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| 2 June 2016 | ESMA/2016/773 RF |

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| Reply form for the  Discussion Paper on the Distributed Ledger Technology Applied to Securities Markets |
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| Date: 2 June 2016  ESMA/2016/773 RF |

Responding to this paper

The European Securities and Markets Authority (ESMA) invites responses to the specific questions listed in the ESMA Discussion Paper on the Distributed Ledger Technology (DLT) Applied to Securities Markets, published on the ESMA website.

*Instructions*

Please note that, in order to facilitate the analysis of the large number of responses expected, you are requested to use this file to send your response to ESMA so as to allow us to process it properly. Therefore, ESMA will only be able to consider responses which follow the instructions described below:

* use this form and send your responses in Word format (pdf documents will not be considered except for annexes);
* do not remove the tags of type <ESMA\_ QUESTION\_DLT\_1> - i.e. the response to one question has to be framed by the 2 tags corresponding to the question; and
* if you do not have a response to a question, do not delete it and leave the text “TYPE YOUR TEXT HERE” between the tags.

Responses are most helpful:

* if they respond to the question stated;
* contain a clear rationale, including on any related costs and benefits; and
* describe any alternatives that ESMA should consider

**Naming protocol**

In order to facilitate the handling of stakeholders responses please save your document using the following format:

ESMA\_DLT\_NAMEOFCOMPANY\_NAMEOFDOCUMENT.

E.g. if the respondent were XXXX, the name of the reply form would be:

ESMA\_DLT\_XXXX\_REPLYFORM or

ESMA\_DLT\_XXXX\_ANNEX1

***Deadline***

Responses must reach us by **2 September 2016.**

All contributions should be submitted online at [www.esma.europa.eu](http://www.esma.europa.eu) under the heading ‘Your input/Consultations’.

***Publication of responses***

All contributions received will be published following the end of the consultation period, unless otherwise requested. **Please clearly indicate by ticking the appropriate checkbox in the website submission form if you do not wish your contribution to be publicly disclosed. A standard confidentiality statement in an email message will not be treated as a request for non-disclosure.** Note also that a confidential response may be requested from us in accordance with ESMA’s rules on access to documents. We may consult you if we receive such a request. Any decision we make is reviewable by ESMA’s Board of Appeal and the European Ombudsman.

***Data protection***

Information on data protection can be found at [www.esma.europa.eu](http://www.esma.europa.eu) under the headings ‘Legal notice’ and ‘Data protection’.

# Introduction

Please make your introductory comments below, if any:

<ESMA\_COMMENT\_DLT\_1>

TYPE YOUR TEXT HERE

<ESMA\_COMMENT\_DLT\_1>

##### Do you agree with the list of possible benefits of the DLT for securities markets? Please explain, e.g., are these benefits unique to the DLT, are some more important than others, are some irrelevant?

<ESMA\_QUESTION\_DLT\_1>

Distributed ledger technology could theoretically bring the following benefits to the post trade area: reduced settlement time, a standardization of data requirements, reduced counterparty risk and lesser collateral requirements, reduced operational risk, real time confirmation of trades, reduced account complexity, safekeeping of assets, easing of reporting, and a smart contract triggered reduction in the number of intermediaries.

Only the latter would be unique to Distributed Ledger Technology, whilst the other benefits could be pursued context-dependent via alternative means.

<ESMA\_QUESTION\_DLT\_1>

##### Do you see any other potential benefits of the DLT for securities markets? If yes, please explain.

<ESMA\_QUESTION\_DLT\_2>

Further potential benefits of Distributed Ledger Technology in the post trade area could include: enhancing the handling of corporate actions (notably via smart contracts), asset servicing including tax issues, deep automation of auditing, compliance monitoring and reporting (to clients and to supervisors).

<ESMA\_QUESTION\_DLT\_2>

##### How would the benefits of the technology be affected, in the case where the DLT is not applied across the entire lifecycle of securities (i.e., issuance, trading, clearing and settlement, safekeeping of assets and record of ownership) but rather to some activities only?

