



European Securities and
Markets Authority

Reply form for the Discussion Paper on the Distributed Ledger Technology Applied to Securities Markets



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>

Introduction

The Association of the Luxembourg Fund Industry (ALFI) is the representative body of the Luxembourg investment fund community. Created in 1988, the Association today represents over 1300 Luxembourg domiciled investment funds, asset management companies and a wide range of service providers such as custodian banks, fund administrators, transfer agents, distributors, legal firms, consultants, tax experts, auditors and accountants, specialist IT providers and communication companies.

The Luxembourg Fund Industry is the largest fund domicile in Europe and a worldwide leader in cross-border distribution of funds. Luxembourg-domiciled investment structures are distributed on a global basis in more than 70 countries with a particular focus on Europe, Asia, Latin America and the Middle East.

We thank the ESMA for the opportunity to participate in this consultation on the Distributed Ledger Technology applied to Securities Markets.

<ESMA_COMMENT_DLT_1>



Q1: 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>

[Yes, we agree with the benefits explained by ESMA. As a fund industry body, we believe that faster clearing and settlement and record keeping are the two most significant benefits for the fund industry as a whole.

Positions could be updated and stored on a distributed ledger that is shared between the fund accountant, the custodian, the asset manager and the regulator.

We also see important benefits in terms of reporting and data sharing between the different actors of the fund industry (Fund accountant, Transfer agents, Custodian Bank, Regulator, Auditors and Asset Managers). Sharing of fund positions, transactions and record of ownership via a DLT between these players would significantly increase efficiency in operations.]

<ESMA_QUESTION_DLT_1>

Q2: Do you see any other potential benefits of the DLT for securities markets? If yes, please explain.

<ESMA_QUESTION_DLT_2>

[Overall, Smart Contracts implemented in a DLT could also speed up the process of subscription and redemption of investment funds' shares and hence transform the distribution and the transfer agent function. This would result in higher operational efficiency, reduced risk of failed trades, improved efficiency of investment of proceeds as well as cost saving opportunities for investment funds, ultimately benefiting investors. With the DLT technology, processes could be possibly even more automated with Smart Contracts that would run AML/KYC checks and validate orders. We observe however that this activity is on the one hand quite intricate and interlinked with many other functions and on the other hand performed at a relatively low cost. It might be difficult to find a strong business case.

Distributed ledger technology could for instance ease the AML/KYC processes which are core to the transfer agent value chain. The result of these processes could be shared on a dedicated DLT where entities would have a Digital ID. This would avoid the high level of duplication currently present in this domain. Confidentiality would be protected thanks to encryption. Documents could only be accessed if the entity would give its private key. Using the DLT technology would drastically increase the speed of performing the AML/KYC process. As of today, Asset Managers are not mutualizing this. It would also increase the level of compliance and reduce errors.

DLT could also reengineer the overall distribution model for investment funds. Such reshaping could enable asset managers to better assess investor concentration and ultimately liquidity risk in the funds they manage. Some early prototypes of fund ordering systems using blockchain have already been developed in Luxembourg (cfr. Q7)

Last but not least, DLT and Smart Contract could spur innovation in the Asset Management Industry, leading to new products such as crypto-funds.]

<ESMA_QUESTION_DLT_2>

Q3: 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, safe-keeping of assets and record of ownership) but rather to some activities only?

<ESMA_QUESTION_DLT_3>

[In order to fully benefit from the DLT, the industry should ideally apply the technology to the whole market infrastructure. However, technological aspects of this infrastructure cannot be changed overnight. The application of DLT will inevitably be done in phases and limited to some activities only. This will require to develop interfaces so that old and new technologies can interact.

The industry might also struggle to connect the different DLT technologies –that have been developed separately – in order to obtain a full DLT lifecycle for securities.

We also believe that benefits of the DLT will increase overtime as the industry adopts the technology.

Financial service companies are also looking to benefit from the DLT internally (i.e. several entities of a same group using a DLT to share information).

