



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 **German Banking Industry Committee (GBIC)** is the joint committee operated by the central associations of the German banking industry. These associations are the Association of German Banks (Bundesverband deutscher Banken, BdB), for the private commercial banks, the Bundesverband der Deutschen Volksbanken und Raiffeisenbanken (BVR), for the cooperative banks, the Bundesverband Öffentlicher Banken Deutschlands (VÖB), for the public banks, the Deutscher Sparkassen- und Giroverband (DSGV), for the savings banks finance group, and the Verband deutscher Pfandbriefbanken (vdp), for the Pfandbrief banks. Collectively, they represent approximately 1,700 banks.

GBIC warmly welcomes the opportunity to comment on ESMA's discussion paper ESMA/2016/773 (Discussion Paper). We appreciate ESMA's early assessment of the potential benefits, challenges, risks and regulatory implications of the DLT. Our current understanding and view of DL technologies with regard to securities markets (particularly post-trading) is as follows:

- Although mass adoption of the DLT would currently be premature, we see a potential for future application. The economic benefits of the technology, however, are still to be demonstrated.
- The technology may prove especially valuable in post-trading. Among other potential benefits, standardised information which is commonly used could be exchanged using the technology.
- In order to foster innovation in the EU, regulatory rules should be flexible and should not pose an impediment.
- Regulatory objectives will not be altered by the DLT but the organisation, the circumstances and the responsibilities of securities markets could be modified, which would, in turn, require adjustments to certain regulatory rules.
- Necessary changes to the rules should be seen in a global context and should be co-ordinated with non-EU regulators and global standard-setters.

Scope of this response

We agree with ESMA's view outlined in para 3 of the Discussion Paper that a permission-based DLT system is likely to be used in financial (securities) markets, the main reasons being scalability and the capacity to process large volumes as well as the opportunity for authorities to enhance the supervision of securities market participants and the possibility to ensure the application of safeguards for investors. We also agree with the focus on post-trading functions, as further outlined in paras 5 and 7 of the Discussion Paper. With this in mind, **we have considered services after a trade has been concluded** (execution of the transaction). Other sectors of the securities markets (e.g. issuance, trading) are therefore not analysed in this response. GBIC is of the opinion that the DLT is not suitable for pure trading activities (i.e. price discovery processes) and thus supports ESMA's approach of narrowing down its analysis to certain sectors of the securities markets for the purpose of the Discussion Paper. We believe, however, that the DLT will also trigger important developments and applications in other sectors of the securities markets and that the DLT will introduce significant innovation in these sectors too. We would also like to point out that the DLT is a global technology and not limited to securities or securities markets only. Nevertheless, it seems sensible to focus on a certain sector for an initial, preliminary analysis.

GBIC warmly welcomes ESMA's approach of seeking views on the impact on the applicable

EU regulatory framework. It may, however, also be necessary to take into account legal considerations of national jurisdictions, as the categorisation or legal nature of assets in a DL may raise questions under the applicable national (civil) law. This will, in consequence, lead to questions on how securities are transmitted and recorded onto the DLT, how they or ownership of securities can be legally transferred and how rights attached to securities can be executed, particularly in an international context. We assume that the actual application of the DLT will strongly depend on the legal determination of these questions. Such considerations need to be taken into account by policymakers and legislators from the outset. German market participants are just starting to discuss these topics. For the purpose of this response, we have therefore not yet developed a definitive position and would welcome further discussions with ESMA in the future.

Maturity of the technology

We understand the DLT can be considered as a smart way of boosting innovative solutions for multiple use cases in different business lines and as having the potential to open up new revenue streams and streamline processes. However, it is fair to mention that a mass adoption of this technology would be premature and that before embarking on production, we need to be sure that the DLTs of choice are bank-grade, scalable and able to resolve both privacy and security issues.

We are also in agreement that opportunities and potential risks have to be thoroughly analysed. However, we feel that the DLT will offer a number of benefits once vital prerequisites have been met. A proof of concept has to be demonstrated with use cases from everyday securities-related processes which will result in

- acceptance by market participants, clients and counterparties as well as regulatory authorities
- continuous control and reliability, stable and robust DLT systems and processes
- the establishment of the DLT as a trusted source for all participants/parties involved.

