluate their technical infrastructures, and associated process for governance, accountability and sign-off and associated business continuity arrangements. Trading venues and systematic internalisers shall act on the basis of these reviews and evaluations to remedy deficiencies. 3. Trading venues and systematic internalisers shall be able to demonstrate on an on-going basis that their systems have sufficient stability by having effective business continuity arrangements to address disruptive incidents. 4. The business continuity arrangements shall cover, at a minimum: a. all processes, escalation procedures and related systems which are critical to ensure that the trading venue or systematic internaliser comply with their obligation under Article 27 MiFIR, including any relevant outsourced service; b. an adequate range of possible scenarios related to the operation of the systems which require specific continuity arrangements including at least system failures, natural disasters, communication disruptions, loss of key staff and inability to use the premises regularly used. The business continuity plan shall foresee short term and medium term contingencies; c. duplication of hardware components to allow for failover to back-up infrastructure, including network connectivity

	and communication channels; d. back-up of business critical data and up-to-date information of the necessary contacts to ensure communication inside the trading venue or systematic internaliser and between the trading venue or systematic internaliser and the entities providing the data as well as those receiving the data; e. the procedures for moving to and operating the system from a back-up site; f. the arrangements to ensure a minimum service level of the critical functions and the expected timing of the completion of the full recovery of those processes; g. the maximum acceptable recovery time for business processes and systems, having in mind the deadlines for submitting the information; h. staff training on the operation of the business continuity arrangements, individuals' roles including a specific security operations team ready to react immediately to a system disruption; i. an on-going programme for testing, evaluation and review of the business continuity arrangements including procedures for modification of the arrangements in light of the results of that programme. 5. The trading venue or systematic internaliser shall promptly report to its Home competent authority and make public any interruptions of services or connection disruptions as well as the time estimated to resume a regular service. The trading venue or systematic internaliser shall inform its competent authority about any other disruption to the performance of the system

Technical Option 7: Data quality

Policy Objective	*Ensure that systems, arrangements and procedures are able to provide correct, complete and timely delivery of the data. This would ultimately improve the quality and effectiveness of CAs monitoring activities.*
Proposal 1	1. Trading venue or systematic internaliser shall set up and maintain appropriate arrangements to identify submissions that are incomplete or contain obvious errors. At a minimum, the Trading venue or systematic internaliser shall perform periodic validations for fields, formats and contents according to the technical specifications prescribed in Annex 1 of this Regulatory Technical Standard. 2. Where the trading venue or systematic internaliser determines that the submitted instrument reference data is incomplete or contains erroneous information, it shall promptly notify the Home competent authority that the data is incomplete or contains erroneous information and correct it. 3. Trading venues or systematic internalisers shall correct erroneous and incomplete submissions immediately after they become aware of those erroneous or incomplete submissions. 4. Competent authorities and ESMA shall set up and maintain

	appropriate arrangements to identify on receipt submissions that are incomplete or contain information that is likely to be erroneous. These arrangements shall ensure at a minimum that a validation is performed for the fields, formats and contents according to the technical specifications prescribed in Annex I of this Regulation.

6. Cost/benefit impact assessment

(1) Data standards and formats for reference data

Technical Option 1: Form and content to be reported as instrument reference data

In the Discussion Paper, ESMA suggested a list of possible reference data fields per category of financial instruments whereby the categories were established according to the ISO 10962 (2001 version) standards (CFI classification). However, taking into consideration the expanded scope of MiFID II that will encompass a wider diversity of financial instruments, ESMA acknowledges the challenge of classifying all possible categories of financial instruments within the same set of categories as specified in the DP. In the draft RTS ESMA prescribes, therefore, an amended table of fields common for all instruments where all the applicable fields have to be populated if applicable for a given instrument.

The set of reportable instrument reference data has been extended and the respective formats of many existing data fields have been modified.

