



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>

The Association for Financial Markets in Europe (AFME) welcomes the opportunity to comment on the ESMA Discussion Paper on the Distributed Ledger Technology Applied to Securities Markets.

AFME represents a broad array of European and global participants in the wholesale financial markets. Its members comprise pan-EU and global banks as well as key regional banks, brokers, law firms, investors and other financial market participants. We advocate stable, competitive, sustainable European financial markets that support economic growth and benefit society.

AFME is the European member of the Global Financial Markets Association (GFMA) a global alliance with the Securities Industry and Financial Markets Association (SIFMA) in the US, and the Asia Securities Industry and Financial Markets Association (ASIFMA) in Asia. AFME is listed on the EU Register of Interest Representatives, registration number 65110063986-76.

AFME will be monitoring the adoption of DLT closely and working closely with industry stakeholders to derive benefit from the potential that it offers the industry.

Its members are of the opinion that DLT can encourage industry competitiveness within the securities market and support the foundations for a Digital Single Market which as stated by the EC “could tear down regulatory walls and move from 28 national markets to a single one”.¹

AFME members also believe that, in the context of Capital Markets Union (CMU), DLT has the ability to mobilize capital across the EU contributing to the benefits envisaged by European regulators.

AFME believes that in order to realise the benefits, there needs to be a strong collaboration between European and national regulators and industry participants throughout the life-cycle of development from concept through to pilot and then mainstream implementation.

To derive these benefits, AFME will be seeking to promote and facilitate collaboration within the industry and amongst other stakeholders around the following principles:

- **Interoperability:** Ensure that DLT is adopted around a set of open technology standards that support interoperability between DLT solutions within and between markets, asset classes, countries, market infrastructure providers, and central banks, encouraging supervisory bodies for each of these market components to collaborate with this objective in mind.
- **Permissioned Ledger:** For the adoption of the technology in the wider banking process AFME is of the opinion that only a “permissioned” ledger will provide for the level of control and trust amongst the users of the technology. Throughout this response document AFME’s advocacy of DLT assumes the use of a permissioned ledger².
- **Data Standards:** Promote the adoption of a universal standard for reference data that will help to accelerate adoption and facilitate interoperability.
- **Regulation:** Promote a nurturing and harmonised international approach to regulation that encourages adoption, avoids being prescriptive about the technology itself by focusing on the process and

¹ http://ec.europa.eu/priorities/digital-single-market_en

² Broadly speaking a Private Permissioned network is one which has the ability to restrict participation to a specific set of users, restrict access to certain information according to privileges assigned to each user, and control the extent to which participants can send instructions on the network. It is not a tightly defined term and the industry would benefit from an agreed standard taxonomy for DLT. This would help a number of proof of concepts that are wrestling with challenges related to this.



function that it supports, and recognises the need for flexibility as the industry re-shapes around the technology.

- **Governance:** Seek to establish a governance model that supports a resilient, efficient and competitive use of DLT within the financial market.
- **Innovation:** Identify, promote and facilitate member access to emerging technologies that complement the adoption and benefits of DLT.
- **Level Playing Field:** Encourage a regulatory framework that treats all current and future industry participants on an equal and fair basis, so that as DLT re-shapes the market barriers to entry are not created that could negatively impact adoption and innovation.

AFME believes that the regulatory stance towards DLT has particularly important implications for its development and adoption, strongly discourages attempts to regulate the technology itself, and recommends that regulatory focus should be on the processes and functions that it supports.

It is also important that the regulatory approach does not limit the industry's ability to test and develop DLT, as this could stifle innovation and put at risk the realisation of significant benefits for the financial services industry: a preferred approach would be for the regulator to play an active and collaborative role in working with the industry to harness the benefit of the technology whilst ensuring the regulatory intent is still preserved.

As Verena Ross stated, in her speech at the LSE/Bank of England conference on 'How imminent is the real Fintech Revolution'³, "*ESMA needs to remain flexible and adaptive*".

The uses for DLT are numerous and diverse, and the regulatory framework needs to be sufficiently cognisant of and adaptable to operate across the multiple applications of DLT.

AFME is of the view that it should be the process supported by the technology that is regulated, and the technology itself should not be.

By the same token, functions currently unregulated, but which are moved onto a DLT platform should be judged on a case-by-case basis and not regulated simply because they are using DLT. <ESMA_COMMENT_DLT_1>

³ https://www.esma.europa.eu/sites/default/files/library/2016-345_financial_innovation_towards_a_balanced_regulatory_response_-_speech_by_v._ross_0.pdf



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>

Overall AFME agrees with ESMA's list of possible benefits of DLT for the securities markets. However, there are a number of additional benefits that we would add to the list, and given the substantial investment being made into DLT within the securities industry and other related industries at the moment, we expect that it will grow as adoption rates accelerate and DLT becomes more widely understood.

AFME's view is that whilst each of the benefits identified by ESMA has potential, the scale varies significantly between them, and each is subject to a number of accelerating or retarding factors.

More detailed comments for each benefit are laid out below:

Clearing / Settlement

AFME agrees that DLT presents an opportunity to significantly reduce the costs of clearing and settlement, and this could arise from either the incremental adoption of DLT to optimise processes under the existing framework of post-trade market infrastructure providers ('Optimised Model') or through a substantial restructuring of this framework in which market infrastructure providers adopt new roles ('New Model').

Under a 'New Model', AFME envisages a transformation of the role played by CCPs, the elimination of reconciliation, reporting and cash flow calculations, and improvements to clearing certainty, reduced settlement risk, and enhanced credit decision-making.

To fully exploit the potential of a 'New Model', however, there would be a need to integrate more fully the wider market ecosystem into the DLT environment through the adoption of interoperable DLT business models for other products such as cash and FX.

An 'Optimised Model' utilising DLT presents the opportunity to reduce processing effort and settlement timeframes; combine trade confirmation, affirmation, allocation and settlement instruction generation into a single step; and increase eligibility of cleared products. It could also be used to enhance transparency for both cleared and non-cleared transactions, which may have a bearing on the regulatory approach to the systemic risk associated with large CCP's.

