

Reporting Instructions

MiFIR Double Volume Cap

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1.1	15/06/2017	ESMA	Updated DVC-018 data validation Merging DVC-007 within DVC-005 How to correct a report with wrong currency Reference to the XML Schema that will be used for the double volume cap results files to be published by ESMA
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Reference documents:

Ref	Title	Version	Author	Date
1	MiFID II - Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014	2014/65/EU	European Parliament Council of Europe	15 May 2014
2	Regulatory technical and implementing standards – MiFID II / MiFIR http://ec.europa.eu/finance/securities/docs/isd/mifid/its-rtis-overview-table_en.pdf	28 Sep 2016	European Commission	28 Sep 2016

Ref	Title	Version	Author	Date
3	DIRECTIVE (EU) 2024/790 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 28 February 2024 amending Directive 2014/65/EU on markets in financial instruments	2024/790	European Commission	28 Feb 2024
4	Final Report On Systematic Internaliser notification (new ITS), on the volume cap and transparency calculations (RTS 3) and circuit breakers (new RTS 7a)	ESMA74-2134169708-7780	ESMA	10 Apr 2025

Table of Contents

1	Introduction	6
1.1	Purpose and audience of this document.....	6
1.2	Scope.....	6
1.3	Definitions	7
2	System overview	9
3	Reporting Principles	10
3.1	Data reporting flow	10
3.2	Instruments subject to the reporting requirements.....	11
3.3	Reporting timeline	11
3.4	First report.....	11
3.5	Data validation	12
3.5.1	Data transmission errors	12
3.5.2	Data format errors	12
3.5.3	Data content errors	14
3.5.4	Data completeness checks.....	14
3.5.5	Feedback files fields.....	15
3.5.6	How to: correcting a mistake in the currency reported	16
4	Double Volume Cap data upload specifications.....	17
4.1	Overview of the data to be reported	17
4.2	Business data submission file	18
4.3	Business Application Header (BAH)	19
4.4	Volume Cap Data Fields Guideline.....	21
5	Annexes	24
5.1	Annex 1: XML schemas for the Double Volume Cap system.....	24
5.2	Annex 2: File Naming Convention	25
5.2.1	Submitting Entity to ESMA	25

5.2.2	ESMA to Submitting Entity	27
5.3	Annex 3: Validation rules	29
5.3.1	Transmission Validation Rules	29
5.3.2	Format Validation Rules	29
5.4.3	Reminder Message code and description	30
5.4.4	Content Validation Rules	30
5.4	Annex 4: XML Messages Description	33
5.5	Annex 5: Sample Volume Cap XML Message	34
5.5.1	Multiple Trading Venues Submission	34
i.	Multiple Reporting Periods Submission (01/01/2017-31/12/2017)	36

1 Introduction

1.1 Purpose and audience of this document

The ESMA Double Volume Cap system supports Article 5 of Regulation (EU) No 600/2014 of the European Parliament and of the Council of 15 May 2014 on Markets in Financial Instruments (MiFIR).

The purpose of this document is to provide instructions for the reporting entities to submit the Double Volume Cap data to the ESMA system for processing.

The intended audience of this document is the National Competent Authorities, Trading Venues and Consolidated Tape Providers (CTPs). Indeed, those entities are required to implement system interfaces to submit data to allow the ESMA system to calculate and publish the volume cap data.

1.2 Scope

The scope of instruments are Equity and Equity like instruments (shares, ETFs, depositary receipts and certificates) that are active at least one day for each 2-weeks period. Equity / Equity-like instruments will be identified based on the MiFIR identifier as reported to the FIRDS Transparency system.

The scope of data to submit for each instrument includes aggregated trading volumes (total and under waivers) from regulated markets and MTFs (referred as Trading Venues) as well as CTPs. ESMA will receive this data directly from Trading Venues and CTPs if they fall under the jurisdiction of NCAs delegating data collection, or from NCAs otherwise, to whom Trading Venues and CTPs will need to submit the reports first.

Note:

Due to the MiFIR/MiFID II review related changes to the volume cap calculations (RTS 3)¹ the reporting of the volume cap data described in this document will be discontinued from January 2026. Following the termination of the DVC reporting this Reporting Instruction document will be obsolete.

¹ https://www.esma.europa.eu/sites/default/files/2025-04/ESMA74-2134169708-7780_Final_Report_on_SI_notification__volume_cap_and_circuit_breakers.pdf

1.3 Definitions

Acronym	Definition
BRD	Business Requirements Document
CA	Competent Authority
ESMA	European Securities and Markets Authority
EAMFT	ESMA Managed File Transfer System
FIRDS	Financial Instrument Reference Data System
HUBEX	The existing ESMA HUB system used by NCAs.
HUBDE	The new ESMA HUB system (provided by FIRDS) that directly collects data from Trading Venues and CTPs on behalf of NCAs delegating data collection in their jurisdiction.
ITMG	IT Management and Governance group
ITS	Implementing Technical Standards
NCA	National Competent Authority
NCA delegating data collection in their jurisdiction	A National Competent Authority who signed a Delegation Agreement with ESMA in order to delegate the task of collecting data in their jurisdiction directly from Trading Venues, and CTPs for the purpose of Double Volume Cap Mechanism
NCA not delegating data collection in their jurisdiction	A National Competent Authority who has not signed a Delegation Agreement with ESMA in order to delegate the task of collecting data in their jurisdiction directly from Trading Venues, and CTPs for the purpose of Double Volume Cap Mechanism
RM	Regulated Market
RTS	Regulatory Technical Standards
Reporting Period	Identification of a half-month period for which data is reported (starting on first day of a month and ending on the 15 th day of the same month, or starting on 16 th day of a month and ending on the last day of the same month). Examples: from 01/Jan/2017 to 15/Jan/2017; from: 16/Feb/2016 to: 29/Feb/2016.
TV	Trading Venue, covering Regulated Markets, Multilateral Trading Facilities, Organised Trading Facilities
Trading Venue Identifier	In the context of this document, in accordance with the Table 2 of the RTS3 Annex, “trading venue identifier” must be interpreted as

	“Segment MIC for the trading venue, where available, otherwise operating MIC”
SWIFT	Society for Worldwide Interbank Financial Telecommunication
UTF-8	8-bit UCS/Unicode Transformation Format is a variable-length character encoding format. UTF-8 encodes each character (code point) in 1 to 4 octets (8-bit bytes), with the single-octet encoding used only for the 128 US-ASCII characters. Any business field in this format is represented in this document as 10(z) = 10 UTF-8 character string
XML	Extensible Mark-up Language

2 System overview

TVs and CTPs systems shall implement mechanisms to provide and submit the data required for the purpose of the Double Volume Cap mechanism in the agreed format.