Finally, when analysing benefits of the DLT, ESMA should also consider whether the financial industry as a whole will be able to collaborate to put a DLT in place or whether a single market player or a new entrant could impose its standards.]

<ESMA_QUESTION_DLT_3>

Q4: 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>

[The DLT has the potential to disrupt any parts of the market where there is a need of transfer or record of value – hence typically regarding securities. The post trade domain will probably be one of the most relevant activities for DLT disruption in the securities area, as per a general industry consensus.

Besides custody activities, DLT could also be efficient for the following domains:

- Distribution of fund shares
- AML / KYC to ensure a secure way to transfer and store data, avoiding repetition of low added value tasks
- OTC clearing and reporting to contribute to a better quality of data and automation of reporting flows
- Transfer agency due to the high number of transactions between actors and the current relatively low level of automation (compared to other securities processing domains)

For DLT to become mainstream, a majority of top players will need to adopt the technology and adhere to common standards when implementing it. The way the financial institutions / brokers handled the settlement will be modified further to the automation of this process.

All assets are eligible to the DLT keeping in mind that the standardization will be key to its development.]

<ESMA_QUESTION_DLT_4>



Q5: 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>

[We believe, the DLT will impact the securities market in a different way depending on the countries, assets and segments. This will depend on the niches operating in specific countries where the local ecosystem enables the DLT to be quickly applied (e.g. Luxembourg with the Transfer Agency). The evolution of the regulator position will play a key role in this development.

The development of local consortia will also accelerate the adoption of the technology.

The overview of the different initiatives and the technology improvement can give an idea where the DLT will be applied in the coming years (R3, CDC, DAH, Fundchain ...)

The adoption of the DLT will take between 2 and 5 years, depending on the elements mentioned hereafter.

Post Trade: 3-7 Y (need a large worldwide consensus)

Investment Funds : 3-6Y (could be done at the level of the main European fund domiciles)

KYC : 2-5 Y

Short-term:

- Limited market adoption in terms of small number of transactions and amount due to limited risk of losing money and no scalability issues related to the existing technology, even if some recent news tend to indicate changes in that respect
- Target processes will be KYC and other tracability-focused segments
- Target DLT type: Private DLT in order to safely test the technology

Mid-term:

- Growing market adoption if regulators and central banks support/foster adoption
- Target DLT type: transfer to public DLT once tests with private DLT are validated

Long-term:

- Adoption regarding specific and tested use cases
- Target DLT type: public DLT to enable cross-market actions or public and private DLT linked through API-like bridges to allow interactions |

<ESMA_QUESTION_DLT_5>

Q6: How might your organisation benefit from the introduction of the DLT?

<ESMA_QUESTION_DLT_6>

[The DLT will provide the expected benefits (cost, risk, efficiency, client satisfaction ...) as per mentioned in the ESMA paper to the whole industry only if the related challenges are clearly identified, understood and addressed. There is a clear need of collaboration between all the actors (Financial institutions, technology companies, regulator, auditors, financial associations ...) to build a sustainable solution, keeping in mind the protection of the clients' & investors' interests. The commitment of the whole industry is key to reach the expected benefit with the necessity to standardize a certain number of elements.

More specifically for the fund industry in Luxembourg, there is a rather clear consensus on the fact that the DLT might bring significant benefits in sub-functions of the “Transfer Agent” domain, especially as far as AML/KYC and Distribution support are concerned. |

<ESMA_QUESTION_DLT_6>

Q7: 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>

Luxembourg has positioned itself as one of the key fintech centres in Europe with many start-up companies active in bitcoin related activities – bitcoin exchanges, payment solutions, compliance solutions, etc. The development of Luxembourg as a DLT eco-system is a natural move and is on its way.

Many private players (e.g.: Clearstream, BNP Paribas, Kneip, Fundsquare, Finoryx, Intech, Deloitte, Scorechain, etc.) have also launched DLT initiatives developing – at this stage – a host of Proof-of-Concept (PoC) solutions. Local academic and research institutions (e.g. Interdisciplinary Centre for Security, Reliability and Trust – SNT – within University of Luxembourg) are also supporting this trend.