The risk dynamics would be different for CCPs that cleared cash securities compared to CCPs that risk managed longer term derivatives. There may still be a requirement for a CCP where cash securities are traded on anonymous order books but the technology may drive ever shorter settlement dates to the extent that a bilateral counterparty no longer requires the use of a CCP.

Where longer term derivative transactions are concerned, a CCP could still act as a risk mitigant for the duration of the contract.

There are a number of obstacles to progress including the technical challenge of providing infrastructure resilience equivalent to current industry standards in each market, the need to adopt a single consistent source of reference data, and the investment inertia surrounding legacy processes and systems such as the recently implemented for T+2 processing in Europe.

Existing trading venues, market infrastructure providers and the associated processes could also be enhanced to drive similar optimisation improvements without the adoption of DLT, and the shortening of the settlement life-cycle may present trade-offs that would need to be balanced against the potential benefits.

Arguably it may be better to optimise towards a flexible settlement cycle rather than a mandated T1 or T0 settlement:



- Technically T+0 is possible today, provided that KYC/AML checks have been undertaken, but it is hampered by other dependencies, such as investor funding timelines, treasury funding, FX constraints, and other manual processes such as compliance and fraud monitoring: this was evidenced during the analysis of the transition from T+3 to T+2 settlement in Europe during 2015.
- The benefits of shorter settlement timeframes in terms of credit and collateral usage will need to be weighed against the additional costs and negative impacts, and it will be important to avoid merely shifting credit risk along the settlement chain.
- Regulators would also need to examine whether a significantly shortened settlement timescale may impact on trading strategies.

It is possible that the industry may simply utilise DLT as a spur for innovation rather than adopt it as a replacement technology.

Record of Ownership

DLT provides the ability to make ultimate beneficial ownership transparent throughout the life of an asset, and potentially throughout the custody chain.

Similarly, it may also enhance transparency and facilitate financial crime and compliance analysis by banks and regulators.

The adoption of a single standard identifier for each asset (e.g. product, legal entity, class) transacted through a distributed ledger is cryptographically implicit in DLT.

However, the industry currently maintains a number of different identifiers and the adoption of a universal standard that could be used by or mapped to a distributed ledger system is likely to be a major obstacle to progress.

Ideally the industry would avoid adopting a digital 'token' standard for DLT, but developing any standard and a migration path is likely to be more challenging than deploying the technology itself.

Counterparty and Systemic Risk

AFME agrees that a shared ledger could provide the benefits of a CCP for short-dated transactions without the need for an intermediary. The result of a reduction in counterparty risk in such transactions would also lead to an overall reduction in systemic risk.

Collateral Management

For short-dated transactions, AFME anticipates that collateral requirements will reduce or obviate as transactions settle near instantaneously under a DLT platform. However, for forward or derivative contracts, margin requirements are expected to continue. DLT provides the opportunity to make lifecycle and collateral settlements at the same time and remove inefficiencies.

By introducing a shared record of trading activity and reference data within a DLT solution and in conjunction with a single valuation, an opportunity exists to eliminate collateral disputes on non-cleared trades, make more effective use of collateral, and reduce collateral management costs.

To exploit the benefits that might be gained within collateral management, the industry would need to normalise its static data around a standard that would be used by all participants: this alignment is likely to be a challenge for the industry.

AFME envisages that a DLT solution could be used to track collateral postings and clarify underlying beneficial ownership, which may help to achieve more frequent re-use of collateral postings, as noted by



ESMA in paragraph 24, which would be particularly beneficial given regulatory requirements for the use of high grade collateral.

This approach is likely to be most effective under a centralised ownership model. However, it is worth noting that existing collateral management systems are already very sophisticated and provide near real time inventory visibility.

Availability

Existing DLT solutions are not yet proven to perform resiliently at service levels comparable with those that we see in major securities and derivatives markets today.

Adoption is likely to be constrained initially to niche, low volume, systemically less important markets, in which appropriate levels of resilience can be more readily achieved and for which economic impact of unavailability is smaller or can be more easily managed.

Security

Distributed Ledger Technology remains largely untested against cyber threats faced by the securities industry compared to mainstream technologies that are prevalent.

Where we have seen breaches of DLT enabled networks, these appear to have occurred as a result of vulnerabilities in the wider DLT eco-system and configuration control environment, rather than the underlying DLT technology and encryption techniques employed.

AFME's view is that DLT adoption within the securities industry should be based around a private and permissioned design and a rigorous governance framework to ensure the integrity of the system, the reliability of participants, and that appropriate controls are in place to avoid fraud and system disruption.

If based upon these principles, DLT will not present security challenges significantly different from other technologies used by the securities industry today.

Costs

By providing a shared ledger between trading counterparties, DLT could deliver substantial cost savings through the elimination of existing reconciliation activities. However, much of this could also be eliminated by improvement of existing processes rather than by technology change.

AFME also anticipates that market participants may achieve savings internally through the rationalisation of internal systems that might be replaced by DLT.

Reporting and Oversight

Although the specifics of its design would influence this, searching a distributed ledger may not be as efficient as a traditional database, and this may compromise some of the identified benefits arising for reporting and oversight activities.

However, vendors are already starting to use DLT cryptographic completeness protocols to replicate the DLT data into conventional reporting databases that can efficiently drive enquiry and reporting activities.

It is for example generally accepted that block chain distributed ledgers are harder to search than traditional ledgers. However, by posting information to a DLT and providing regulator access, it ought to be possible to eliminate a substantial amount of report generation activity, benefitting industry participants, and placing control over data enquiry directly in the hands of the regulator.

One further opportunity that may be worth exploring is how new EU reporting regulations could be accommodated using DLT. Adopting these activities as an early use case could provide a way to test the technology without impacting core cash and securities processing.



Finally, transition of the majority of a market's activity onto DLT would eliminate the need for commercial and central bank surveys. For example, the BIS triennial data on FX could be obtained directly by interested parties from volumes transacted on a frequent basis.]

<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>

AFME's view is that the greatest benefits to be gained from Distributed Ledger Technology arise when there is broad adoption across the wider market ecosystem and the trade life-cycle.