The required double volume cap data contains information related to the total volumes of trading, as well as on volumes of trading under waivers, for all Equity / Equity-like instruments, on half-month periods, collected twice per month.

The information exchange between the submitting entities and the volume cap mechanism system is performed through a secured FTP file server.

All transfers of data are to be done using a secure exchange protocol defined by ESMA.

TV, CTP and NCAs send the data to ESMA through the EAMFT system by uploading files on the HUBDE or HUBEX secured FTP servers. NCAs use HUBEX while TVs and CTPs use HUBDE.

The volume cap mechanism system processes the data and checks its quality in terms of formatting, reports completeness and content.

The reporting entities are responsible for the accuracy, completeness and availability of the data reported.

A number of automated data validations are executed on the files and a feedback file listing all errors and warnings detected is sent back to the submitting entities. The reporting entity has to fix the source of the errors as soon as possible and resubmit all rejected records.

All data records that pass the automated validations are stored in the system. After the necessary data has been received, calculations take place and the results are published on ESMA website.

3 Reporting Principles

3.1 Data reporting flow

The reporting for the purpose of the volume cap mechanism applies to:

- Trading venues or CTPs under the jurisdiction of a NCA delegating data collection to ESMA, and that shall therefore directly submit the data to ESMA and
- Trading venues or CTPs under the jurisdiction of a NCA which did not delegate to ESMA the task of collecting data from TV / CTP under its jurisdiction. They shall submit the data to the NCA of their jurisdiction, which shall in turn submit the data to ESMA.

The Figure 1 shows the data flow for each entity subject to the reporting requirements.

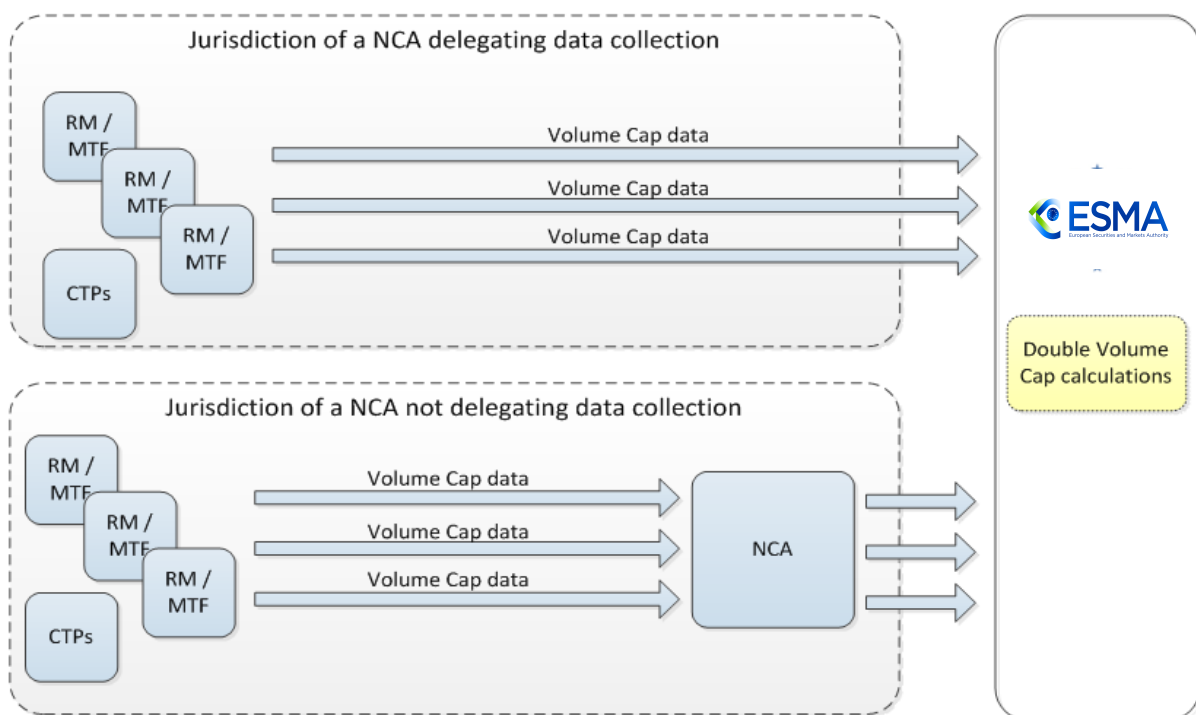


FIGURE 1 – REPORTING DATA FLOW

A trading venue can be a RM (Regulated Market) or a MTF (Multilateral Trading Facility). The trading venue shall generate the volume cap mechanism data file as per chapter 4.

In addition, CTPs (Consolidated Tape Provider) may also be requested to provide volume cap mechanism data on an ad-hoc basis therefore CTPs are also considered as reporting entities.

3.2 Instruments subject to the reporting requirements

As defined in MiFIR Regulation (EU) No 600/2014 Article 5(1) and RTS 3 Article 6(1)(2), the volume cap mechanism applies to shares, ETFs, depositary receipts, certificates and other equity like instruments that were admitted to trading on the trading venue and within the reporting period (for at least one day of the period) covered by the report.

3.3 Reporting timeline

The data is reported by Trading Venues twice a month:

- on the first day of each calendar month – trading volumes for the period from the sixteenth day to the last day of the previous calendar month;
- on the sixteenth day of each calendar month – trading volumes for the period from the first day to the fifteenth day of the same calendar month.

The data should be submitted by 13:00 CET on the first or sixteenth day of the month, or if the first or sixteenth day falls on a non-working day according to the trading venue calendar, the data should be reported by 13:00 CET on the following trading venue working day.

When data is collected by NCAs, NCAs forward the data to ESMA by 13:00 CET on the next working day following its receipt.

The system will automatically take into account data corrections submitted by the end of the third ESMA working day following the end of each reporting period.

[Updated: 19/10/2018] The data validation DVC-005 requires that the instrument is known in the FIRDS Reference Data system as active on the trading venue during at least one day for the 2-weeks period reported, and is known in the FIRDS Transparency system as an Equity instrument. In normal circumstances, when reference data is reported for the first time on T before cutoff time, and associated equity transparency data is reported on T+1, double volume cap data can be reported from T+3.

3.4 First report

The first report should be reported on the day of entry into application of MiFIR by 13:00 CET and shall include for each instrument and for each calendar month of the preceding calendar year:

- (a) data for the period 01-15 of the month
- (b) data for the period 16-last day of the month

For example, if the day of entry into application is 3 January 2018, data shall cover, for each instrument, the 24 half-month periods: 01/Jan/2017 – 15/Jan/2017, 16/Jan/2017 – 31/Jan/2017, ..., 01/Dec/2017 – 15/Dec/2017, 16/Dec/2017 – 31/Dec/2017.