Last but not least, “Fundchain”, a local consortium of financial institutions active in the fund industry – asset servicers and distributors - has recently been created. This initiative supported by Scorechain aims at proving the use of DLT in the fund industry. Preliminary results are expected by the end of 2016.

Here is a non-exhaustive list of recent PoCs developed around distributed ledger technology in Luxembourg:

- Investment fund orders and settlement
- Transaction reporting (EMIR, SFTR, MiFIR)
- Corporate actions
- Proxy voting
- AML/KYC |

<ESMA_QUESTION_DLT_7>

Q8: 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>

|Overall, we agree about the challenges listed in the document.

Scalability and performance of the DLT are clear hurdles. They need to be addressed over the next years through a change of paradigm in the existing or new DLT technologies. New DLT technologies – mostly used in private DLT - are switching their consensus mechanisms from a “proof of work” to a “proof of stake” (or other algorithms). This is supposed to remove the main scalability, performance and cost obstacles for a larger adoption in the securities markets. Those new technologies will probably be available and ready when the on-going Proof-of-Concepts will deliver their results.

Recent discussions with some central banks seem to support the fact that central banks might be part of some ledgers, hence issuing central bank money into some DLT and allowing a full DVP settlement in central bank money within the DLT.

From a regulatory perspective, the DLT should ideally not be subject to strict regulations that inhibit the early adoption. Network supervision should not be more complex than the central market infrastructure. The emphasized requirements should be ideally managed by standard policies on the distributed ledger.

On the other side, common regulations across the industry will be a key success factor. |
<ESMA_QUESTION_DLT_8>

Q9: Do you see any other potential challenges? If yes, please explain.

<ESMA_QUESTION_DLT_9>

| Even if scalability issues will probably be resolved using private DLT or/and different types of consensus mechanisms, some other challenges might be encountered:

- With an increasing transaction volume and thus more mined blocks, there is a greater possibility that problems of contender chains and hence forks arise
- A badly implemented consensus can lead to centralisation when e.g. priority is given to the highest bidder which then becomes a central node
- Questions regarding release management / change management need to be addressed properly as operating the DLT over the long run will be difficult for more complex transactions
- The overall governance of the smart contracts will also need to be considered

Governance of the DLT and smart contracts will also be a clear challenge. In that sense, private DLT might help both in terms of compliance with the regulatory framework and in terms of respect of privacy and transparency. It is not clear neither whether a new regulatory framework would be required – especially considering the cross-border nature of the DLT – nor whether the existing framework might be applied.

On top of the technical standards, Business Standardisation is crucial to ensure that the overall securities market can work with the new DLT – both in terms of automation but also in terms of interoperability. It was proven that market efficiency was linked to the broad adoption of business standards. A lot of standards have been defined in the Financial Services and the most used one (SWIFT, fpml, fix,...) would need to either be adopted in DLT or translated into DLT (e.g. through smart contracts processing standardisation).

There is also a risk of seeing the multiplicity of smart contracts doing the same action, users of the DLT will therefore face a problem of finding the right smart contract for a specific action, and therefore assessing which one would be the best suited for its business.

And last but not least, questions regarding the treatment of regulations such as the General Data Protection Regulation |

<ESMA_QUESTION_DLT_9>

Q10: 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>

| Regarding the need for standardisation, the answer depends heavily on the type of solution developed through DLT.

In some context, a private company will use DLT for building a new service and will generally propose its own standard.

When there is not a single company taking up this role, the community or a regulatory body needs to create the standards. In order to avoid a growing number of similar smart contracts, there is a need for a certification authority that validates the processing of these new smart contracts (a new role for ISO/Audit firms?). In addition of validating participant access rights, we believe smart contracts should be validated too before being deployed on a DLT. |

<ESMA_QUESTION_DLT_10>

Q11: 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>

| We generally agree on the analysis. Indeed, DLT will bring new types of risks or may possibly reduce the likelihood of specific events while increasing significantly the severity of such events. All risks indicated are important to consider and subject to the technology concept finally adopted. The one concept chosen may become more relevant relative to the others.