This would include adoption across securities, derivative, cash and foreign exchange product sets, trading, issuance and asset servicing activities, and by the associated trading venues and central banks, and would move the industry towards near real-time or integrated execution, clearing and settlement.

Such widespread adoption would incorporate smart contracts and almost certainly result in the development of a new business model and role changes for a number of current market infrastructure providers.

It would also require the development of a new or revised regulatory regime to reflect the new business model and shifts in liability along the trade life-cycle, as well as collaboration between various market regulators and central banks to ensure interoperability.

As noted in our response to Question 1, there are a number of barriers to the adoption of such a new business model, and it is more likely that in the near-term we will see the industry progress along a more incremental evolutionary path using DLT to optimise its existing business processes.

This incremental adoption is most likely to manifest itself in the Post-Trade segments of the trade life-cycle, and AFME sees the following benefits emerging over the short, medium and long term respectively:

Short-Term (3 to 5 years):

- Limited adoption of DLT around allocation and confirmation processing could drive efficiency improvement by consolidating information held in trade and settlement instruction records;
- By sharing the records used by the existing actors in the post-trade lifecycle, the reconciliation of each other's records amongst themselves can be avoided;
- Shared ledgers supported by DLT could allow more efficient centralised accounting activities (E.g. valuations, market data, capital calculations);
- May see participants' internal processes migrated to DLT technology.

Medium Term (4 to 8 years)

- Automation and the elimination of separate record keeping and reconciliation activities within the industry will see additional operational risk reduction with fewer manual errors: this will have the biggest impact as DLT is embedded widely across the trade life-cycle and smart contracts are adopted;
- The potential exists to reduce intra-day liquidity risk and settlement timelines shorten. However, this is dependent on interoperability with and adoption of DLT for cash and possibly FX products.
- The application and payment of tax could be automated as interoperability with DLT cash and foreign exchange systems evolve.

Long Term (7 to 10 years)

- Corporate actions and proxy flows represent a good opportunity for automation given the highly manual nature of processing today. However, adoption in the market is likely to be slow due to the complexity of corporate actions, the large number of existing investors that would need to adopt,



the large quantities of information that needs to be exchanged between investors, and the likely need to issue new instruments to accommodate the use of smart contracts.

- Widespread adoption of DLT within the market will reduce the need for regulation to control market participant behaviour such as that targeted by recent settlement discipline regulation.

One other area of particular interest for AFME members is around the use of the technology for enhancing KYC and AML processes. Using digital client identifiers, smart contracts could allow the transfer of client information held on a distributed ledger to downstream parties, improving the efficiency of client onboarding and the accuracy, completeness and range of KYC and AML checks across the financial system.

Some additional benefits that are not covered by ESMA in the discussion paper are as follows:

- Asset tokenisation leading to a reduction of intermediaries - a new business model may evolve whereby bilateral trades in cash securities will not require the services of an FMI;
- Synchronised automation: smart contracts can be used for general lifecycle management of financial products, including confirmation, cashflow generation, cashflow verification, payment, event management (refixes, credit events etc.);
- Improved funding process by having certainty around upcoming payments (through consensus on, and immutability of, the shared ledger), meaning that treasury departments can make more efficient use of cash;
- DLT provides a means of standardising securities processing and the recording of data;
- Reduced Nostro breaks through having agent banks on the network, making payments based on the ledger data.

<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, safekeeping of assets and record of ownership) but rather to some activities only?

<ESMA_QUESTION_DLT_3>

AFME assumes that DLT will develop over time and spread gradually across markets, instruments, locations and participants, gradually replacing legacy systems.

This staged adoption process will enable firms to integrate without investing heavily at any single point in time and without having to incur huge costs such as in cases of big bang adoption. We will most likely see the co-existence of distributed ledger and traditional financial ecosystems.

For example, securities and cash issued digitally may enable settlement finality via a smart contract in a distributed ledger environment. Certain benefits will still be realised if distributed ledger solutions are only deployed in isolated securities lifecycle functions, noting that such benefits would apply to those functions rather than shared across the ecosystem.

As the deployment of DLT emerges it will be important to establish a single interoperable and open technology standard that enables the efficient exchange of information between systems and actors in the financial ecosystem.

There is a risk that the new DLT technology could add to the cost base and process complexity, if it is implemented in a fragmented or myopic way.

In the same vein, AFME believes that a standard set of reference data should be agreed which could be used across multiple DLT systems. In particular it is important to have a standard set of identifiers for securities, counterparties, currencies, and standard settlement instructions.

A further challenge will likely be ensuring the immutability of DLT records when activities in one environment are committed and then needed to drive activity downstream in another DLT environment.



Real-time interoperability would solve this, but it is likely to be technically very challenging to achieve, and without this if a correction in an upstream DLT system is needed this might prove difficult, and having to do the same across multiple upstream systems could prove impossible. |

<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>

|There is currently a huge amount of research and experimentation being conducted across the financial services industry exploring the possible applications of distributed ledger technology.

A number of small scale implementations have been announced involving private equity, proxy voting, trade finance, asset issuance, asset transfer and precious metals, some central banks are actively investing in the technology, and some payments infrastructure providers are actively adapting their technology in anticipation of DLT taking hold.

However, widespread market adoption of DLT-based infrastructure supporting end-to-end transaction, settlement, reporting and compliance is still some way off, and in part the adoption of this new technology will be governed by the speed at which regulators embrace, understand and create harmonised regulations to nurture progress if required.

AFME believes that the adoption in the securities markets will start small in simple, single markets, and it expects that a significant impact on market infrastructure or multilateral ledgers shared between banks will take four to eight years.

Distributed ledger impacts on the industry will likely fall in the following areas, and most likely in this order over the next ten years:

- **3-5 Years:** Cost reduction through process optimisation initially in a localised manner within the trade life-cycle, but eventually permeating more broadly as local solutions join up;
- **4-8 Years:** Shortening of settlement periods with ancillary impacts on related business processes such as stock lending, short selling and netting;
- **7-10 Years:** Potential disintermediation or significant changes in roles of financial market infrastructure providers.

In a first phase short term instruments seem like natural candidates, but eventually more complex products could be adopted.