Impact on the banking industry

We believe that the DLT could have a considerable impact on existing banking industry infrastructures, the roles and functions of financial intermediaries, back-office-related securities processes, communication, interoperability and competition. Our members can imagine that the function of banks could be changed fundamentally, with banks being turned, for example, into gatekeepers of DLT-based systems and offering services related to matters such as data protection, cybersecurity or anti-money laundering (AML) compliance functions. This vision includes the possibility of banks offering consultancy services or acting as pure advisors on certain financial services (e.g. the issuance of securities using a DLT or processing corporate actions). Banks will hence not only operate as mere credit providers. There is also potential for banks to offer digital safe custody services, with the bank securing keys and tokens. Services could be provided to clients in the form of electronic wallets. This, however, would presuppose that the role of custodians does not change significantly as they could further act to consolidate wallets and operate the DLT on behalf of clients. The regulatory framework and its modifications and adaptations therefore need to be flexible in the same way.

GBIC believes that the development of DLT services would not prevent banks from continuing to offer services using legacy systems. With banks offering services in the DLT "world", the need for interoperability and different degrees of evolution from the "old" to the "new" will be crucial. EU regulation should keep abreast of the changes and be open to innovation.



In order to achieve this objective, flexibility is of essence. We believe that regulatory objectives will not be altered by the DLT but the organisation and the responsibilities of securities markets could be modified, which would, in turn, require adjustments to certain regulatory rules. If such adjustments are not made, the DLT evolution will take place in more innovative securities markets outside the EU.

We are convinced that the DLT will offer considerable opportunities along the entire value chain in securities markets. In consequence, front office and back office related processes and infrastructures will need adequate supervisory rules. As mentioned above, however, we have decided to narrow down our response and focus on the post-trading aspects of a DLT. Notwithstanding ESMA's statement in para 5 of the Discussion Paper that it will limit its work to the application of the DLT to securities markets and therefore exclude payment aspects of virtual currencies, our analysis includes thoughts about the possible use of cash funds in a DLT-based system in order to ensure that DvP securities settlement can be carried out using a DLT (please see our response to **Q8** under the heading "need to settle in central bank money"). When dealing with post-trading activities, our members are very interested in the development of DLT-compatible payment methods by the ECB and the members of the ESCB aimed at providing for DvP settlement in central bank money.

The main business lines where we see current applications for the DLT are international payments, global transaction banking (mainly cash management/cash pooling and supply chain finance) and also capital markets using smart contracting for derivatives and redesigning cash products. Last but not least, our members see compliance (authentication, credentials, AML/KYC) as a valuable example of DLT application in cross functions. From a more infrastructural angle, our members are interested in projects like cash on ledger for micropayments, settlement coins to eliminate cryptocurrency usage in different blockchains and smart payments applied to payrolls, etc.

We believe that enabling the DLT in securities markets also means that specific requirements should be adjusted in a more generic way (e.g. requirement for account/balance statements in written form to be opened up for electronic communication).

Engaging in discussions with the industry and harmonised global approach

GBIC is of the opinion that close coordination is required between regulators, technology providers and financial intermediaries in order to achieve a smooth transition to DLT-based processes without being hampered by premature regulatory action. A continuous discussion would be warmly welcomed. We have a vested interest in supporting and helping to continually enhance regulatory safeguards while in parallel creating a supervisory and legal framework and ancillary conditions that will enable all market participants to benefit from the DLT.

We would also like to emphasise that the DLT is not limited to selected securities markets like EU markets only. The DLT has to be seen in a global context. ESMA should therefore also consider close alignment with regulators of non-EU jurisdictions and global standard-setters such as CPMI-IOSCO.

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<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>

We basically agree with the possible benefits and different areas mentioned by ESMA.