As regards to cyber risk, flaws in the system may always be present. They may not be known at a certain point in time, but they are undoubtedly present. But such flaws may have a much higher negative impact on the whole network. Hence, it is of utmost importance to have a clear understanding of the technology concept to be applied and a respective strong governance framework (incl. clear responsibilities) around (incl. more than just a single preventive control point).

This is also related to the issue of market volatility, interconnectedness and new pockets of risks. Assuming no intentional (cyber risk) or unintentional 'incorrect' manipulations/ inputs have taken place, such connectivities will even more quickly spread around smallest issues with the possibility to make them big. That refers to the well-known phenomenon of the butterfly effect whereas such perturbations through the flapping of wings will grow much quicker and rather instantaneously throughout a network compared to many examples in different other domains where the butterfly effect may not materialize in such a speed. But relaxing on the assumption of no 'incorrect' manipulations/ input, it also means that any of such 'incorrect' manipulations/ inputs from, e.g. cyber-attacks may have a severe impact on the whole network and hence on all network participants. A well thorough technology concept as well as a strong sound governance mechanism will be vital for the usefulness of DLT.

We also agree on the other risks. |

<ESMA_QUESTION_DLT_11>

Q12: Do you see any other potential risks? Please explain.

<ESMA_QUESTION_DLT_12>

[While DLT may lead to further interconnectedness, it may also lead to another type of market fragmentation. The different DLTs may not establish protocols and standards allowing them to communicate to each other. This may lead to bigger risk in the reconciliation between the different networks if relevant.

Another open question and hence issue that may lead to a risk is the question of who will be ultimately responsible for the respective DLT and how this entity or person is monitored by the regulator. From a legal point of view, it is questionable whether all participants across different jurisdictions can or are willing to accept a joint and several liabilities for any issue in the DLT.

In general, the risk from the technology itself (coding of algorithm, etc.) and the necessary ongoing changes to cope with the market evolution should also not be underestimated. There is a rebuttable presumption that particularly more complex coding is prone to inaccuracies and mistakes and human being will always be involved in core elements of the technology which needs to be properly managed throughout the research, development and run process. DLT will not only increase the risk coming from such technology, it will indeed make the supervision even more complex and challenging. We believe if triggers for significant negative effects cannot be identified and managed in a preventive manner, the severity of negative events may become too disastrous for a whole network and – subject to the size of the network – possibly for the whole economy to be acceptable.

Finally, “smart contracts” may be subject to significant legal risk (and consequently financial risk). Contracts about financial instruments are several pages long. The accurate translation of the written legal document into a code language will be utmost of importance. As the contracts are written in legal words and not in computer codes, a kind of translation is required. However, this new type of translation will create risk of misstatements, i.e. the codes do not represent in all material respects the written legal contract. It is not clear - and perhaps it is at a too early stage yet today – how this source of incorrect data in the system can be managed with a zero tolerance for any mistake. |

<ESMA_QUESTION_DLT_12>

Q13: How could these risks be addressed? Please explain by providing concrete examples, especially for the risks potentially affecting your organisation.

<ESMA_QUESTION_DLT_13>

[Each DLT may need its own administrator who is ultimately responsible for the network. Those administrators may be supervised at the same level as current CCPs. However, a new legal framework must be developed to ensure a clear understanding and allocation of roles and responsibilities within each DLT.

It seems to be evident that only permissions-based networks may be acceptable if used in the financial industry to ensure that all participants can be identified and monitored respectively. As regards smart contracts, one possibility is to further standardize the various types of financial instruments/ transactions which may become subject to processing within such a DLT based network. The standardization may be structured in a way that the respective document will be the primary source and only truth of a financial instrument/ transaction.