	Qualitative description
Benefits	It provides NCAs and ESMA with detailed, granular information about the financial instruments. It provides clarity and certainty by determining what the TVs and SIs have to include in their financial instrument reference data submissions by drawing a line between those that have (not) a pre-set list of financial instruments.
Costs to regulator: - *One-off* - *On-going*	*Modest costs*. NCAs and ESMA will incur one-off costs associated with the development of the IT infrastructure and recurring costs associated the staff responsible for checking the consistency of the files submitted by the TVs and SIs, processing and consolidating the reference data for financial instruments.
Compliance costs: • *One-off* • *On-going*	*Modest to fair costs.* The coverage of instruments type and the suggested list of data fields is significantly broader than TVs and SIs are currently able to provide for. This will require database expansion to be undertaken, changes in the internal procedures to be made, hardware,

	software and communication solutions to be developed (one-off costs) and staff to be involved on daily basis in the effective submission of files to the CAs and in the monitoring of these processes (recurring costs).
Costs to other stakeholders	*None*
Indirect costs	*Quality effects.* TVs and SIs may not have access to all the specified reference data without obtaining it from issuers (or the banks acting on their behalf) and third party vendors. If the suppliers do not deliver the data to the trading venue in a timely fashion, the trading venue will not have up to date information in the files submitted to the NCA. Higher costs for those providing the data may be passed to users, for example through higher bid ask spreads. Furthermore, the publication of the broad set of instrument reference data on the ESMA website may decrease benefits for the TVs that act as data vendors. This reduction in benefits may also be transferred to the users of the TV in form of higher prices.

Technical Option 2: Use of instrument identifiers

The ISIN Code is provided by the relevant NNA (National Numbering Agency) and widely used for the identification of financial instruments, especially on cash markets. ISINs have been also assigned for exchange-traded derivatives and some OTC derivatives, such as cleared only and flexible contracts. ISINs are also assigned for indices, but it is the responsibility of the index owner/calculating agent to provide the relevant reference data, such as constituency and weighting information. The relevant NNA based on the jurisdiction of the index owner/calculating agent assigns an ISIN. The Alternative Instrument Identifier code (AII Code) has been developed by CESR (now ESMA) and FESE in order to identify instruments traded on derivative markets, consist of the characteristics of the instrument and it can be issued free of charge. A significant number of trading venues use AII for derivatives products traded on their system. The ISIN and the AII codes covered the scope of instruments for MiFID I; however MiFIR increases this scope considerably. ESMA continues to explore different alternatives to identify financial instruments not currently covered by either the ISIN or the AII.

	Qualitative description
Benefits	Provides clarity to Investment firms who will know which instrument code type they will have to use in their transaction reporting (ESMA will publish the information on its website). A product code is both uniquely identifying the instrument and enabling participants to understand the attributes of

	that instrument through the associated reference data
Costs to regulator: - *One-off* - *On-going*	*None to modest costs.* NCAs already use ISIN and AII identifiers in analysis and processing of instrument reference data, hence no additional costs should arise in relation to the usage of these identifiers. Ongoing costs however may arise if a new identifier is proposed for the instruments that are currently not covered either by ISIN or AII.
Compliance costs: • *One-off* • *On-going*	*None to modest costs.* There are trading venues that use neither ISIN nor AII codes. For those incremental costs will like arise. Ongoing costs may arise as well if a new identifier is proposed for the instruments that are currently not covered either by ISIN or AII.
Costs to other stakeholders	*None.*
Indirect costs	*None.*

(2) Methods and arrangements for supplying reference data

Technical Option 3: Frequency of submissions of financial instruments reference data