However, a set of different DLTs for different products and with different definitions and standards would

- fragment the market and make it complex to adapt each bank's legacy systems to participate in the relevant market. The more DLTs, the more implementation costs will be incurred.
- Some of the benefits would be achievable if the efforts required were invested in existing infrastructures (harmonisation, standardisation).
- Even if DLTs covered a huge portion of post-trading activities, significant efforts would still be needed to maintain legacy systems (for a lower number of transactions), which would be likely to increase the costs of non-DLT transactions for clients. This would also mean that interoperability among DLTs and between legacy systems would have to be established and maintained for a significant period of time. We believe that this poses a great challenge alongside the benefits of the DLT (see also our response to Q8).

Overall we agree with all the benefits explained in section 3. We would like to highlight the importance for banks of clearing and settlement (section 3.1) and reporting and oversight (section 3.3). Another area we consider important is risk monitoring. The DLT would reduce the amount of collateral to be posted and limit capital consumption connected with settlement risk (as opposed to pre-settlement risk, please see below under 3.4 "counterparty risk"). Also, we see an important benefit in the possibility of the regulator accessing trading data directly. This could go hand in hand with eliminating reporting obligations for banks and other market participants and would thus lead to a massive reduction of costs for reporting and maintaining reporting systems. We agree with para 21 of the Discussion Paper regarding the necessity of relying on CCPs in derivatives trades due to the collateral and margins requested during the trade lifecycle. However, we believe that not only derivatives transactions but also securities financing transactions (SFTs) such as repos (including tri-party repos) and securities lending should have been mentioned.

We would also like to comment on the following items in more detail:

3.1 Clearing and settlement:

The speed of the network depends on how checks and balances would be realised in the DLT. It also depends on the kinds of transaction processed, the validation processes and the way in which risk models are implemented. A conservative risk assessment could slow down transactions as processes might be needed to link the digital and the real world. Faster processes could, on the other hand, increase the risks in markets.

Although we agree that the DLT could speed up the clearing and settlement of financial transactions, the more important benefit would be that reconciliation processes would be faster or even unnecessary, which would render the process more efficient. We believe that the most immediate benefit from the DLT in this context is the huge potential for clearing automation, which would dramatically reduce both operational costs and risks and eliminate the need for reconciliation.

The future speed of transactions would also depend on the terms determined by the parties to the trade (agreed settlement cycle, need for liquidity, etc.). We agree that certain processes in the settlement chain (e.g. dependencies on settlement batches, manual processing, reconciliation) could be eliminated by using the DLT and could therefore speed up transactions, particularly across borders. However, we doubt that this will necessarily lead to shortening settlement cycles to T+0 or even instant settlement as other factors remain that preclude this (please also see below under 3.4 and 3.8).

Many of our members doubt that trading, particularly the price discovery process, will take place (if at all) in the same DL as settlement.

3.2 Record of ownership and safekeeping of assets:

The ability to manage chains would allow the storage of ultimate beneficial ownership information through the chain and allow full tracking of the ownership of assets without the need for full account segregation. The DLT would thus achieve transparency and improve investor protection without the costs related to all the accounts normally kept in the chain. However, in jurisdictions where safekeeping of securities is dependent on a record in a bank account, legal changes may be necessary to enable ownership of securities to be recorded in a DLT (please also refer to our responses to Q18 and Q19).

GBIC totally agrees that the DLT would eliminate the need for reconciliation and would therefore simplify settlement and recordkeeping processes enormously.

Para 17: the issuance of securities is not a core post-trading aspect so we will not comment on it in detail. Fundamental changes in (national) law might be necessary, however.

3.3 Reporting and oversight:

“This could be beneficial to reporting officers, risk managers and regulators, provided the necessary safeguards are in place”: a reliable security and privacy system should be implemented. By posting information to a DLT and giving access to the regulator, trade repositories and reporting lines to trade repositories and regulators could become superfluous. This is particularly true of all information included in the DL and provided that the necessary data protection requirements are met.

GBIC believes that this is one of the most important benefits of the DLT. We therefore reject the conclusion drawn in para 111 of the Discussion Paper (“there would still be a need to have a trade repository”). This would only be the case for transactions on legacy systems (see also our response to Q21) and for information that the supervisory authority deemed necessary but which was not stored in the DL. Furthermore, we believe that the roles and functions of financial market infrastructures could be fundamentally changed by the DLT (like the roles and services of banks). This also includes services related to reporting. Trade repositories could adapt their services to DLT-based environments, too. We could imagine them specialising in formatting data for regulators, users and end investors rather than in collecting and storing data.