Furthermore, harmonisation of personal data laws and regulations and data protection is required. |

<ESMA_QUESTION_DLT_13>

Q14: 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>

| Scenario 1.1: We feel that centrally cleared derivatives offers significant benefit to both the central clearing counterparty (CCP) as well as clients (direct and indirect). Above and beyond operational concerns ---such as confirms, notifications, event reporting, and contract sign-off--- a single point of truth which combines a payment system and derivative contracts would allow a CCP to offer participants a more direct and efficient mechanism which removes the need for the CCP to directly escrow and control assets. Furthermore, central clearing offers the possibility for each counterparty to rely on a single method of valuation, margining and default management, as well as allowing credit risk to be marked against the CCP. We also view DLT as offering the possibility for multiple CCP venues to share the same distributed ledger, allowing the potential to extract cross-CCP portfolio margining. Finally, a CCP structure could allow for greater anonymity to counterparties.

Scenario 1.2: Issues such as credit risk will still require independent assessment, and depending on the strength of identification in the DLT, could pose issues in carrying out such analysis, and in particular for information which cannot be identified at the time of trade (e.g., internal novation/splits). A more transparent structure, furthermore allows other parties to identify trading positions and strategy of a counterparty. Transparency may also reveal, correctly or incorrectly, greater information on the weakness of a counterparty which could in-turn adversely affect their perceived credit risk; A likely result would be counterparties demonstrating significantly increased pre-funding levels of collateral in a DLT.

Scenario 2: Beyond the operational, traceability and credit risk benefits noted in scenario 1.1, we feel that replicable contract standards which could be created within DLT systems through the utilisation of 'smart contracts' coupled with multiple venues sharing a ledger could allow participants to extract cross-CCP portfolio margining benefit. To realise this potential exchange traded derivatives would require new derivatives listings (either in parallel or replacing existing contracts) as well as new technical requirements within trade capture and matching processes. DLT could also allow non-clearing members more direct access to clearing venues without increasing the risk taken by the CCP.

Scenario 3. No comments |

<ESMA_QUESTION_DLT_14>

Q15: 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>

| At this point in time we think that this question cannot be properly answered as the potential "winning" PoC needs to be evaluated against the current regulatory requirements. Also is it unknown in how far regulatory burden will diminish as a single point of truth will be available to regulators making some requirements obsolete (e.g. transaction reporting). |

<ESMA_QUESTION_DLT_15>

Q16: 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>

[Yes, we believe DLT will be used following the description of the three scenarios.

The scenario 1.1 is obvious as it is a closed environment where technology can be applied easily. Scenario 1.2 and 2 will be more difficult to implement as one have to gather a full community around the new concept and its underlying rules.

One of the key open questions is the tight coupling of the securities movement with its cash leg. Today, Securities movements and cash movements are quite segregated and settlement finality mostly ensured by the CCP, CSD and central banks. Depending on market evolution (towards T+0?) the benefits of DLT can be reaped if central banks are fully part of the process that would considerably remove the need of a CCP. If T+0, an appealing concept for B2C type of markets, we can question the benefits of instant settlement for B2B markets.

Ultimately, most CSDs might deploy DLT as the core settlement system but we strongly believe scenario 1.2 (settlement internaliser) will be the most appropriate for early adaption. There are reasons for this: firstly, it could help communities to test DLT on a subset of the global market, and secondly, in regard to potential migration to a full market using the DLT operated by the CSD (scenario 2), it could be the ideal migration path. |

<ESMA_QUESTION_DLT_16>

Q17: 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>

[Regulation could be envisaged in such a way that DLT needs to interface with the regulator (e.g. regulator having one of the DLT nodes – hence a full copy of the transactions) allowing automated and efficient reporting (incl. transaction reporting). It seems to be important to have regulatory requirements adapted to the fact that hitherto distinct features are now carried out simultaneously or instantaneously. Therefore regulation of the “utility” created might need to be in focus.

As such a “clearing” activity may equally be a “record of ownership” activity. The settlement could equally be a record of ownership activity coupled with a payment activity. This clustering of utilities will become larger when coupled with reporting and oversight activities.