3.5 Data validation

The ESMA Volume Cap system will run data validation on all received volume cap files irrespective of its source (NCA, TV or CTP).

The system will process the submitted files continuously and perform automated data validation to ensure their compliance with the rules in place. The system will also send a feedback file to the submitting entities regardless whether the submitted Volume Cap file contains errors or not.

The system may reject a submitted file or a record reported on a valid file, depending on the type of error. If there are no errors, the ESMA system will send to the submitting entities a feedback file stating that the submitted file is fully accepted.

Following the successful validation of the file transmission and file format, if at least one error for a specific record is identified, the system will generate a feedback file with all the records containing an error along with the information on the error type (see section 0).

The feedback file XML Message is described in the section 0.

3.5.1 Data transmission errors

When a NCA / TV / CTP uploads a file through HUBEX / HUBDE, EAMFT performs preliminary checks based on the file naming convention (see Section 5.2):

1. The SenderCode in the file name must match the sender account;
2. If the first check is passed, EAMFT tests that the file naming convention is respected (see section 5.2.1);
3. If the test is conclusive, EAMFT checks that file size is lower than remaining disk quota size.

If one of these checks fails, EAMFT will reject the file and return a “permission denied” error.

3.5.2 Data format errors

If the data transmission validations are passed successfully, the ESMA system will check that the files transmitted by the submitting entity comply with the format specifications.

Trading Venues and CTPs shall only submit files after having performed successful XML-validation against the commonly agreed XML-Schema (see Annex 1: XML schemas for the Double Volume Cap system and

Annex 4: XML Messages Description). Additionally, the ESMA system will also perform XML validation of the files received.

As part of the XML Schema validation, the system will check that the number of VolCapData records is less than 500,000.

If an error is identified at this stage, the processing stops, all records contained in the file are rejected and a feedback message explaining the reason for rejection is sent to the submitting entity. The submitting entity will have to fix the source of the XML validation errors and resubmit all the records.

3.5.3 Data content errors

If the data transmission and data format tests are passed successfully, the ESMA system will perform automated data content validations.

If an error is identified at this stage, the corresponding records will be rejected. The system will send feedback to the submitting entity on the erroneous records and the reason for rejection. The submitting entity will have to fix the source of the errors and resubmit files containing the corrected records.

3.5.4 Data completeness checks

The ESMA system will cross-check the data received from submitting entities, with the list of active equity / equity-like instruments from the FIRDS system. For each instrument, the system will verify that data has been received from all Trading Venues on which the instrument had been admitted to trading for at least one day within a half-month reporting period.

Every day from the 1st to the 3rd ESMA working day following the end of a half-month period after 13:00 CET and additionally after 23:59 on the 3rd day, the system will send reminders to the relevant submitting entities (Trading Venue in case of a NCA delegating data collection, NCA otherwise) in case of missing data for that half-month period. Submitting entities will have to submit the missing data to ESMA, even in the case it is late. The system does not generate reminders for CTPs.

The reminder file will be placed in the Submitting Entity specific folder created on HUBEX (if the submitting entity is a NCA not delegating data collection) or HUBDE (if the submitting entity is in the jurisdiction of a NCA delegating data collection).

The submitting entities shall put in place an IT solution to capture any feedback and reminder files that ESMA may have placed in their folder of HUBEX (if the submitting entity is a NCA not delegating data collection) or HUBDE (if the submitting entity is in the jurisdiction of a

NCA delegating data collection). The solution shall ensure the reporting entities to correct any errors and take the appropriate action in a timely manner.

The reminder and feedback XML messages are defined in section 0 which describes the applicable File type, Direction from ESMA system point of view, ISO 20022 message definition identifier.

3.5.5 Feedback files fields

Field name	Reporting Instruction	XPath BizData/Pyld/Document/...
Message Status [Mandatory]	The Message Status details the status of the whole report received from a Submitting Entity ACPT File was accepted with no errors CRPT File is corrupted RJCT File was rejected due to file errors or to content errors RMDR Reminder PART Partially Accepted, in case some record doesn't pass the Content validations	XML Schema 1.1.0: BizData/Pyld/Document/FinInstrmRptgStsAdv/MsgSts/
Validation Rule [Unbounded]	The Validation Rule provides the details of the rule that could not be validated by the system The Id will contain the Error Code field described in the tables from the section 0.	FinInstrmRptgStsAdv/MsgSts/VldtnRule
Record Status [Unbounded]	The Record Status provides per record status on the submitted report. The same record can be reported multiple times where different elements of the record have an issue.	FinInstrmRptgStsAdv/RcrdSts
Original Record Identification [Mandatory]	The field describes a unique and unambiguous technical identification of the original data record received by the ESMA system that is used internally by the system.	FinInstrmRptgStsAdv/RcrdSts/OrgnlRcrdId
Status [Mandatory]	This field defines the status of the reported record. ACPT Accepted RJCT Rejected WARN Warning	FinInstrmRptgStsAdv/RcrdSts/Sts
Validation Rule [Unbounded]	The Validation Rule provides the details of the rule that could not be validated for the record. The Id will contain the Error Code field described in the tables from the section 0.	FinInstrmRptgStsAdv/RcrdSts/VldtnRule

3.5.6 How to: correcting a mistake in the currency reported

In case a data record was reported in the wrong currency, the reporting entity will have to submit two records: one to cancel the volume reported in the wrong currency (this will be done by reporting a record with zero volumes in the currency), and another one to report again the volumes with the correct currency.

Example:

A reporting entity reported data in EUR instead of GBP

```
<VolCapData>...<Ccy>EUR</Ccy><TtlTradgVol>100</TtlTradgVol><TtlRefPricTradgVol>10  
</TtlRefPricTradgVol><TtlNgtdTxsTradgVol>5</TtlNgtdTxsTradgVol>...</VolCapData>
```

To correct this record, the reporting entity has to submit two records:

```
<VolCapData>...<Ccy>EUR</Ccy><TtlTradgVol>0</TtlTradgVol><TtlRefPricTradgVol>0</TtlRefPricTradgVol><TtlNgtdTxsTradgVol>0</TtlNgtdTxsTradgVol>...</VolCapData>
```

and

```
<VolCapData>...<Ccy>GBP</Ccy><TtlTradgVol>100</TtlTradgVol><TtlRefPricTradgVol>10  
</TtlRefPricTradgVol><TtlNgtdTxsTradgVol>5</TtlNgtdTxsTradgVol>...</VolCapData>
```

These two steps have to be performed for each record (ISIN, MIC, 2-weeks period, currency) reported in the wrong currency.