3.4 Counterparty risk:

Counterparty risk exists where the trading parties conclude a trade but settlement of the transaction occurs at a later date (pre-settlement risk). It describes the risk that a counterparty in a financial transaction will not deliver a security or cash as per the agreement and the variation risk regarding the value of such obligation over time. Counterparty risk would exist where the trading and settlement of a transaction did not take place in the same DL,

which would typically be the case when pricing was not determined bilaterally but on a trading venue. In cases where trading, clearing and settlement occurred at the same time – i.e. everything took place in the same DL – no counterparty risk would exist.

Furthermore, it should be borne in mind that trading and settlement can work on fundamentally asynchronous systems. If a participant did not possess the assets it agreed to deliver (trade), the DLT would not execute the transaction and the counterparty risk would shift not to the clearing phase, but to the completion phase of the transaction (settlement) even if real-time settlement or a very short settlement cycle had been agreed on (settlement risk). If the trading parties, however, agreed on a specific time period for settlement (settlement cycle), counterparty risk could be created. The DLT could

- enable trading parties to agree on very short settlement cycles or on instant settlement (spot transactions), thus limiting counterparty risk,
- eliminate certain impediments in the handling of settlements that exist in legacy systems, especially in a cross-border context.

However, these opportunities in the DLT will not necessarily lead to securities transactions actually taking place in a real time or to T+0 settlement as other factors exist which prevent T+0 settlement, like trust functions or depositary obligations (see also our examples below under 3.8).

We are hence of the opinion that the DLT may well reduce settlement risk, especially across borders in FX markets, by theoretically enabling a further shortening of the relevant settlement cycles. This would, however, require fundamental changes in the way markets work. We do not believe, by contrast, that the DLT is likely to significantly affect pre-settlement risk. Shortening settlement cycles would result in a need to ensure that funds and securities were available prior to trading and, in consequence, in the need for a liquid repo and securities lending market operating on the basis of an equally shortened cycle.

As mentioned above, pre-settlement risk is posed not only by derivatives transactions but also by securities financing transactions (SFTs) such as repos and securities lending. These should therefore also be mentioned in para 21.

3.5 Efficient collateral management:

We believe that while collateral management could be facilitated by the DLT, counterparty risk could not be fully eliminated. Whether or not counterparty risk can be removed will depend on the type of the transaction involved. However, where the DLT leads to shorter settlement cycles, the need for collateral will also be changed. We believe that a DLT environment would allow collateral postings to be tracked and the underlying beneficial owners to be known. We are therefore in agreement with para 24 of the Discussion Paper regarding the assumption that the DLT will enable collateral to be reused more frequently. We nevertheless expect that the current regulatory requirements will need to be adjusted.

3.6 Availability:

“continuous basis”: For a certain period of time, DLT systems would need to interoperate with external and legacy infrastructures, like T2S for securities settlement and RTGS systems for cash management.

However, continuous availability could be seen as a benefit in the long run.

3.7 Security and resilience:

GBIC agrees that the secure technology of the DLT is a benefit. Cybercrime will, however, always be a challenge which is not unique to the DLT. The target for cybercrime will probably be the weakest point in the chain – typically the end investor’s connection to the system. We would like to make ESMA aware that the last sentence in para 26 could be misunderstood. The DLT would not reduce the need for recovery plans as such (in the sense of recovery and resolution) but would reduce the need for business continuity or disaster plans.

3.8 Costs:

Markets first need to have sufficient comprehension of the technology to be able to estimate the implementation costs, which is not yet the case today. Second, cost efficiency should be analysed by post-trading market stakeholders to determine whether investing in DLT would more effective than upgrading the current system and, if appropriate, to identify one or more business segments where a high cost/benefit ratio could be achieved if IT legacy systems with technical and regulatory obsolescence were replaced.