<ESMA\_QUESTION\_DLT\_3>

The working assumption has to be that a transition to Distributed Ledger Technology will not occur in a single step, neither across the lifecycle of securities, nor across all counterparties of any given market participant, but rather that such transition would occur over an extended period of time, function by function and segment by segment. Hence the benefits of Distributed Ledger Technology will also have to exceed (over the depreciation period) the costs of operating different models in parallel. Network theory would apply here too, and the benefits of Distributed Ledger Technology would increase exponentially as a function of both the number and importance of counterparties becoming capable, and the scope of the lifecycle having been migrated.

<ESMA\_QUESTION\_DLT\_3>

##### Which activities (e.g., post-trading, other activities), market segments and types of assets in the securities markets are likely to be impacted the most by the DLT in your opinion? How is the DLT likely to modify the way securities markets operate? Please explain.

<ESMA\_QUESTION\_DLT\_4>

Post-trading is the most likely candidate for a first adoption of Distributed Ledger Technology in the securities markets. Other areas of the securities markets could be considered over time or in parallel, e.g. proxy voting, or the issuance of securities. The most important changes would be brought by the introduction of smart contracts to the settlement function and to servicing activities (by the removal of intermediaries). The DLT architecture could also be leveraged to ease client identification (digital identity), thus lowering costs further.

<ESMA\_QUESTION\_DLT\_4>

##### According to which timeframe, is the DLT likely to be applied to securities markets in your view? Please distinguish by type of activities, market segments and assets if relevant.

<ESMA\_QUESTION\_DLT\_5>

Considering the questions still to be answered (see below in this reply), it would not be reasonable to anticipate the introduction of Distributed Ledger Technology in the above areas (beyond a pilot or “experiment”) within less than 5 years – with up to 10 years for a meaningful deployment at national or regional level.

<ESMA\_QUESTION\_DLT\_5>

##### How might your organisation benefit from the introduction of the DLT?

<ESMA\_QUESTION\_DLT\_6>

Question not relevant for an association of banks and banking associations.

<ESMA\_QUESTION\_DLT\_6>

##### If you are working on a concrete application of the DLT to securities markets please describe it (i.e., which activities, which market segments, which type of assets and for which expected benefits) and explain where you stand in terms of practical achievements in relation to your objectives.

<ESMA\_QUESTION\_DLT\_7>

Question not relevant for an association of banks and banking associations.

<ESMA\_QUESTION\_DLT\_7>

##### Do you agree with the analysis of the potential challenges? Please explain, e.g., are some more important than others, are some irrelevant in your view.

<ESMA\_QUESTION\_DLT\_8>

There are indeed 3 categories of challenges: technological, governance, and legal and regulatory.

Whilst the technological challenges could seem to be powerful obstacles, our experience from previous market transitions to new technology (e.g. real time payments and delivery vs payment) is that in due course, concerns will be thoroughly answered, and operational solutions will be developed to operate the whole or part of the envisaged solution.

Governance is a key challenge, as it encompasses compliance with competition legislation. Market participants’ uncertainty about the views of competition authorities could be a hurdle and delay inception work, e.g. in the field of standardization or development of infrastructure.

The most potent challenges however are on the legal and regulatory front. The promise of Distributed Ledger Technology is a far deeper digitization of the securities value chain. Our experience in other markets (payments, trade finance) is that ambitions to digitize will be derailed by the absence of meaningful legal and regulatory harmonization. The latter is likely to take more time than addressing e.g. the technological challenges.

<ESMA\_QUESTION\_DLT\_8>

##### Do you see any other potential challenges? If yes, please explain.

<ESMA\_QUESTION\_DLT\_9>

Although already mentioned above, converging towards a single (or at least a small number of reasonably interoperable) set(s) of standards and rules for the DLT is the most significant challenge for the time being.

<ESMA\_QUESTION\_DLT\_9>

##### Which solutions do you envisage for these challenges and where do the current initiatives stand in terms of practical achievements to overcome them?

<ESMA\_QUESTION\_DLT\_10>

A number of pilots and experiments are currently under way to address the technological challenges. First conclusions could be expected within a 2-year timeframe.

<ESMA\_QUESTION\_DLT\_10>

##### Do you agree with the analysis of the key risks? Please explain, e.g., are some risks more important than others, are some irrelevant in your view.

<ESMA\_QUESTION\_DLT\_11>

The analysis provides a fair description of risks at this point in time. The more significant risk to understand and mitigate currently, as we are looking at productizing a new technology, is cyber risk (although cyber risk exists at present, it does so in well-known environments, lessening to some extent the threat as such). The pilots currently under way should provide some initial input into how to properly address cyber risk in the context of Distributed Ledger Technology.