Example:

For a given ISIN and MIC, if the reporting entity reported data in EUR instead of GBP for all periods from 1/Jan/2017 until 31/March/2017 included, the reporting entity has to report 0 EUR volumes for this ISIN, MIC for each of the following periods: 1-15/Jan, 16-31/Jan, 1-15/Feb, 16-28/Feb, 1-15/Mar, 16-31/Mar, then to report the volumes in GBP for each of the periods: 1-15/Jan, 16-31/Jan, 1-15/Feb, 16-28/Feb, 1-15/Mar, 16-31/Mar.

4 Double Volume Cap data upload specifications

4.1 Overview of the data to be reported

Data field name		Description
Reporting period		Identification of a half-month period for which data is reported, - starting on first day of a month and ending on the 15 th day of the same month Or - starting on 16 th day of a month and ending on the last day of the same month (e.g. From: 01/Jan/2017 To: 15/Jan/2017 ; From: 16/Feb/2016 To: 29/Feb/2016)
Reporting identification	entity	Where the reporting entity is a trading venue: segment MIC or, where appropriate, operational MIC or Identifier of the CTP if the reporting entity is a CTP.
Trading Venue identifier		MIC code of the Trading Venue for which volumes of trading are provided in the report (segment MIC, where available, otherwise operational MIC).
Instrument identifier		ISIN code of the instrument.
Currency of the transactions	the	Currency code of the currency in which the trading volumes are expressed.
Total volume of trading (per currency)		Volume of trading in a given instrument and in a given currency on the Trading Venue specified by the "Trading Venue identifier" within the "Reporting period".
Total volume of trading under Reference Price waiver (per currency)		Volume of trading in a given instrument and in a given currency on the Trading Venue specified by the "Trading Venue identifier" within the "Reporting period" under the Reference Price waiver as defined under Article 4(1)(a) of MiFIR.

Total volume of trading under Negotiated Transactions waiver (per currency)	Volume of trading in a given instrument and in a given currency on the Trading Venue specified by the "Trading Venue identifier" within the "Reporting period" under the Negotiated Transactions waiver as defined under Article 4(1)(b)(i) of MiFIR. The volume of negotiated transactions in liquid financial instruments should be only provided (as defined in RTS on transparency requirements in respect of equity instruments flag N – negotiated transactions in liquid financial instruments).
--	---

Note that the data should be reported for all equity / equity-like instruments active at least one day during the period, even if the volume of trading for a specific (ISIN, MIC, Reporting Period) combination was equal to zero during the period. In that case, a volume equal to zero EUR should be explicitly reported.

4.2 Business data submission file

The business data submission file is the file which encapsulates the Business Application Header (BAH), Message Header (MHD) and Business Fields (BF).

This file contains:

- 1a. The Business Application Header under "BizData/Hdr"
- 2a. The Message Header and Business Fields under "BizData/Pyld"

For correct submission of the files the following namespaces need to be defined when creating the XML message:

- `<BizData xmlns="urn:iso:std:iso:20022:tech:xsd:head.003.001.01" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.003.001.01 head.003.001.01.xsd">`
- `<AppHdr xmlns="urn:iso:std:iso:20022:tech:xsd:head.001.001.01" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.001.001.01 head.001.001.01_ESMAUG_1.0.0.xsd">`
- `<Document xmlns="urn:iso:std:iso:20022:tech:xsd:auth.035.001.01" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:auth.035.001.01 auth.035.001.01_ESMAUG_DATDVC_1.1.0.xsd">`

4.3 Business Application Header (BAH)

In addition to the general information described previously, the submitting entities will have to provide file information which contains characteristics describing the file itself. This information should be included on the Business Application Header (BAH) and on the Message Header.

The information which needs to be filled on the BAH is:

From: Organisation Identification: Identification: Organisation Identification: Other

- **Format:** {ALPHANUM-35}
- **XPath:** “BizData/Hdr/AppHdr/Fr/OrgId/Id/OrgId/Othr/Id”
- **Definition:** Id shall contain the MIC code of the Trading Venue or the 5-letter HUB sender code of the CTP which sends the information or the 2-letter country code of the Competent Authority which submits the information.
- **Standard:** The trading venue should be identified by the ISO 10383 four-character MIC code. CTP should use the 5-letter code used in the <Sender> part of the file name (as per Annex 2: File Naming Convention). The country code should be identified by the alpha 2 character 3166 ISO country code.
- **Note:** When a NCA acts as a router, receiving files from TV / CTP under its jurisdiction and not performing any validation on them, the original sender (TV / CTP) should fill this field.

To: Organisation Identification: Identification: Organisation Identification: Other

- **Format:** {ALPHANUM-35}
- **XPath:** “BizData/Hdr/AppHdr/To/OrgId/Id/OrgId/Othr/Id”
- **Definition:** This field contains the identification of the receiving entity.
- **Standard:** The alpha 2 character 3166 ISO country code.
- **Validation:** It should be filled in with ‘EU’ as this corresponds to ESMA.

Business Message Identifier

- **Format:** {ALPHANUM-35}
- **XPath:** “BizData/Hdr/AppHdr/BizMsgIdr”
- **Definition:** Unambiguously identifies the Business Message to the MessagingEndpoint that has created the Business Message.
- **Note:** It should be filled in with the “<Key1 >-<Key2>” part of the name of the file to be sent. When a NCA acts as a router, receiving files from TV under their jurisdiction and not performing any validation on them this field should be filled in by the original sender (TV) and not changed by the NCA.

Message Definition Identifier

- **Format:** {ALPHANUM-35}
- **XPath:** “BizData/Hdr/AppHdr/MsgDefldr”
- **Definition:** Contains the Message Identifier that defines the Business Message.
- **Validation:** It must contain a Message Identifier published on the ISO 20022 website.
- **Note:** It should be filled in with the message name as approved by ISO.

Creation Date

- **Format:** {DATE_TIME_FORMAT}
- **XPath:** “BizData/Hdr/AppHdr/CreDt”
- **Definition:** Date and time when this message was created.
- **Standard:** The date should be sent in the ISO 8601 date format standard YYYY-MM-DDThh:mm:ss.ddddddZ. Dates and times must be reported in UTC.