AFME sees the most significant early impact on processing coming in the following areas:

- Niche activities such as certain corporate bond issuances and private equity placements in unregulated markets where compliance risk is easier to manage as industry understanding of DLT matures;
- National implementations of clearing and settlement, where market infrastructures adopt DLT to provide a country with competitive advantage;
- Market segments where closed DLT solutions of professional parties can be more easily created such as OTC derivatives;
- Trade life-cycle elements where multiple hand-offs or manual activities take place that are expensive and error prone;
- Obsolescence of in-house reconciliation as distributed ledgers are recognised as master records. |

<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>

AFME expects a gradual adoption of DLT solutions rather than a “big-bang” approach, and that market participants will employ a significant period of parallel run with DLT and legacy solutions in place.

Within 3 to 5 years we expect to see internal bank-specific solutions, and within a 4 to 8 year time-frame national solutions and some specific cross-border activities being implemented.

The latter will be catalysed by active regulatory facilitation and national governments seeking to gain competitive advantage by improving the efficiency and access to their capital markets.

The possible adoption of DLT by a central bank in one of the major markets would also act as an accelerating stimulus in other countries and markets, as the enablement of an interoperable DLT cash solution connected to the central bank would be transformative for benefits realisation from DLT investment in other asset classes.

Initially, esoteric instruments such as commodities and vehicles such as trusts and closed-end fund type structures are most likely to move onto DLT solutions with further functions following such as derivative clearing.

Notwithstanding the uncertainty around some of the accelerating influences noted above, large scale adoption in major high volume markets is likely to take 10 to 15 years, and will be challenged by investment inertia in legacy platforms, greater regulatory complexity and sensitivity, and proving the resilience of DLT to existing standards.

<ESMA_QUESTION_DLT_5>

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

<ESMA_QUESTION_DLT_6>

AFME is a trade association representing its members, who comprise many of the major participants in the European financial markets.

It does not anticipate working on a concrete application of DLT in its own right, but will be monitoring the adoption of this technology closely and working closely with industry stakeholders to derive benefit from the potential that it offers the industry.

To derive these benefits AFME will be seeking to promote and facilitate collaboration within the industry and amongst other stakeholders around the following principles:

- **Interoperability:** Ensure that DLT is adopted around a set of open technology standards that support interoperability between DLT solutions within and between markets, asset classes, countries, market infrastructure providers, and central banks.
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- **Governance:** Seek to establish a governance model that supports a resilient, efficient and competitive use of DLT within the financial market based upon a permissioned network.



- **Innovation:** Identify, promote and facilitate member access to emerging technologies that complement the adoption and benefits of DLT.]
<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>

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- **Governance:** Seek to establish a governance model that supports a resilient, efficient and competitive use of DLT within the financial market based upon a permissioned network.
- **Innovation:** Identify, promote and facilitate member access to emerging technologies that complement the adoption and benefits of DLT.

<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>

AFME broadly shares ESMA's view about the challenges of DLT adoption in the industry, which arise from a combination of technical, regulatory and historical collaboration issues, and as the technology continues to be investigated by the industry we expect that more will be identified.

It is important to recognise DLT's unproven scalability and resilience, and the difficulty of sharing market and reference data in the absence of a universal standard cannot be underestimated.

Truly "enterprise grade" resilience that matches the standards achieved currently by legacy systems in each market is not yet available.

In the current economic environment, it is also unlikely that banks have the capacity to undertake a radical overhaul of their technology platforms and business processes whilst simultaneously facing major programs of work around regulatory changes such as Dodd-Frank and MIFID2.



It is also important to reflect on the structure of the existing regulatory framework, which has been developed in the context of existing market infrastructure roles.

Most long-range views of a DLT dominated market ecosystem see market infrastructure providers assuming changed roles. However, legal accountability and enforceability as applied under existing regulatory regimes may not be appropriate in a future model, and the pace at which regulation adapts to this could influence the rate and nature of DLT adoption.

This issue would also impact on the development of any governance framework around DLT, and could hamper participant's willingness to accept the governance model.

In tackling the regulatory challenge, it is important to understand how legal liability and enforcement measures will need to adjust alongside the evolution of roles amongst market infrastructure providers as DLT is adopted.

Regulatory engagement to develop an appropriate control framework that recognises these liability changes will help the rate of adoption enormously.

Finally, AFME believes that the ability for settlement to be undertaken in central bank money is key factor in the rate of DLT adoption in the securities market, and the willingness of central banks to adapt their technology and processes to accommodate interoperability with DLT-enabled markets will play a major role.

In reviewing ESMA's analysis of potential challenges, there are a few that may be slightly over-stated:

- **Recourse:** Whilst the immutability of records is a fundamental principle within DLT, there are mechanisms through which a cancellation or change transaction can subsequently be recorded in the distributed ledger to have comparable legal effect.
- **Position Netting:** Netting is currently desirable due to the complexity of settlement. However, as settlement periods shorten and processes simplify settling gross volumes may not be the problem that they are today, and counterparty exposure will diminish in importance. Arguably, there are also ways that netting could be adopted under DLT, by providing functionality that aggregates positions and facilitates settlement against these versus a fixed periodic schedule.
- **Privacy:** This issue is well understood by the industry and there are a number of private proofs of concept addressing the issue. Technical solutions exist today that allow cryptography to partition sections of data.
- **Scalability:** Although not yet solved and proven, there are a number of efforts underway to address this challenge. These include: Ethereum's planned introduction of transaction sharing to allow parallel execution; BigChainDB, which allows for extremely high transaction throughput and low latency; and kadana.io, which scales and provides high transaction throughput.
- **Margin/Short-Selling:** Margin and collateral is generally needed to mitigate credit risk arising between execution and settlement. For a spot transaction, DLT offers the potential to achieve near instantaneous settlement and should substantially diminish the need for collateral. It is acknowledged that this same principle may not apply for derivative and forward contracts. It is also arguable that certain implementations of DLT could be adopted to provide a shared view of short-sell transactions without necessarily proving tracking for the record of ownership. This wouldn't derive all of the benefits of DLT throughout the trade life-cycle, but it would still bring operational savings around reconciliation and message handling. Finally, there may be ways to adapt DLT for collateral and margin management to provide a central inventory. |

<ESMA_QUESTION_DLT_8>



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

<ESMA_QUESTION_DLT_9>

AFME sees the biggest challenges for widespread DLT adoption being the establishment of a resilient “enterprise grade” DLT architecture that can match existing standards, complies with all relevant regulation and internal bank policies, and is based around clear data standards and a governance model to which all participants are willing to adhere.