Operational risk – in particular with an eye over a potentially longer transition phase, where models have to be run in parallel – comes next.

<ESMA\_QUESTION\_DLT\_11>

##### Do you see any other potential risks? Please explain.

<ESMA\_QUESTION\_DLT\_12>

Other risks (though all related to the above-mentioned categories) could include a dearth of skilled resources, the time needed for a stable, well governed environment to test and evolve all relevant software (Distributed Ledger Technology system itself, smart contracts...) to emerge, as well as error handling and interpretation of legal differences, in particular during (the) transition period(s).

<ESMA\_QUESTION\_DLT\_12>

##### How could these risks be addressed? Please explain by providing concrete examples, especially for the risks potentially affecting your organisation.

<ESMA\_QUESTION\_DLT\_13>

These risks will have to be addressed by both market participants (for those areas directly in their realm) and by regulators and legislators (notably with respect to timely amending legislation when required), the latter in constant dialogue with the former.

<ESMA\_QUESTION\_DLT\_13>

##### Do you think that the DLT will be used for one of the scenarios above? If yes, which one(s)? If no, please explain?

<ESMA\_QUESTION\_DLT\_14>

We would see Scenario 3 as the most likely initial candidate for the application of Distributed Ledger Technology.

<ESMA\_QUESTION\_DLT\_14>

##### If the DLT is used for one of these scenarios, how compliance with the regulatory requirements attached to each scenario could be ensured?

<ESMA\_QUESTION\_DLT\_15>

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<ESMA\_QUESTION\_DLT\_15>

##### Do you think that the DLT will be used for one of the scenarios above? If yes, which one(s)? If no, please explain?

<ESMA\_QUESTION\_DLT\_16>

We would see Scenarios 1.1 and 1.2 as the most likely initial candidates for the application of Distributed Ledger Technology.

<ESMA\_QUESTION\_DLT\_16>

##### If the DLT is used for one of these scenarios, how could compliance with the regulatory requirements attached to each scenario be ensured?

<ESMA\_QUESTION\_DLT\_17>

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<ESMA\_QUESTION\_DLT\_17>

##### Do you think that the DLT will be used for safekeeping and record-keeping purposes? Please explain, with concrete examples where appropriate.

<ESMA\_QUESTION\_DLT\_18>

We would see Scenario 1 and as the most likely initial candidate for the application of Distributed Ledger Technology.

<ESMA\_QUESTION\_DLT\_18>

##### If the DLT is used for the safekeeping and record-keeping of ownership, how could compliance with the regulatory requirements be ensured?

<ESMA\_QUESTION\_DLT\_19>

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<ESMA\_QUESTION\_DLT\_19>

##### Do you think that the DLT will be used for regulatory reporting purposes? Please explain, with concrete examples where appropriate.

<ESMA\_QUESTION\_DLT\_20>

Distributed Ledger Technology could be applied to achieve “continuous auditing and reporting processes” across all key value chain functions.

<ESMA\_QUESTION\_DLT\_20>

##### If the DLT is used for regulatory reporting purposes, how could compliance with the applicable regulatory requirements be ensured?

<ESMA\_QUESTION\_DLT\_21>

Compliance with applicable regulations could then be automated.

<ESMA\_QUESTION\_DLT\_21>

##### Do you think that the DLT could be used for other securities-related services than those already discussed, in particular trading and issuance?

<ESMA\_QUESTION\_DLT\_22>

None to be added at this stage.

<ESMA\_QUESTION\_DLT\_22>

##### Do you see potential regulatory impediments to the deployment of the DLT in securities markets?

<ESMA\_QUESTION\_DLT\_23>

Please see above replies with respect to regulation and legislation.

<ESMA\_QUESTION\_DLT\_23>

##### Should regulators react to the deployment of the DLT in securities markets and if yes how? If you think they should not do so please justify your answer.

<ESMA\_QUESTION\_DLT\_24>

Regulators should allow market participants to evaluate and test Distributed Ledger Technology to the fullest, also in securities markets. Regulators and market participants will no doubt maintain an open and active dialogue as to the proceedings and outcome of such test, which will inform any action that would have to be taken prior to moving to a full production environment.

<ESMA\_QUESTION\_DLT\_24>