4.4 Volume Cap Data Fields Guideline

RTS field #	Field name	Reporting Instruction	XPath BizData/Pyld/Document/FinInstrmRptgTradgVolCapDataRpt/...	Data validation
1	Reporting Period [Mandatory]	The "From Date To Date" ISO 20022 block shall be used for the Reporting Period: From Date To Date: Time span defined by a start date, and an end date - From Date: first day of the period - To Date: last day of the period.	VolCapData/RptgPrd/FrDtToDt/ FrDt VolCapData/RptgPrd/FrDtToDt/ ToDt	The reporting period must start on the first day of a month and end on the 15th day of the same month, or start on 16th day of a month and end on the last day of the same month. Reporting period end date cannot be in the future.
2	Reporting entity identification [Mandatory]	In case data is submitted by a TV directly to ESMA, the reporting entity should be the TV. If the reporting entity is a trading venue, the Market Identification Code of the TV shall be reported.	RptHdr/RptgNtty/MktIdCd	The MIC should be valid for at least one day of the reporting period.
		In case data is submitted by a CTP directly to ESMA, the reporting entity should be the CTP. The identifier of the CTP shall be reported in the Id element, and Tp shall contain CTPS	RptHdr/RptgNtty/Othr/Id and RptHdr/RptgNtty/Othr/Tp	
		In case data is submitted to ESMA by a NCA: - reporting entity can be the TV if the NCA just forwards the file without change it; - reporting entity can be the NCA if the NCA chooses to aggregates data from several TVs in one file; - NCAs should not aggregate data from several CTP ; one file should be reported for each distinct CTP ; reporting entity should be the CTP in case data originates from a CTP	RptHdr/RptgNtty/MktIdCd RptHdr/RptgNtty/NtlCmptntAuthrty RptHdr/RptgNtty/Othr/Id and RptHdr/RptgNtty/Othr/Tp	Must be a valid ISO 3166 2-letter country code
3	Trading Venue identifier [Mandatory]	This trading venue for which the volumes of trading are reported. It shall be populated with a Market Identification Code (MIC). Data must be reported at the level of Segment MIC where one exists (otherwise at Operating MIC level).	VolCapData/TradgVn	The reported trading venue identifier (MIC) shall belong to a trading venue that was authorised within the reporting period (for at least one day of the period).
4	Instrument identifier [Mandatory]	The Instrument Identifier Code as per ISO 6166 to which the volume cap record relates.	VolCapData/InstrmRpt/Id	Must be a valid ISO 6166 ISIN code The reported ISIN shall belong to an instrument that was admitted to trading on the trading venue and within the period (for at least one

RTS field #	Field name	Reporting Instruction	XPath BizData/Pyld/Document/FinInstrmRptgTradgVolCapDataRpt/...	Data validation
				day of the period) covered by the report. The MiFIR identifier as defined in RTS1 on Equity Transparency should be one of the following: • SHRS; • ETFS; • DPRS; • CRFT; • OTHR.
5	Currency of the transactions [Mandatory]	Currency in which the trading volumes are expressed. In case a specific financial instrument was traded in more than one currency, the trading venue shall report one InstrmRpt for each currency. Section 4.6 provides an example for this case	VolCapData/InstrmRpt/Ccy	The reported currency was a valid ISO 4217 code for at least one day of the reporting period.
6	Total volume of trading (per currency) [Mandatory]	The total volume of trading of instrument ISIN in currency Ccy on trading venue MIC during reporting period RptgPrd.	VolCapData/InstrmRpt/TtlTradgVol	Non-negative number of up to 18 numerical digits in total, of which up to 5 digits can be fraction digits. Decimal separator is a '.' (full stop). The total volume of trading should always be greater than or equal to the volume of transactions executed under Reference Price or Negotiated Transactions waivers. If the volume of trading for a specific (ISIN, MIC, Reporting Period) combination was equal to zero, a value of zero EUR should be explicitly reported by the Trading Venue.
7	Total volume of trading under Reference Price waiver (per currency) [Mandatory]	The volume of trading under Reference Price waiver as defined under Article 4(1)(a) of MiFIR for instrument ISIN in currency Ccy on trading venue MIC during reporting period RptgPrd.	VolCapData/InstrmRpt/TtlRefPriTradgVol	
8	Total volume of trading under Negotiated Transactions waiver (per currency) [Mandatory]	The volume of trading under Negotiated Transactions waiver as defined under Article 4(1)(b)(i) of MiFIR for instrument ISIN in currency Ccy on trading venue MIC during reporting period RptgPrd.	VolCapData/InstrmRpt/TtlNgtdTxTradgVol	
	Technical record identification [Mandatory]	This field represents the unique identifier of a record in a message and is generated by the submitting entity. This field is mandatory because it is used to communicate feedback on individual records, and allows the reporting entity to identify the related record. The submitting entity shall provide a unique technical record identification per record within a file. The sequence can be reset for each new file.	VolCapData/InstrmRpt/TechRcrdId	

RTS field #	Field name	Reporting Instruction	XPath BizData/Pyld/Document/FinIn strmRptgTradgVolCapDataRpt/ ...	Data validation
	Reporting Period (Message Header level information) [Mandatory]	The "From Date To Date" ISO 20022 block shall be used for the Reporting Period: From Date shall be populated with the earliest VolCapData/RptgPrd/FrDtToDt/FrDt present in the message. To Date shall be populated with the latest VolCapData/RptgPrd/FrDtToDt/ToD t present in the message.	RptHdr/RptgPrd/FrDtToDt/FrDt and RptHdr/RptgPrd/FrDtToDt/ToDt	

5 Annexes

5.1 Annex 1: XML schemas for the Double Volume Cap system

The Transparency XML Schema versions are published on ESMA website.
<https://www.esma.europa.eu/data-reporting/mifir-reporting>

5.2 Annex 2: File Naming Convention

5.2.1 Submitting Entity to ESMA

The XML files sent by the Submitting Entity (NCA or TV/CTP) to ESMA must comply with the following naming convention:

<Sender>_<FileType>_<Recipient>_<Key1>-<Key2>_<Year>.xml

The Submitting Entity archives the XML file into a ZIP file and uploads onto the HUBEX/HUBDE System. Its name must comply with the same naming convention:

<Sender>_<FileType>_<Recipient>_<Key1>-<Key2>_<Year>.zip

As soon as HUBEX/HUBDE routes the file, it suffixes it with a timestamp in YYYYMMDDHHMMSS format (24h format, UTC Time). Therefore, as soon as the file is placed in the submitting entity's Outgoing folder dedicated to the ESMA System, the naming convention for the files becomes:

<Sender>_<FileType>_<Recipient>_<Key1>-<Key2>_<Year>_Timestamp.zip

The ESMA System uploads the file from the incoming folder dedicated to it, unzips the ZIP file and checks that XML filename and ZIP filename are consistent [All component of the filenames are equal excluding timestamp].