We believe that an immediate to mid-term use of DLT is less likely in clearing and settlement cross-border flows in Europe due to the current T2S roll out and the significant investment this required. Additionally, we are not convinced at the moment that T+0 is a realistic objective since this would require a fundamental change in the way markets work (prefunding of cash and securities). It should be borne in mind that some markets, such as Russia and Saudi Arabia, have recently extended the settlement cycle from T+0 to T+2 due to market volatility and liquidity issues.

3.9 Other possible benefits:

The benefits described in para 28 do not refer to post-trading activities (pre-trade information, buyers’ and sellers’ interests). We therefore agree with the conclusion in the last sentence that this part of the cycle should not be the main focus of ESMA’s consultation.

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<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>

Yes, we see other potential benefits of the DLT for securities markets.

We believe the following potential benefits exist in the **post-trading** sector:

- Claims on DLT assets could be documented.
- Proxies could be applied to all processes, which could change their manual nature and the need to distribute and exchange information to and with a large number of underlying customers.
- Corporate actions could be enhanced likewise. Much of the information needed to process corporate actions could potentially be handled by smart contracts. These are most likely to be implemented in newly issued bonds and certain new share instruments.
- Asset servicing (e.g. coupon payments, covenants, dividend payments, administration) in general.
- Tax issues could be handled individually according to the actual holdings of the transparent end investor, etc.
- We estimate that many handling processes could be automated or simplified and the associated costs could be reduced significantly.

- No reconciliation would also mean no keeping of records and accounts – in fact, the DLT itself would be the record. Instead, a structured access to the DLT would need to be managed. As the DLT would render reporting to supervisory authorities superfluous, it would also render reporting to clients superfluous as they would have continuous access to their wallet.
- At the auditor level, the DLT could provide auditable data both for internal and external auditors and for regulators. At the client level, if banks coupled the DLT with data analytic procedures, the DLT could provide a hub of information for clients, who would have access to the entire lifecycle of the securities.
- Our members assume that the application of the DLT could reduce existing costs by some 70%.

Besides the benefits in the post-trading sector itself, we imagine that all electronic trading activities would benefit from the ability of the post-trading sector to apply the DLT but, as mentioned above, this is outside the scope of our response to this Discussion Paper.

Likewise, we could imagine new securities issuances and the creation of new products that are currently not traded due to significant financial engineering innovation costs as a result of the regulatory framework or limited to issuance by existing legacy infrastructure. We also see a potential for the further development of existing products like DRs, ETFs and other similar types. Moreover, securitised assets that are not considered as securities in the current regulatory environment, but could be made transparent, could become available in a DLT, e.g. syndicated loans or private equity. Applications for the management of investment funds are a further possibility.

Smart contracts could render benefits not only to derivatives transactions but also to cash products. Issuing “smart bonds” or “smart equities” could facilitate primary issuance processes, which are currently cumbersome and manual. They could also cover corporate actions throughout the product lifecycle. Smart contracts for corporate actions are, however, probably only sensible for newly issued bond types of securities. Terms and conditions for a bond could be recorded in a DLT so that all bondholders could interoperate with the bond and automatically refresh outstanding portfolios. Events such as convertibility and optionality could be actioned in the DLT and disseminated throughout the market.

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<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>

DLT solutions are not yet at a stage where they are usable in a full enterprise mode, but will develop over time and spread gradually across markets and instruments. As a general principle, the more processes are DLT-based, the more benefits will increase exponentially. In an ideal world the whole range of processes will have been transferred to DL technologies to achieve maximum benefits.

Technology benefits are cost sensitive. While it would be ideal to apply the DLT to all flows, an alternative would be its application to areas where costs are highest – issuance, safekeeping and records of ownership (including ownership transfer).

As mentioned above, GBIC is therefore focusing in its response to this Discussion Paper on post-trading aspects of the DLT. Covering too many developments in too many sectors would not lead to a serious analysis.

Even focusing on certain sectors of the security lifecycle such as the post-trading, GBIC can see issues that might affect the benefits of the DLT:

- Reconciliations would be needed between each interface (new vs legacy), which would generate costs and risk.
- The immutability of records needs to be ensured.
- Certain processes could be more isolated than others – e.g. collateral pools or proxy voting.