AFME believes that it is possible to establish a resilient DLT-based market infrastructure with security measures equivalent to those in place within the securities industry today using a permissioned network.

However, due to the distributed nature of the network, it will be important to ensure that the governance model enshrines minimum standards for security along with a regime of monitoring enforcement.

It is important to recognise that, whilst a distributed ledger could have enhanced resiliency characteristics compared to traditional centralised market infrastructure in terms of built-in data redundancy, tamper-resistance and potentially data access, a requisite level of security is applied by each node may be difficult to achieve without the application of consistent security standards.

Finally, the need for settlement in Central Bank Money is critical for adoption of DLT and will require interoperability with RTGS systems currently in use by Central Banks. The potential to mirror cash into the DLT platform and/or manage settlement in near real time will need to be extensively looked at in the future.

<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>

In general, AFME members are taking an approach that can be characterised as “blockchain inspired”: looking at the best characteristics of blockchain DLTs and seeing where individual firms can apply those lessons in existing platforms/processes. AFME members are carefully tracking the market, evaluating options and performing test-cases where appropriate.

Conflict of law issues and the existing regulatory regimes are two subjects whereby early engagement with regulatory authorities will prevent member firms from wasting time and financial resources. The regulatory sandbox initiatives established by a number of regulators are welcome, and offer a constructive channel for this kind of dialogue.

Consideration is also being given within the industry to the use of token versus native assets within DLT environments. Whilst tokenised assets make it possible to navigate some legal, technical and regulatory hurdles to adoption, it is difficult to envisage these instruments replacing traditional instruments and will hamper wider market adoption of DLT.

Finally, there are some industry initiatives such as the Linux-Hyper-Ledger, formed in 2015, to establish a collaborative effort for the advancement of DLT by identifying and addressing important features of cross-industry open standards for distributed ledgers that could help transform the way in which transactions are conducted globally.

<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>

In general, AFME agrees with ESMA on the risks highlighted and with the need for ESMA to address them so that DLT can be adopted beneficially within the industry. However, there are some aspects of ESMA’s analysis where AFME has a different perspective.



In particular, AFME members do not agree with ESMA's statement in paragraph 48 that DLT could be exposed to financial crime because the use of public/private keys may make it easier to conceal identities and transaction history. When DLT is applied in a permissioned network, AFME would expect KYC processes to benefit from a more transparent view of transaction history and beneficial owners. Furthermore, the number of participants in the transaction chain is limited within a closed and permissioned system, and through robust governance structures it can be ensured that only trustworthy participants are accepted.

In addition, AFME is not convinced that the rise of DLT will cause 'herding'. DLT is primarily a platform for processing transactions. However, in a future scenario in which the full trade life-cycle is adopted in a DLT system, the distinction between execution and settlement could become very fine, because settlement information could be exchanged synchronously with trade booking information.

Presumably ESMA's paragraph 51 is referring to trading algos which raises a number of other topics which are not really post-trade issues, but may require consideration by the industry and regulator as to how regulation should adapt to changing business models.

Similarly, paragraph 52 appears to create a connection between trading patterns and the subsequent risk within DLT. AFME members do not necessarily share that view if the focus remains on DLT as an infrastructure technology. In this context it may be more appropriate to focus regulatory attention on trading strategies that may open additional risk pockets rather than the underlying settlement technology.

AFME would also propose a different perspective on ESMA's paragraph 55, which suggests that DLT may provide transparency around trading activity that could enable front-running or market manipulation. There may be some merit to this view in an open permissionless network, but AFME believes that security considerations suggest that a permissioned network be adopted.

In a permissioned network, the creation and usage of public/private keys in the set up will protect the confidentiality of data of other participants. In such a scenario, only the respective regulator and the FMI as operator would have full transparency.

AFME recognises ESMA's view that DLT latency limitations may make it unacceptable as a tool for high volume trading purposes. However, AFME believes the latency will to some extent depend on the type of DLT solution utilized and on the entity implementing it. For example, this could be mitigated through centralised management through an existing financial markets infrastructure provider.

AFME members are of the opinion that certain risks associated with competition and market manipulation can be addressed at an early stage in the development of the solution.

Notwithstanding the need for robust governance structures and cyber security standards enforced across the nodes of the network, the cyber-risks listed by ESMA are not unique to DLT. In fact, where some risk is apparent in all system use, the use of DLT is generally regarded as a more secure technology, and the risk of coding errors in smart contracts is common across all systems today.

It is also important to note that AFME believes ESMA's paragraph 46 assertion that a hacker that successfully gained access to the system might have access to all of the information contained within the distributed ledger overstates the risk. Typically, information in this kind of network would be encrypted, and to obtain such widespread access a hacker would need to have access to more than half of the encryption keys to achieve this.

ESMA's views about fair and orderly markets are important: it is imperative that sufficiently robust frameworks are in place in order that a level playing field is maintained in terms of access to permissioned networks, cost and level of services, and AFME does not see the DLT adding further adding complexity as relevant to this requirement.

Participants in the network would all possess the requisite encryption techniques, and supervisory look-through could be provided by establishing a regulator as a receiver of information directly from the network



by acting as the regulatory node within it: through this, the efficiency of the supervisory process could be greatly enhanced.

Finally, the operational risk component is important: in the current environment the operational risk of reconciliation breaks between different systems / actors is high. While DLT could potentially greatly reduce this risk, it in itself creates another risk.

This is the risk that an error, such as an erroneous trade settlement or ledger entries, is replicated between all participants within a network. This creates the need for robust operational risk frameworks to be continued to be deployed to prevent such occurrences. |

<ESMA_QUESTION_DLT_11>

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

<ESMA_QUESTION_DLT_12>

|AFME members are of the opinion that although certain designs of DLT may have the potential to introduce a single point of systemic risk into a market, the choice of deployment model and the governance framework can mitigate these.