The following table provides description of the components of the file name:

Component	Definition
Sender	A 5-character identifier of the sender of the data. Depending on the type of the originator, the identifier can be one of the following: - In case of a Non-Delegating NCA: NCAXX where XX is the ISO 3166 country code (2 alpha characters) the Submitting Entity; - In case of a NCA delegating transparency calculations but not data collection in its jurisdiction: NCAXX where XX is the ISO 3166 country code (2 alpha characters) of the Submitting Entity; - In case of a TV/CTP under the jurisdiction of a NCA delegating data collection in its jurisdiction: TXXXX where XXXX is a MIC code of the Submitting Entity in case it is a Regulated Market or MTF. CXXXX where XXXX is a 4-letter identification code of the Submitting Entity in case it is a CTP.
FileType	A 6-character attribute identifying the type of information contained in the file as per Table 4 File types
Recipient	A 5-character attribute. This attribute identifies the receiver of the file which is the ESMA System and shall be set to DVCAP
Key1	A 5-letter character code which is reused by the system when generating a feedback file related to this file. Key1 can be used as needed by the Submitting Entity. For example a NCA may want to populate it with T<MIC code of a TV> or C< code of a CTP> referring to the TV/CTP which originally submitted the file to the NCA; this way, the name of the ESMA feedback file will contain the identification of the TV/CTP under its jurisdiction which is concerned by the feedback file. If not needed by the submitting entity, any 5-letter character code can be used.
Key2	A unique 6-digit number completed with zeros to fit to 6 characters (e.g. 000157). It does not depend on the file type, recipient or any other characteristic. It can start again at 000000 after 999999. This number is incremented each time a sender sends a new file (if the same file is sent again, a new SequenceNumber must be provided). This number identifies uniquely a file. Should a problem occur in the sending of the file, the SequenceNumber will help identifying the file.

Year	A 2 digit attribute. It is the year when the file has been generated. This allows for easy archiving of the files.
Timestamp	A timestamp in YYYYMMDDHHMMSS format (24h format, UTC Time).

Table 2 - DISTRIBUTED FILE NAMING CONVENTIONS

5.2.2 ESMA to Submitting Entity

A file generated by the ESMA System and which has to be routed to the appropriate recipient via HUBEX/HUBDE System (feedback file, consolidated files, or reminder files as described in Table 3 - DISTRIBUTED FILE NAMING CONVENTIONS must comply with the following attributes:

<Sender>_<FileType>_<Recipient>_<Key1>-<Key2>_<Year>.xml

The ESMA System archives the XML file into a ZIP file and uploads onto the HUBEX/HUBDE System in the outgoing folder dedicated to the ESMA System. Its name must comply with the following naming convention:

<Sender>_<FileType>_<Recipient>_<Key1>-<Key2>_<Year>.zip

As soon as HUBEX/HUBDE routes the file to the recipient, it suffixes it with a timestamp in YYYYMMDDHHMMSS format (24h format, UTC Time). Therefore, as soon as the file is placed in the appropriate folder dedicated to the ESMA System (as per HUBEX/HUDE folder in Table 4 – FILE TYPE), the naming convention for the file becomes:

<Sender>_<FileType>_<Recipient>_<Key1>-<Key2>_<Year>_Timestamp.zip

The following table provides description of the components of the file name:

Component	Definition
Sender	A 5-character attributes. The ESMA System is the sender and the attribute shall be set to DVCAP .
FileType	A 6-character attribute identifying the type of information contained in the file as defined in Table 4 – FILES TYPE.
Recipient	A 5-character attribute depending on the Category in Table 4- FILES TYPE. <u>In case the FileType is a feedback file or a reminder file:</u> - Sender in the name of the original file

Key1	A 5(x) identifier depending on the category as defined in Table 4 <u>In case of a feedback file:</u> - Key1 stated in the name of the original file. 1a. In case of reminder file: - T<MIC code of a TV> from which a file or an ISIN is missing.
Key2	A 6(n) depending on the category of file: 1a. In case of a feedback file: - Key2 in the name of the original file. 2) Otherwise, generated by the system and completed with zeros to fit to 6 characters (e.g. 000157). It does not depend on the file type, recipient or any other characteristic. It can start again at 000000 after 999999. This number is incremented each time ESMA system generates a new consolidated file (if the same file is sent again, a new SequenceNumber must be provided). It identifies uniquely a file. If a problem occurs in the sending of the file, the SequenceNumber will help identifying the file.
Year	A 2 digit attribute. It is the year when the file has been sent. This allows for easy archiving of the files.
Timestamp	A timestamp in YYYYMMDDHHMMSS format (24h format, UTC Time).

Table 3 - DISTRIBUTED FILE NAMING CONVENTIONS

5.3 Annex 3: Validation rules

5.3.1 Transmission Validation Rules

Error code	Error Message	Control
Checks performed by the ESMA System		
FIL-101	The file cannot be decompressed.	All files on the ESMA System are compressed in zip format. When treating a file, the first step is the decompression of the zip file. This error is returned by the system if the file cannot be decompressed.
FIL-102	The file contains more than 1 XML file.	Once the file is decompressed, the ESMA system checks that the decompressed container zip file contains exactly one XML file. This error is returned by the system when no XML or more than one file is found.
FIL-103	The name of the XML file is not consistent with the name of its container ZIP file.	Once the file is decompressed and that exactly only one XML file is submitted, the ESMA System checks that the sender code, the file type code, Key1 code, Key2 code, the recipient code and the Year of the XML file, the recipient code and the year code of the XML file and of the ZIP file are equal. This error is returned by the system when at least one of those fields is not equal.

5.3.2 Format Validation Rules

The initial data validation is performed to confirm file uploaded by the Submitting Entity can be processed, that is whether the file:

- Complies with the expected XML schema
- Have valid common identifiers.

Possible Errors encountered are:

Error code	Error Message	Control
Feedback messages related to file validation		
FIL-104	The ISO 20022 Message Identifier in the BAH (*.xsd) is not valid.	The ISO 20022 Message Identifier in the BAH must refer to the latest schema approved
FIL-105	The file structure does not correspond to the XML schema: [result of XML validation]	Validate that the file sent fits to the corresponding XML schema. For information purposes, if there is an error in the validation, the error message produced by the XML parser is displayed in place of [result of XML validation].
FIL-107	File <Filename> has already been submitted once	When a file is received, the system checks whether a file with the same sender, filetype, Key1, Key2, recipient, and Year component of the XML has already been submitted to the ESMA System. The System rejects the file existing in the Reporting Files Table.