A step-by-step development from the legacy system to a DLT-based system is more likely to take place than a “big bang” scenario. GBIC is of the opinion that benefits will be affected by the fact that legacy systems will need to be kept in place for a considerable period of time. This could also lead to a situation in which new and legacy interfaces are operated not only in parallel but interchangeably. Products in the legacy system could be sold and transferred to customers in the new system and back again into the legacy system. Furthermore, issuers might decide to issue products only in the legacy system, only in the new system, or in both.

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 short-sighted way. This might be acceptable if it is only a transitory stage in a wider roll-out plan. Use cases therefore need to be fully demonstrated and piecemeal adoption considered very carefully to avoid fruitless change.

An iterative, step-by-step application of the DLT requires the commitment of all parties involved to a common project and also a period of transition with the management of two parallel systems and pilot institutions and clients.

Moreover, the application of the DLT will involve substantial investment in IT infrastructure, the gathering of new skills and the development of an innovative service. The ability to invest will depend on the investment cycles of each institution: the DLT could be really useful in replacing obsolete technologies and harmful to new systems that have recently been launched. The post-trading market is likely to contain one or more business segments where a high cost/benefit ratio could be achieved if IT legacy systems with technical and regulatory obsolescence were replaced.

It should also be noted that, if the technology is adopted inconsistently, it is possible that the total cost of running the financial markets will increase while intermediaries operate both future and legacy infrastructures. Furthermore, the realisation of benefits will depend on the number of organisations adopting the technology and on how the new technology interoperates with the old. We take the view that the new technology will be less expensive to deploy if consistent standards are adopted in terms of data and messaging in order to avoid inconsistent proprietary applications of the technology. An organisation operating only in certain parts of the end-to-end chain would lose the benefits of the technology should the other parts of the chain not operate consistently.

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<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 offers great potential for post-trading related (back office) processes. In our opinion, the following may be impacted due to existing technology limitations and depending on the regulatory framework and environment.

Post-trading processes

Although we feel that all end-to-end processes in a security lifecycle could be processed using the DLT and could therefore benefit from DLT applications, we currently see most the important effects and activities in post-trading processes, particularly settlement, clearing and collateral management, as well as custody services. These processes, however, are likely to affect processes in issuing, orders, clearing and settlement and rights attached to securities (income payments and corporate actions including proxy voting).

Furthermore, our members would like to improve client identification storage, building a DLT for "know your customer" (KYC) procedures regarding digital identity issues. Automation could lower costs and minimise redundancy.

Types of assets

We expect that in the early phase of DLT adoption, unregulated niche products are the most likely types of asset the DLT will be applied to. Later on, to achieve maximum benefit and depending on the regulatory framework and environment, experience with the DLT will be transferred to larger market segments (plain vanilla).

Our members are of the opinion that the following securities could be impacted most: fixed income, equities, and ETDs; possibly also OTC products in the first stage due to the value added and the benefits of applying DLTs to them. Issuance may be another key function, but likely to happen in a second wave.

Settlement cycle

The DLT could act as catalyst for reducing securities settlement cycles. It should, however, be borne in mind that a reduction of settlement cycles would require a fundamental change in the way markets work (prefunding of cash and securities). Markets with very short settlement cycles (e.g. Russia and Saudi Arabia) have actually extended their cycles to T+2 (as mentioned above in our response to Q1, item 3.8). GBIC believes that certain impediments to cross-border settlement can be avoided in the DLT, thus leading to more smoothly functioning settlement. We doubt, however, that this will lead to a significant reduction in settlement cycles.

Agreed consensus

The agreed consensus of the DLT could support the rules set out by the SFD.

In a DLT-based environment, a buyer would need to have the necessary cash available and the seller would have to show proof of the complete amount of securities for the trade at the moment the transaction is executed. Only if these substantial preconditions were definitely met would the transaction actually be executed. Settlement would be irrevocable and thus final.

Settlement finality

The DLT governance of a permissioned ledger will have to support the rules set out under the SFD in order to obtain settlement finality. Settlement fails, cancellations and amendments to a settlement instruction should ultimately be reduced. It is questionable, however, whether the DLT itself is a securities settlement system which should only be operated by a CSD. As the DLT works in a fundamentally different way to the legacy securities settlement system (SSS) – a distributed ledger vs central (CSD) ledger – a different regulatory approach seems feasible (please also see our response to Q17).