	Qualitative description
Benefits	A single daily list would ensure greater consistency, a more operationally sound system and better informational quality. A full daily file delivery within a reasonable timeframe between market close and the next day's opening would ensure that no data is missed and the recipient has systematically available a complete set of data.
Costs to regulator: - *One-off* - *On-going*	*Modest costs.* NCAs will incur on-going costs related to processing the files submitted by the TVs and Sis within the given timeframe.
Compliance costs: - *One-off* - *On-going*	*Modest to fair costs.* TVs (that currently do not supply the instrument reference data) and SIs will incur one-off costs related to the development of their IT systems and on-going cost associated with the preparation of the full files, i.e. populating the fields, and transmitting them to the NCAs within the given timeframe.
Costs to other stakeholders	*None.*
Indirect costs	*None.*

Technical Option 4: Exchange and use of financial instruments reference data

	Qualitative description
Benefits	It allows competent authorities and market participants to access a single database containing reference information about the financial instruments traded across EU. It increases the usability of the transaction reports submitted by investment firms on a given day.
Costs to regulator: - *One-off* - *On-going*	*Modest costs.* NCAs and ESMA will incur one-off costs related to the upgrade of the current IT infrastructure, network connectivity, secure communication channels and on-going costs related to the staff responsible for consolidating the files submitted by TVs and SIs and exchanging them.
Compliance costs: - *One-off* - *On-going*	*None.*
Costs to other stakeholders	*None.*
Indirect costs	*None.*

(3) Organisational requirements

Technical Option 5: Effective reception of financial instrument reference data

	Qualitative description
Benefits	It prevents non-validated reference data from being submitted by TVs and SIs to the NCAs.
Costs to regulator: - *One-off* - *On-going*	*Low costs.* NCAs will have to monitor whether the TVs and SIs comply with their obligations (on-going costs).
Compliance costs: • *One-off* • *On-going*	*Medium costs*. TVs and SIs will incur one-off costs related to establishing new policies, arrangements and technical capabilities to ensure the quality of the data submitted to the NCAs and on-going costs related to the validation of the data, in particular validation of ISIN codes (identifier of the financial instruments) against the Numbering Agency provider and LEI (identifier of the issuer of the financial instrument) against the Local Operating Unit.
Costs to other	*None.*

stakeholders	
Indirect costs	*None.*

Technical Option 6: Back-up facilities

	Qualitative description
Benefits	It allows TVs and SIs to deal effectively with disruptive scenarios and meet the deadlines for submitting the reference information. The delay in sending data to the next in the chain is limited in such a way that the data will still be forwarded within the legal timeframe.
Costs to regulator: • *One-off* • *On-going*	*Low costs.* NCAs will have to monitor whether the TVs and SIs comply with their obligations and analyse incident reports, if any (on-going costs).
Compliance costs: • *One-off* • *On-going*	*Modest to fair costs.* The TVs and SIs will incur one-off costs related to investments in their technical infrastructures, further changes in governance, accountability and sign-off internal procedures, drawing up the business continuity arrangements (BCAs) and recurring costs related to the staff responsible to act and make adjustments based on the periodical reviews of the BCAs, and in particular the operations team ready to react immediately to a system disruption and inform promptly the competent authorities.
Costs to other stakeholders	*None.*
Indirect costs	*None.*

Technical Option 7: Data quality

	Qualitative description
Benefits	It minimises the risk of TVs and SIs to transmit erroneous/incomplete information to the NCAs and ESMA. It prevents erroneous/incomplete information from being transmitted by NCAs to ESMA and being included as a part of the instrument reference data database.

Costs to regulator: • *One-off* • *On-going*	*Modest to fair costs.* NCAs and ESMA will incur one-off costs with regard to developing a validation system and on-going cost related to the staff responsible for validating the financial instrument reference data.
Compliance costs: • *One-off* • *On-going*	*Modest costs.* TVs and SIs will incur one-off costs with regard to developing a validation system and on-going cost related to the staff responsible for validating the financial instrument reference data and taking measures to correct the data and to fix the issues causing the failures or errors.
Costs to other stakeholders	*None.*
Indirect costs	*None.*

9. Post-Trading Issues

9.1. Obligation to clear derivatives traded in regulated markets and timing of acceptance for clearing (STP)

9.2. Indirect clearing