Under Scenario 1.2, a Regulatory Internaliser would best be integrated with the Regulator as participant to the DLT. In Scenario 2 the DLT needs to connect to the CSD, Regulator and Central Bank, all participants in the DLT.

Focusing on scenario 1.2 and scenario 2, we believe the regulator should take a more active part in the operations of the DLT. Obviously it needs to be one of the participants of the community using the DLT. One of the reasons being that if all transactions are on the DLT and if the regulator is part of the community, the regulator can create its own reporting. This will reduce the cost for

market participants and the money saved can be used to better create value for final investors. In addition, market supervision will be easier for stakeholders given the immediate and immutable nature of the DLT. We also believe that for some markets (mainly B2B) the tight couple of the stocks and cash legs imposes that both securities regulators and cash regulators participate to a settlement utility based on DLT. We believe closer collaboration between ESMA and EBA (European Banking Authority) is important to provide accurate regulatory framework to a DLT based instant settlement system. |

<ESMA_QUESTION_DLT_17>

Q18: 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>

| Yes, safekeeping and recordkeeping are the DLT cornerstone. We believe that using the DLT in settlement, clearing, custody and distribution can only bring value to the market if the underlying bookkeeping is on the DLT. At B2B level –or indirect holding model- reconciliation is a key issue for custodians! Having a single version of the truth can increase efficiency of back-office departments –removing this concern will definitively make the market more efficient.

Mass adoption will be the key to success for a DLT-based shared bookkeeping system, and it is questionable of the final investor willingness to use complex wallets. We believe the market will remain a B2B2C market where the B2C space will still be partly based on a relationship between the bank/distributor and its client, and a B2B space where institutions will use a common DLT for position keeping.

In B2C markets –or investment funds distribution, it seems appropriate to use the DLT in reducing the “middlemen” role. These markets rely extensively on data processors that ensure coherence at bookkeeping level. The DLT can therefore allow them to reduce their internal operational costs and focus on the functions where they bring true value to the industry. We believe that DLT can bring full transparency to all market participants –from fund manager up to distributor.

It is equally important in launching the DLT more broadly through launching it in a constituency of early adopters creating a critical mass for the general public/industry to use. We believe DLT could find such constituency either within a single financial institution or in B2B scenarios. |

<ESMA_QUESTION_DLT_18>

Q19: 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>

| The regulatory requirements could adapt to focus on the specific capabilities DLT offers, especially where it combines functions, which traditionally are seen as and governed by distinct (parts) of legislation.

Also the regulator may need to be a participant to the DLT so that it has an immutable source of information it can use to reconcile against other sources of regulatory reporting.

One of the main issue is the fact that issuing of shares/bonds/units depends on national laws. It means that harmonising the issuing process using a single smart contract will be impossible at

short/medium term. Issuers (or their intermediaries) are at the outset of capital markets, if no issuer's adoption, there is limited value to the DLT. Therefore it is very important that each country finds a way to issue cryptostocks that are both –in line with the national regulation and –usable in a trans-national DLT used for bookkeeping/settlement/clearing/distribution.

Conceptually, in some countries, and for some instruments, the issuer, or its agent, are obliged to create certificates on paper and store it in a vault. Digital proofs of ownerships have to be issued in parallel with a legal value. These crypto-certificates could be processed on the DLT similarly to other crypto assets. Each smart contract related to issuing should start mentioning its jurisdiction and can be only used to issue stocks domiciled in the same jurisdiction.

The role of the regulator can be proactive in validating issues made by smart contracts and validity of the certificates created on the DLT. When validated, these assets can be traded/exchanged in the global capital markets. |

<ESMA_QUESTION_DLT_19>

Q20: Do you think that the DLT will be used for regulatory reporting purposes? Please explain, with concrete examples where appropriate.

<ESMA_QUESTION_DLT_20>

| In the field of derivative contracts (OTC and exchange traded), reporting to the trade repository before T+1 is mandatory. Here, DLT can resolve several issues:

- Contracts do not have to be reported in parallel, as concurring on the DLT is sufficient
- The timing issue can be resolved thanks to the near real-time nature of DLT, thus allowing reporting to be done continuously and not in batches
- The cost of reporting decreases through DLT adoption as there are fewer human interactions involved

DLT may provide new functionalities to support and enhance regulatory reporting in Europe and globally.