5.4.3 Reminder Message code and description

Code	Code description
RMD-005	Missing Double Volume Cap data for <ISIN> <2-week period> <MIC>.

5.4.4 Content Validation Rules

Error	Error Message	Control executed by the Double Volume Cap system
DVC-002	The MIC code is not valid.	The MIC code shall exist in the Trading venue mapping table.
DVC-003	The ISIN code format of the Instrument Identifier is not valid.	Check if the Instrument Identifier field format is in compliance with the ISO 6166 ISIN code
DVC-004	The MIC should be valid for at least day of the reporting period.	Check whether the MIC is valid at least one day within the 2-weeks period: Last day of the 2-weeks period is later than or equal to the ValidityStartDate of the MIC and, if ValidityEndDate of the MIC is not NULL, first day of the 2-weeks period is earlier than or equal to the ValidityEndDate of the MIC

Error	Error Message	Control executed by the Double Volume Cap system
DVC-005	The ISIN code does not correspond to an Equity / Equity-like instrument traded on this Trading Venue for at least one day in the specified reporting period.	Check that all the conditions below are satisfied: - a record with the reported ISIN and MIC is present in FIRDS - First Trading Date in FIRDS is earlier than or equal to the record's Reporting Period End Date - Termination Date in FIRDS is NULL or is later than or equal to the record's Reporting Period Start Date - MiFIR Identifier is SHRS / ETFS / DPRS / CRFT / OTHR (equity)
DVC-006	The ISIN code is no longer admitted to trading at this Trading Venue for the specified reporting period.	Check that the corresponding FIRDS record has Termination date set on the starting date of the reporting period or after.
DVC-011	The total volume of trading should be larger than the total volume of transactions executed under Reference Price or Negotiated Transactions waivers.	Check whether the total volume of trading is more than or equal to the volume of transactions executed under Reference Price waiver and is larger than or equal to the volume of transactions executed under Negotiated Transactions waivers.
DVC-012	Warning: the total volume of an ISIN under Negotiated Transaction waivers is strictly positive whereas the instrument is considered illiquid by the transparency system.	If the volume of transactions executed under Negotiated Transactions waivers is strictly positive, the system checks whether the ISIN is flagged as illiquid in the Transparency system. If yes, the system generates a warning on the record (but does not reject the record).
DVC-013	Currency is not an active currency or a valid historic currency for this reporting period	Check that the currency is different from XXX ("transactions without currency") and is an active currency (ISO 4217) for the 2-weeks period: Last day of the 2-weeks period is later than or equal to the ValidityStartDate of the currency and, if ValidityEndDate of the currency is not NULL, first day of the 2-weeks period is earlier than or equal to the ValidityEndDate of the currency.
DVC-014	Reporting period start date must be 1st or the 16th day of a month.	Check if reporting period start date is 1 st or 16 th of the month
DVC-015	Reporting period end date must be 15 th or last day of the month.	Check if reporting period end date is 15 th or last day of the month.

Error	Error Message	Control executed by the Double Volume Cap system
DVC-016	Reporting period must be between 13 and 16 calendar days in duration.	Check if reporting period end date is between 12 and 15 days later than reporting period start date.
DVC-017	Reporting period end date cannot be later than the current date.	Check if reporting period end date is later than or equal to the current date.
DVC-018	Record with the same (ISIN, MIC, Reporting Period, Currency of transaction) is duplicated in the file.	Check the Submitting Entity submitted more than one record within a file having the same: - ISIN, - MIC - Reporting Period. - Currency of transaction The system will reject all duplicates.
DVC-019	The sender is not associated with the "Trading Venue identifier" of the record.	In case the Reporting Entity is not a CTP (as per message's Application Header), check that the HUB Sender Code of the file received is associated in the system with the "Trading Venue identifier" of the record.

5.4 Annex 4: XML Messages Description

All incoming files will be validated against

- head.003.001.01.xsd,
- head.001.001.01_ESMA_UG_1.0.0.xsd,
- and against the XML Schema corresponding to its HUB File Type as per table below.

Double Volume Cap system – XML Schema 1.2.0

Message Component	HUB File types using the Message Component	Direction from ESMA System point of view	XML Schema used for validation (ISO 20022 derived message)	ISO 20022 Base Message Definition Identifier
Business Application Header	All	Incoming / Outgoing	head.001.001.01_ESMAUG_1.0.0.xsd	head.001.001.01
BAH and business message encapsulation	All	Incoming / Outgoing	head.003.001.01.xsd	head.003.001.01
Double Volume Cap Data	DATDVC	Incoming	auth.035.001.01_ESMAUG_DATDVC_1.1.0.xsd	auth.035.001.01
Feedback file	FBDVC	Outgoing	auth.031.001.01_ESMAUG_FDB_1.1.0.xsd	auth.031.001.01
Reminder	RMDDVC	Outgoing	auth.031.001.01_ESMAUG_RMD_1.1.0.xsd	auth.031.001.01
Double Volume Cap results file	DVCRES	Outgoing	auth.053.001.01_ESMAUG_DVCRES_1.2.0.xsd	auth.053.001.01

