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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 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 under the headings ‘Legal notice’ and ‘Data protection’.

# Introduction

Please make your introductory comments below, if any:

<ESMA\_COMMENT\_DLT\_1>

2 September 2016

European Securities and Markets Authority (ESMA)

103 Rue de Grenelle

75007 Paris

France

tØ

29 Broadway, 30th Fl

New York, NY 10006

USA

**Re: ESMA Discussion Paper on the Distributed Ledger Technology Applied to Securities Markets**

Dear Sir or Madam:

tØ greatly appreciates the opportunity to respond to ESMA’s Discussion Paper on the Distributed Ledger Technology Applied to Securities Markets (the “Discussion Paper”).

tØ offers a vertically integrated blockchain enabled stack platform globally to financial institutions (such as Banks, Exchanges, Custodians, Prime Brokers, Central Securities Depositaries and Regulators) to reduce IT and operational costs, increase transparency and create new differentiated products with reduced time to market. Our technology, comprised of intelligent multi-entity wallets and keys, enhanced FIX message formats, crypto-enabled matching engine, and an immutable audit ledger, can be used to trade, settle and record multiple asset classes globally with key benefits of DLT like provenance, authentication, authorization and immutability built in.

Our answers to the questions posed in the Discussion Paper are included with this letter. We are happy to provide a demonstration of our fully developed tØ platform at ESMA’s convenience. Please do not hesitate to contact us should you wish further elaboration of the points raised.

Respectfully submitted,

Raj Karkara

Chief Operating Officer

tØ

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<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>

tØ agrees with the list of possible benefits of distributed ledger technology (“DLT”) for securities markets. tØ believes that DLT has the potential to improve all facets of the securities markets, from initial issuance to secondary trading. Specifically, tØ believes DLT increases transparency for securities market participants, while reducing settlement time, operational and frictional costs, and counterparty risk. DLT also offers greater security to market participants by ensuring a complete audit trail of transactions with immutable account records.

tØ has developed technology that allows for near instantaneous clearing and settlement, such that the trade is the settlement. Further, tØ is currently planning for the first issuance of a digital security directly to account holders. tØ believes that this will allow for more efficient transactions, easier tracking of ownership, and lower costs, all without counterparty risk. Regulators will also be able to see and track trades in real-time, and customers can access publicly-available, anonymized trading information to ensure that their trades and account statements accurately reflect that which is recorded on their broker’s records.

<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>

tØ believes that DLT will bring transparency to the marketplace and provide customers and regulators with visibility unforeseen hereto. Near instantaneous clearing and settlement of trades will revolutionize how securities markets operate and, for the first time ever eliminate fails in the system. The tØ technology provides same day settlement, asset documentation from genesis, market data feeds, tracking of ownership identification, and support for asset classes using the current industry FIX messaging format. tØ believes DLT makes securities trading faster, cheaper, and better.

However, for DLT to reach its full potential, regulators must allow the technology to be implemented to its fullest extent. Regulators must continue to educate themselves regarding the benefits DLT offers not just for market participants, but also for regulators themselves. Only when regulators embrace DLT and promote the benefits of this new technology in the securities markets will DLT be able to reach its full potential.

<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>

While applying DLT to only certain parts of the lifecycle of a trade would still bring benefits to the securities markets, including transparency, safety, and market efficiencies, the full benefits of DLT would almost certainly be limited.

DLT is best utilized in the market through the entire lifecycle of the trade. This is why tØ has developed its DLT with an eye to improving the speed and security of the entire lifecycle of a trade, from the onboarding of customers, to the issuance, to secondary market trading, and to record-keeping of customer accounts. While tØ considers any use of DLT to be a step in the right direction, full integration of DLT is necessary to reap its many benefits.

<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>

tØ’s technology significantly enhances all activities related to the securities markets. Prior to a trade occurring, the tØ platform’s use of digital wallets guarantees transparency of customer holdings and verification of customer assets. The technology facilitates trading with enhanced FIX messaging, provides real-time transaction matching, immediate settlement, and near instantaneous settlement. Post-trade, tØ's software immediately processes and posts the transaction on a distributed ledger, eliminating the need for central clearing and reducing collateral requirements. Finally, tØ’s DLT is used to maintain books and records, enhancing the datasets and allowing for automatic servicing.

tØ’s DLT technology can be used to facilitate trades in company stock, bonds, depository receipts, ETFs, and warrants. It also can be used in crowd funding and facilitating securities lending.