- Under one common DLT regulatory reporting framework, counterparties may validate and exchange their common data.
- The application hashes the common data and creates a smart contract containing this hash which is stored in the DL. This smart contract can be modified until it is signed by the two counterparties.
- The sign off of the common data will be organized under the regulatory DL.
- Common data is accessible to counterparties through the DLT. Counterparties use script which will run their common data against the one of the other counterparty.
- When there is no discrepancy, counterparties sign the smart contract and a unique ID is generated and stored it in the smart contract together with the hash. The smart contract cannot be modified anymore.
- All data are then sent to the trade repository which validates or not the report

Only a limited set of data would actually be stored in the DLT. Detailed information related to the transaction may continue to be sent to the trade repository for detailed conclusion and safekeeping of the information. |

<ESMA_QUESTION_DLT_20>

Q21: If the DLT is used for regulatory reporting purposes, how could compliance with the applicable regulatory requirements be ensured

<ESMA_QUESTION_DLT_21>

[The near real-time DLT paradigm enables a better implementation of the regulatory framework than the current batch-processing paradigm, with better quality of reported data thanks to better processes.]

ESMA should define the governance and organization of a dedicated DLT regulatory reporting. The DLT will maintain the signed smart contract. The trade repository will maintain all transaction data. Dedicated operators will support counterparty access to the DLT environment and run the data validation (as per ESMA RTS / ITS) in order to enable the generation of a signed smart contract.]

<ESMA_QUESTION_DLT_21>

Q22: 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>

[See answer to Q1.]

<ESMA_QUESTION_DLT_22>

Q23: Do you see potential regulatory impediments to the deployment of the DLT in securities markets?

<ESMA_QUESTION_DLT_23>

[In addition to potential hurdles linked to the compatibility of DLT with specific regulatory requirements deriving from EMIR, SFD, CSDR, MiFIR and CSDR described in the discussion paper, additional regulatory hurdles may derive more generally from the central administration and IT outsourcing requirements applying to securities markets infrastructures and securities markets participants. Currently, the IT outsourcing requirements applying e.g. to credit institutions and investment firms (acting as operator or participants in securities markets) are tailored to address a situation where one (or a low number) of IT service providers are chosen, which are thus easy to identify and which can easily be monitored by the relevant credit institution and investment firm on the basis of a service level agreement. Where a credit institution or investment firm would rely on DLT for certain aspects of its IT platform, the decentralized nature of the DLT would be difficult to combine with current outsourcing requirements which might thus need to evolve. Similar difficulties arise with respect to the application of regulatory requirements linked to IT security measures which may be more difficult to implement for a technology involving IT systems of several participants participating in the distributed ledger network (instead of the mere IT system of the relevant credit institution or investment firm itself or the IT systems of a specifically identified IT service provider providing IT services to a credit institution or investment firm under an outsourcing agreement).

Other potential impediments are not necessarily linked to financial regulation, but the general legal framework and private international law principles. Since the assets booked in a distributed ledger are difficult to locate (as there is no central intermediary), the law governing the “in rem” aspects of security rights on such assets (e.g. enforceability) might be difficult to determine. Difficulties may also emerge regarding seizures of assets and the determination of the competent national authorities and courts in this respect, again due to the difficulty of locating assets booked in a distributed ledger.]

<ESMA_QUESTION_DLT_23>

Q24: 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 in our view provide guidance (e.g. in the form of Q&A) how existing regulations should be laid out with respect to DLT used by operators or participants in securities markets. To the extent changes in existing rules and regulations are necessary to ensure compatibility with DLT, regulators should assess on a case by case basis which changes are to be made and how they interact with the general legal framework. In several cases, the intervention of regulators will probably not be sufficient and action from the legislator (both at national and EU level) will be necessary. |

<ESMA_QUESTION_DLT_24>