5.5 Annex 5: Sample Volume Cap XML Message

5.5.1 Multiple Trading Venues Submission

```
<?xml version="1.0" encoding="UTF-8"?>
<BizData xmlns="urn:iso:std:iso:20022:tech:xsd:head.003.001.01"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.003.001.01 head.003.001.01.xsd">
  <Hdr>
    <AppHdr xmlns="urn:iso:std:iso:20022:tech:xsd:head.001.001.01"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.001.001.01
head.001.001.01_ESMAUG_1.0.0.xsd">
      <Fr>
        <OrgId>
          <Id>
            <OrgId>
              <Othr>
                <Id>XPAR</Id>
              </Othr>
            </OrgId>
          </Id>
        </OrgId>
      </Fr>
      <To>
        <OrgId>
          <Id>
            <OrgId>
              <Othr>
                <Id>EU</Id>
              </Othr>
            </OrgId>
          </Id>
        </OrgId>
      </To>
      <BizMsgId>2015-01-01000000</BizMsgId>
      <MsgDefId>auth.035.001.01</MsgDefId>
      <CreDt>2013-01-17T18:05:00Z</CreDt>
    </AppHdr>
  </Hdr>
</BizData>
<Document xmlns="urn:iso:std:iso:20022:tech:xsd:auth.035.001.01"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
```

```

xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:auth.035.001.01
auth.035.001.01_ESMAUG_DATDVC_1.1.0.xsd">
  <FinInstrmRptgTradgVolCapDataRpt>
    <RptHdr>
      <RptgNtty>
        <MktIdCd>XPAR</MktIdCd>
      </RptgNtty>
      <RptgPrd>
        <FrDtToDt>
          <FrDt>2018-04-01</FrDt>
          <ToDt>2018-04-15</ToDt>
        </FrDtToDt>
      </RptgPrd>
    </RptHdr>
    <VolCapData>
      <RptgPrd>
        <FrDtToDt>
          <FrDt>2018-04-01</FrDt>
          <ToDt>2018-04-15</ToDt>
        </FrDtToDt>
      </RptgPrd>
      <TradgVn>ALPX</TradgVn>
      <InstrmRpt>
        <TechRcrdId>000001</TechRcrdId>
        <Id>FR0010208488</Id>
        <Ccy>EUR</Ccy>
        <TtlTradgVol>1500000.00000</TtlTradgVol>
        <TtlRefPricTradgVol>12000.00000</TtlRefPricTradgVol>
        <TtlNgtdTxsTradgVol>21000.00000</TtlNgtdTxsTradgVol>
      </InstrmRpt>
    </VolCapData>
    <VolCapData>
      <RptgPrd>
        <FrDtToDt>
          <FrDt>2018-04-01</FrDt>
          <ToDt>2018-04-15</ToDt>
        </FrDtToDt>
      </RptgPrd>
      <TradgVn>XMAT</TradgVn>
      <InstrmRpt>
        <TechRcrdId>000002</TechRcrdId>
        <Id>FR0010208488</Id>
        <Ccy>GBP</Ccy>
        <TtlTradgVol>1000000.00000</TtlTradgVol>
        <TtlRefPricTradgVol>14000.00000</TtlRefPricTradgVol>
        <TtlNgtdTxsTradgVol>18000.00000</TtlNgtdTxsTradgVol>
      </InstrmRpt>
    </VolCapData>
  </FinInstrmRptgTradgVolCapDataRpt>
</Document>
</Pyld>
</BizData>

```

i. Multiple Reporting Periods Submission (01/01/2017-31/12/2017)

```

<?xml version="1.0" encoding="UTF-8"?>
<BizData xmlns="urn:iso:std:iso:20022:tech:xsd:head.003.001.01"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.003.001.01 head.003.001.01.xsd">
  <Hdr>
    <AppHdr xmlns="urn:iso:std:iso:20022:tech:xsd:head.001.001.01"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:head.001.001.01
head.001.001.01_ESMAUG_1.0.0.xsd">
      <Fr>
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          <Id>
            <OrgId>
              <Othr>
                <Id>XPAR</Id>
              </Othr>
            </OrgId>
          </Id>
        </OrgId>
      </Fr>
      <To>
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          <Id>
            <OrgId>
              <Othr>
                <Id>EU</Id>
              </Othr>
            </OrgId>
          </Id>
        </OrgId>
      </To>
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      <MsgDefId>auth.035.001.01</MsgDefId>
      <CreDt>2013-01-17T18:05:00Z</CreDt>
    </AppHdr>
  </Hdr>
  <PyId>
    <Document xmlns="urn:iso:std:iso:20022:tech:xsd:auth.035.001.01"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:iso:std:iso:20022:tech:xsd:auth.035.001.01
auth.035.001.01_ESMAUG_DATDVC_1.1.0.xsd">
      <FinInstrmRptgTradgVolCapDataRpt>
        <RptHdr>

```

```

    <RptgNtty>
      <MktIdCd>GMTF</MktIdCd>
    </RptgNtty>
    <RptgPrd>
      <FrDtToDt>
        <FrDt>2017-01-01</FrDt>
        <ToDt>2017-12-31</ToDt>
      </FrDtToDt>
    </RptgPrd>
  </RptHdr>
  <VolCapData>
    <RptgPrd>
      <FrDtToDt>
        <FrDt>2017-01-01</FrDt>
        <ToDt>2017-01-15</ToDt>
      </FrDtToDt>
    </RptgPrd>
    <TradgVn>GMTF</TradgVn>
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      <Id>BE0003565737</Id>
      <Ccy>EUR</Ccy>
      <TtlTradgVol>210000.00000</TtlTradgVol>
      <TtlRefPricTradgVol>54500.00000</TtlRefPricTradgVol>
      <TtlNgtdTxsTradgVol>33000.00000</TtlNgtdTxsTradgVol>
    </InstrmRpt>
  </VolCapData><VolCapData>
    <RptgPrd>
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        <ToDt>2017-01-31</ToDt>
      </FrDtToDt>
    </RptgPrd>
    <TradgVn>GMTF</TradgVn>
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      <Ccy>EUR</Ccy>
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      <TtlRefPricTradgVol>12000.00000</TtlRefPricTradgVol>
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  <VolCapData>
    <RptgPrd>
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    </RptgPrd>
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    <InstrmRpt>
      <TechRcrdId>0003</TechRcrdId>
      <Id>BE0003565737</Id>
  
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    <TtlRefPricTradgVol>11500.00000</TtlRefPricTradgVol>
    <TtlNgtdTxsTradgVol>22500.00000</TtlNgtdTxsTradgVol>
  </InstrmRpt>
</VolCapData>
<VolCapData>
  <RptgPrd>
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      <ToDt>2017-02-28</ToDt>
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  </RptgPrd>
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    <Id>BE0003565737</Id>
    <Ccy>EUR</Ccy>
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  </InstrmRpt>
</VolCapData>
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  <RptgPrd>
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      <ToDt>2017-03-15</ToDt>
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  </RptgPrd>
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    <Ccy>EUR</Ccy>
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    <TtlRefPricTradgVol>18000.00000</TtlRefPricTradgVol>
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</VolCapData>
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  <RptgPrd>
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      <ToDt>2017-03-31</ToDt>
    </FrDtToDt>
  </RptgPrd>
  <TradgVn>GMTF</TradgVn>
  <InstrmRpt>
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    <Id>BE0003565737</Id>
    <Ccy>EUR</Ccy>
    <TtlTradgVol>1260000.00000</TtlTradgVol>
    <TtlRefPricTradgVol>17000.00000</TtlRefPricTradgVol>
  </InstrmRpt>

```

```

    <TtlNgtdTxsTradgVol>24000.00000</TtlNgtdTxsTradgVol>
  </InstrmRpt>
</VolCapData>
<VolCapData>
  <RptgPrd>
    <FrDtToDt>
      <FrDt>2017-04-01</FrDt>
      <ToDt>2017-04-15</ToDt>
    </FrDtToDt>
  </RptgPrd>
  <TradgVn>GMTF</TradgVn>
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