In particular, the governance model needs to address technical and security standards that should be applied in the DLT network, enforcement and control approach, configuration management, and access controls. Appropriately designed governance that addresses these principles can avoid DLT becoming a single attack surface and be effective in ensuring that a localised breach does not expose the entire network

Interoperability is another key risk worth highlighting, because, should several competing DLT offerings working to differing technical standards be available, then the ability for customers, clients and financial services firms to trade between them may be challenging: this could severely dilute many of the benefits currently outlined by ESMA in section 3. Furthermore, in global markets, such as FX, the development of DLT will take longer to extend to less developed markets and market participants. Global firms will be required to run simultaneous DLT and non-DLT systems, which will require interoperability, and will have large resourcing requirements. |

<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>

|AFME believes that ESMA and other regulator's early engagement with the industry to understand the technology, operational and legal risks will contribute to the mitigation of the known and as-yet-unknown risks.

We also believe that regulators should move from being observers to contributors to the industry's research, testing and early implementation efforts to provide more direct advice to minimise the likelihood of business and regulatory or legal divergence.

We see the need for greater regulatory involvement and direction to drive standards which will prevent fragmentation and significantly minimise the ongoing costs of data harmonisation, DLT interoperability and integration with the industry's legacy infrastructures. |

<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>



AFME believes that the greatest benefit can be derived from DLT if there is willingness to substantially adjust the regulatory framework in order to support new business models.

Trade repositories, for example, in their current form might become obsolete if their functions are covered by DLT platforms in the future. Providing access to regulators directly onto DLT platforms, information on trading activity will be available almost real-time fulfilling existing regulatory requirements in relation to trade reporting. This would require a change to EMIR so that a derivative transaction is no longer required to be reported to a Trade Repository.

The potential for bilaterally settled transactions via DLT may also require a different regulatory framework than exists currently. The definition of new roles for participants in the trade life-cycle that best exploits DLT in the interests of market efficiency may also be required.

AFME thinks that it is important to draw a distinction between the concept of a CCP and a DLT network. DLT is simply a technology platform that can be utilised to perform certain functions, which may involve clearing, whilst a CCP is a legal person that interposes itself between counterparties, assuming counterparty risk.

It is possible that certain functions traditionally performed by a CCP, such as trade capture, novation, exposure management, margin reporting and netting, can be optimised using DLT technology, but that does not mean that the DLT replaces the CCP: both concepts remain fundamentally different.

Our general assumption is that the FMI would utilise DLT, rather than DLT assuming the role of the FMI itself. Therefore, if an FMI uses DLT to perform a regulated function, the FMI continues to be responsible for compliance. For example, if a CCP is using DLT to perform the function of clearing under EMIR, it is still the CCP that must ensure compliance with EMIR. If a CSD/SSS is using DLT to perform certain functions under CSDR, it is still the CSD/SSS that must ensure compliance with CSDR.

In addition, while a CCP is by definition a Central Counterparty aggregating transactions and keeping a central ledger, distributed ledgers rely on a shared network not owned or controlled by a single party.

In this context, the question becomes whether DLT could provide a viable alternative to current systems used by CCP's to perform their functions in line with EMIR.

AFME agrees with ESMA (under section 3) that there may over time be a reduced need for CCPs to stand between buyers and seller for spot transactions provided that:

- other impediments to reduce settlement cycles are also removed;
- DLT system performance can cope with high volumes/short latency;
- netting functionality is made available.

For longer-term transactions, we agree that there is likely to be a continuing need for CCPs. However, use of the technology may provide some optimisation opportunities around reconciliation, reporting and similar functions.

The scenarios presented apply an overlay of the existing regulatory regime to the scenarios and the evolution path for DLT adoption, and AFME has attempted to provide a perspective with that assumption



in place and assuming existing roles within the trade life-cycle are preserved: we see that as an 'Optimised Model' approach.

A 'New Model' would almost certainly change liability dynamics within the trade lifecycle and it will be important that regulation is adapted to reflect this whilst also maintaining appropriate control within the market.]

<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>

AFME believes that adoption of DLT is most likely to arise from its incremental adoption to optimise processes under the existing framework of post-trade market infrastructure and regulation ('Optimised Model'), but could also arise through a substantial restructuring of this framework in which market infrastructure providers assume new roles ('New Model').

In light of this, one might ask if there is anything inherent within DLT that would compromise a CCP's compliance with the legislation. The answer will depend on the specifics of the relevant regulation and, more importantly, a number of open questions yet to be answered with regards to the final form(s) of DLT – e.g. how privacy issues are addressed to a standard sufficient to enable widespread deployment.

Under such a 'New Model' AFME envisages a transformation of the role played by CCP's, the elimination of reconciliation, reporting and cash flow calculations, and improvements to clearing certainty, reduced settlement risk, enhanced credit decision-making, and increased trading appetite particularly in illiquid products or stressed markets.

To fully exploit the potential of a 'New Model', however, there would be a need to more fully integrate the wider market ecosystem into the DLT environment through the adoption of interoperable DLT business models for other products such as cash and FX.

This would necessitate a substantial re-work of the regulatory regime to reflect changes in market participant liability and to apply appropriate control to this new model.

An 'Optimised Model' utilising DLT presents the opportunity for Financial Market Infrastructures (FMI) and market participants to reduce processing effort and settlement timeframes; combine trade confirmation, affirmation, allocation, accounting and settlement instruction generation into a single step; and increase eligibility of cleared products. It could also be used to enhance transparency for both cleared and non-cleared transactions, which may have a bearing on the regulatory approach to the systemic risk associated with large CCPs.

This could be achieved with some adaption of the existing regulatory regime, especially at the level of detailed technical standards.

Existing regulation based on current processes and systems are not compatible with the potential advances brought by DLT. Regulatory flexibility will be one of the key factors in determining the industry's willingness to invest in and move towards a 'New Model', in which the latter represents the greatest opportunity for benefit.]