<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>

tØ believes that before the end of the year, its issuance and trading platform will be employed in the first ever public offering of a blockchain stock.

<ESMA\_QUESTION\_DLT\_5>

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

<ESMA\_QUESTION\_DLT\_6>

TYPE YOUR TEXT HERE

<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>

tØ has developed technology for the issuance and trading of digital securities that rely on DLT. tØ’s software allows for the issuance, trading, and corporate record-keeping of digital securities utilizing DLT. Attached hereto is a presentation detailing this technology.

<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>

tØ agrees that there are potential challenges in bringing the DLT to the securities market. A regulatory paradigm developed before the advent of DLT is the most significant impediment to the implementation of this revolutionary technology. Outdated regulatory requirements potentially make it difficult to fully implement DLT in the securities marketplace.

tØ has worked diligently with regulators over the last year to ensure its technology meets all regulatory requirements. tØ has proactively met with regulators around the world to explain the potential for DLT in the financial marketplace, including as a valuable a regulatory tool. Many current regulations prevent DLT from being utilized to its full potential. DLT will only reach its full potential once lawmakers and regulators learn about and embrace its benefits.

<ESMA\_QUESTION\_DLT\_8>

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

<ESMA\_QUESTION\_DLT\_9>

TYPE YOUR TEXT HERE

<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>

TYPE YOUR TEXT HERE

<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>

TYPE YOUR TEXT HERE

tØ agrees with ESMA’s analysis of the risks relating to DLT, but would like to point out that these risks exist under today’s systems and technologies. While these risks may impact DLT differently than those technologies in use today, the risks themselves are the same. Therefore, tØ does not believe these risks should impede the use of DLT.

<ESMA\_QUESTION\_DLT\_11>

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

<ESMA\_QUESTION\_DLT\_12>

TYPE YOUR TEXT HERE

<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>

tØ believes these risks can be addressed through the integration of DLT into the regulatory framework governing the securities markets. It is for this reason that tØ continues to engage in the education of regulators where possible. tØ also believes that lawmakers must begin to take DLT into consideration when crafting new legislation or altering existing legislation.

<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>

TYPE YOUR TEXT HERE

<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>

TYPE YOUR TEXT HERE

<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>

TYPE YOUR TEXT HERE

<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>

TYPE YOUR TEXT HERE

<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>

tØ believes that DLT will be used for both safekeeping and record-keeping purposes, and that DLT will actually create a safer, more secure platform for both safekeeping and record-keeping purposes. tØ believes that the future of securities markets and DLT is digital securities which exist in a purely digital book-entry format. In essence, the safekeeping and record-keeping processes and responsibilities would be merged as the immutable record of stock ownership will be kept by the DLT.

<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>

tØ believes that educating regulatory bodies is key for guaranteeing DLT compliance with regulatory requirements in the long term. However, in the short term, tØ has developed technology and entered into business agreements that allow for its DLT to be used to establish the record-keeping of ownership by incorporating DLT into existing book and records systems maintained by current registrants, including, broker-dealers, transfer agents, and alternative trading systems.

<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>

DLT provides a complete audit trail showing all financial transactions in the tØ platform. Regulators can be permissioned to access the tØ network to gain visibility into the real-time orders and trades occurring on the tØ platform. By employing DLT, regulators will not need to maintain their own vast warehouses of trading data.

<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>

TYPE YOUR TEXT HERE

<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>

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<ESMA\_QUESTION\_DLT\_22>

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

<ESMA\_QUESTION\_DLT\_23>

TYPE YOUR TEXT HERE

<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>

Yes, regulators need to review outdated securities laws and consider how best to allow DLT to develop in the securities markets. As we have previously stated, tØ believes regulators should react to the deployment of DLT in securities markets by educating themselves and working with industry leaders to find ways to adjust the regulatory framework to allow for the further development of DLT.

Thank you for your consideration.

<ESMA\_QUESTION\_DLT\_24>