<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>



AFME thinks that it is important to draw a distinction between the concept of a CSD and a DLT network. DLT is simply a technology platform that can be utilised to perform certain functions, which may involve settlement activities, whilst a CSD is a legal person that performs certain post-trade services that could be optimised using DLT. Both concepts are, and remain, fundamentally different.

The scenarios presented apply an overlay of the existing regulatory regime to the evolution path for DLT adoption, in which the existing roles of market participants are largely preserved albeit delivered in a different way. AFME sees these scenarios as possible optimisation opportunities using DLT under the existing regulatory regime.

In addition to the CSD performing central notary, safekeeping and settlement services, distributed ledgers rely on a shared network not owned or controlled by a single party. ***There is also the issue of how DVP settlement will be performed, and the link to central bank money (refer Q8)***

The question becomes which functions currently performed by CSDs and other intermediaries could be optimised using this technology.

A non-exhaustive list of processes where DLT could be introduced follows:

- Provide a platform to settle and safe keep assets which cannot (easily) be held in a CSD (i.e. non-transferable securities);
- Optimise processes such as real time settlement, automation of corporate action flows (using e.g. smart contracts), optimising transfer agency processes, providing greater shareholder transparency);
- Comply with certain (regulatory or other) reporting requirements which cannot be easily addressed otherwise (***See also Q 20***);
- Potential to use DLT technology to levy penalties and monitor the performance of buy-ins as described in CSD Regulation.

However, AFME believes that the greatest benefit can be derived from DLT if there is a willingness to substantially adjust the regulatory framework and define new roles for participants in the trade life-cycle that best exploits DLT in the interests of market efficiency.

Such a new model would almost certainly change liability dynamics within the trade lifecycle and it will be important that regulation is adapted to reflect this whilst also maintaining appropriate control within the market.]

<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>

AFME believes that adoption of DLT is most likely to arise from its incremental ability to optimise processes under the existing framework of post-trade market infrastructure providers and regulation ('Optimised Model'), but could also arise through a substantial restructuring of this framework in which market infrastructure providers adopt new roles ('New Model').

In light of this, one might ask if there is anything inherent within DLT that would compromise the CSDR compliance with the legislation. The answer will depend on the specifics of the relevant regulation and, more importantly, a number of open questions yet to be answered with regards to the final form(s) of DLT – e.g. how privacy issues are addressed to a standard sufficient to enable widespread deployment.

Under a 'New Model' AFME envisages a transformation of the role played by CSDs, Trade Repositories the elimination of reconciliation, reporting and cash flow calculations, and improvements to clearing cer-



tainty, reduced settlement risk, enhanced credit decision-making, and increased trading appetite particularly in illiquid products or stressed markets.

To fully exploit the potential of a 'New Model', however, there would be a need to more fully integrate the wider market ecosystem into the DLT environment through the adoption of interoperable DLT business models for other products such as cash and FX.

Where FMIs decide to adopt this technology for the performance of certain functions, and/or decides to join another FMI which uses DLT technology, it will need to verify that the use of technology is not in conflict with any existing rules/regulations applicable to them, i.e. the obligation falls upon the CSD/SSS itself to ensure compliance.

Regulatory flexibility will be key to ensuring that FMIs can adapt. As already stated, existing regulation based on current processes and systems are not compatible with the potential advances brought by DLT.

This 'New Model' would necessitate a substantial re-work of the regulatory regime to reflect changes in market participant liability and to apply appropriate control to this new model.

An 'Optimised Model' utilising DLT presents the opportunity to reduce processing effort and settlement timeframes, combine trade confirmation, affirmation, allocation and settlement instruction generation into a single step, increase eligibility of cleared products, and could be used to enhance transparency for both cleared and non-cleared transactions.

This could be achieved with little adaption of the existing regulatory regime. It should be noted, however, that regulatory flexibility will be one of the key factors in determining the industry's willingness to invest in and move towards a 'New Model', in which the latter represents the greatest opportunity for benefit. |

<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>

AFME believes that DLT will be adopted for safe-keeping and record keeping purposes, but only as part of a wider DLT-based ecosystem covering the end-to-end securities life cycle.

Localised DLT solutions within the trade life cycle could bring benefits, but are likely more readily achieved by enhancing legacy technology.

The technology offers opportunities to streamline, and provide greater transparency on, ownership of assets and record keeping, whilst potentially reducing costs and risks by maintaining assets and performing asset transfer on a single ledger rather than multi-tier holding structures.

To deliver on this potential, a number of issues need to be addressed. Some are related to the DLT technology itself (e.g. privacy, cybersecurity) whilst many are broader and related to the current regulatory and market infrastructure framework.

Obstacles range from the ability to dematerialise certain assets, divergent issuance structures, use of different codes to the lack of harmonised settlement and asset servicing processes and the exercise of shareholder rights. Incumbent providers (whether FMI or others) may resist change if it negatively impacts their business models.

Regulation should be flexible enough to allow innovation and competition. Legislation designed to ensure investor protection and market stability should not result, per se, in barriers to entry for new forms of technology. |

<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>

AFME believes that if DLT is used to optimise safekeeping and record-keeping, then it should be possible to do this in a manner compliant with existing regulations provided that a permissioned system is utilised alongside robust system governance.

To answer this question comprehensively would require analysis and responses to a number of questions (non-exhaustive) such as:

- What would be the economic and legal rights attached to holding assets on a DLT network?
- Who are participants/accounts?
- What constitutes the final record (currently there is a distinction between an entry to a CSD account, and entries in the registers of registrars)?
- How are assets issued in a DLT environment, and the impact of maintaining the same asset in both a DLT and 'traditional' environment?
- Who is responsible for ensuring integrity of the issue and investor protection?
- Which assets are in scope? DLT networks have the potential to accept a wider range of assets than traditional securities.

The regulator may wish to consider which controls should apply to the governance model in order to ensure that adequate security standards are met. However, regulating directly on these security standards is not recommended, as it may reduce the flexibility to respond to emerging threats.

In order to achieve the full benefits offered by DLT then it would be necessary for the industry to utilise DLT across the end-to-end trade life cycle and within the broader market eco-system, and adopt a new business model.

In these circumstances, AFME would expect the regulator to develop a new regulatory regime to reflect changes in market participant legal liability. |

<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>

Initially, AFME anticipates that the early stage opportunities to start using DLT will be focused on areas where DLT is used to share and communicate data. Reporting in general and regulatory reporting specifically could become an area where DLT technology may provide major benefits.

Recent regulations include a large number of new reporting requirements, for which there is either inadequate or no current infrastructure.

Rather than building solutions on legacy technology, DLT based solutions offer added value. A single consolidated report would be beneficial, to avoid having to receive and consolidate reports from individual contributors. Regulators would have access to the records in real time. However, there are areas that would need to be addressed, such as access rights, privacy, scalability, and importantly, standards.

For the securities markets AFME sees DLT as a potential solution to:

- Settlement internalisation reporting;
- Settlement fails reporting, including causal analysis;



- In a further stage, DLT could be leveraged to optimise buy-in processing, identifying which trades are responsible for fails in a chain thus minimising the number of buy-ins.

AFME believes that if a regulator exists as a node within a DLT network, then there would be no need for dedicated feeds for regulatory reporting and the associated reconciliation problems would be eliminated: regulators would have access to the records in real time.

It is possible that one early implementation for DLT could be focused around a single shared record of trading activity that is used for reporting purposes, but not clearing and settlement purposes. This could prove the technology without exposing the market to resilience challenges whilst the technology matures.

<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>

AFME members are of the opinion that as long as the application guarantees that the regulatory requirements are fulfilled nothing would need to change as the DLT would be a technology optimisation project.

From a regulatory point of view, the respective authorities would have to build connections to the respective DLT in order to obtain the data for their purposes and recognise this delivery mechanism as sufficient.

<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>

AFME members believe that the use of DLT in-house reconciliation tools will also provide for a sensible use case. In doing so it could replace multiple trade booking engines within an asset class, or trade reporting engines.

It is also likely that DLT will be adopted to provide services such as securities issuance, proxy voting and some elements of tax.

DLT could also be extended relatively easily into the trade order capture and matching environment.

DLT may also act as a catalyst for Digital Identities, which could dramatically improve security and some aspects of compliance.

<ESMA_QUESTION_DLT_22>

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

<ESMA_QUESTION_DLT_23>

AFME does not see any regulatory impediment to DLT adoption. However, regulatory flexibility and engagement around the development of new business models could help to accelerate adoption and reap the most benefit.

AFME members believe that “nodes” in the DLT in multiple legal jurisdictions could raise issues in relation to conflict of law, clear enforcement of the Settlement Finality Directive and in some instances, place of settlement and where the record of title would be held.

AFME’s view is that DLT should be adopted under a permissioned network environment, in which case the regulator should play a role in establishing and enforcing a robust governance structure around the DLT network.



As new DLT-based business models are developed, it is possible that they may be incompatible with existing regulations that have been designed around existing business models. AFME would urge regulators to engage with the industry to help identify mechanisms through which regulatory intent is preserved, but also unlocks the benefits offered by DLT and new business models that it might support.

With regards to FinTech more broadly, policymakers have recognised this fact and begun to establish initiatives whereby firms can test innovative products that may not comply with current regulations.

Models for collaborative cooperation with regulators need to exist in the future. "Sandbox" concepts of relaxed regulation with closed oversight during the first stages of inception to ensure that huge investments currently being made by industry participants are used in the most efficient manner. |

<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>

AFME members believe that in the short-to-medium term such solutions are within the existing regulatory framework. Taking a longer-term view the regulatory framework may be subject to change if the technology develops a credible business case for change.

AFME believes that regulations should be technology-neutral: it is up to each entity to decide which technology to use (e.g. whether a firm wants to use Windows vs. Mac). AFME believes that it is not appropriate to regulate a "technology" (such as DLT): activities (conduct regulations) or outcome (such as trade reporting requirements) would be candidates for regulation.

That being said, there has to be some sort of regulatory framework for DLT to be adopted in securities markets, as without an appropriate regulatory framework, it would be challenging for regulated entities to use/adopt the new technologies/services.

What regulators should be encouraged to do, is to provide a broad framework for DLT to be applied in securities markets (e.g. clearing & settlement), if the DLT is going to provide "intermediary" like functions with multiple members using the service.

DLT could replace intermediaries, but would need to meet certain requirements, such as governance structure, risk assessment, access control, and data protection. Nonetheless, it should be highlighted that intermediaries have been fulfilling these functions for a long time, working closely with regulators and building an understanding, trust and credibility.

The PFMI (Principles for Financial Market Infrastructure) document prepared by CPMI/IOSCO provides an excellent basis, as this was prepared as a regulatory framework for intermediaries (such as CCP, CSD, Trade Repositories). Not all twenty-four principles may be relevant, but regulators could select those which are deemed relevant. They could ensure that the DLT governance body satisfies all relevant principles, and regulators (probably the home regulator) should be reviewing their "application".

Furthermore, regulators should take a strong focus on external data consistency and lineage as well as issues such as Disaster Recovery and the location of data based on local data privacy rules. AFME believes that the comment in paragraph 2.1.1 that DLTs are not maintained by a centralised entity may not be correct in every model. There are options that could deliver a central 'control node' and still use DLT technology.

AFME would like to caution ESMA against regulating the technology; rather adopt an agnostic approach to the technology and regulating the FMI. They should aim to regulate the activity within the FMI rather than



the technology. This will avoid unintended constraints on future technology innovation and ensure the regulation stays relevant as DLTs mature and evolve.

AFME members do not agree with the distinction in the DP of using blockchain purely for Bitcoin and DLT for other applications. The industry discusses blockchain for other applications (e.g. smart contracts). Current terminology is open to misinterpretation, and AFME members would like to see an industry initiative to standardise the terminology which is often used interchangeably causing confusion in the blockchain/DLT/smart contract space.

Finally, AFME cannot stress enough that it places great importance for global co-operation due to the global activity of FinTech and the need for global regulators to collaborate and agree an approach in order for the full benefits to be realised. As part of the broader Global Financial Markets Association (GFMA) including colleagues in Asia and the Americas, AFME is well placed to assist where appropriate.]

<ESMA_QUESTION_DLT_24>