Modification of market operations

Under existing regulation, the industry may not move towards heavily regulated products that require intermediaries (even if it would be beneficial) and could first select lightly or non-regulated products (i.e. products not considered as securities, like syndicated loans, crowdfunding, etc.).

Assuming support from regulators, asset creation, asset servicing, safekeeping, custody services and tri-party collateral services could be improved. This would result in market disintermediation and new market entries that would lead to services being built on top of newly delivered infrastructure.

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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 feel that post-trading processes will not be implemented in a big bang scenario but are likely to evolve in a phased approach (probably by defined/restricted asset classes, products, details).

In our view, three basic scenarios of post-trading activities in securities markets need to be considered. These are likely to evolve in a phased approach which means that the timeframes described below should be added together:

A. Securities instruments/products will be issued, offered, traded, cleared and settled solely in a DLT landscape, starting at a defined date in the future.

Prerequisites/working assumptions:

- Permissioned DLT
- Unregulated/niche products likely to be adopted by the DLT first
- Post-trading processes (clearing and settlement) are executed/settled by a defined group of DLT subscribers/participants. Later, issuance and pre-trade could follow.
- Instruments/products have to be defined (most likely starting with non-complex products. Some members believe, however, that non-cleared EMIR derivatives could be DLT products in the first stage (i.e. cross-currency swaps and non-eligible exotic products depending on regulatory evolution). Cash products could be in second stage.

Estimated timeframe for a technical solution: 1-2 years (2-5 years for internal bank-specific solutions could be added).

In consequence, only DLT subscribers/users will have access to (and potential benefits from) such a scenario.



B. Opening up to other products and/or groups of DLT participants

Estimated timeframe for a technical solution: 3-5 years (5-10 years for national implementation or specific cross-border activities).

C. Existing securities/instruments/products are transferred to the DLT

We understand that several technical possibilities exist to transfer existing instruments to the DLT (e.g. tokenisation of already issued securities). Irrespective of the technical ability to transfer legacy securities to the DLT, legal and regulatory changes are necessary.

Estimated timeframe for a technical solution (provided legally permissible): 5-10 years (10-15 years for cross-border implementation of current processes).

Interoperable systems

Moreover, GBIC believes that DLT and legacy systems need to exist in parallel for the next 20 to 30 years.

Due to the expected gradual adoption of DLT solutions in contrast to a “big-bang” approach we believe that for a significant period, market participants would have to employ parallel operating environments combining the “old” with the “new” world. This step-by-step development could take 20 to 30 years, also depending on the acceptance of investors. It seems possible that certain instruments world could cease to exist in the legacy and will only be available in the new world.

The financial industry is, as already mentioned however, at an early stage in the DLT adoption process.

The implementation of the DLT requires substantial investment in IT infrastructure, the availability of new skills and the development of innovative services. The ability to invest will depend on the investment cycles of each institution and the innovation-friendliness of legislators and regulators.

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<ESMA_QUESTION_DLT_5>

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

<ESMA_QUESTION_DLT_6>

ESMA describes the variety of benefits in a final stage.

Potential benefits will depend on the DLT applied (permissionless vs permissioned, type of users, governance framework), the type of products and services, as well as the number of users (and end investors).

A permissioned DLT will probably offer a chance to speed up existing settlement processes and will reduce corresponding operational costs.

There would be many benefits for our members, as mentioned in our responses to previous questions. The most important are:

- post-trade process streamlining/processes automation
- fewer costs, reporting obligations and redundancies
- improved products and services for clients
- improved transparency for clients and regulators
- new business and revenue opportunities

- reduction in the margin period of risk and, potentially, margin requirements if settlement cycles are shortened
- fewer silos between technology and business
- gradual replacement of old technology (in the meantime, different systems will co-exist and require maintenance as well as interfaces to ensure consistency).

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<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>

Our members are still carrying out early analysis. Therefore, and for competition reasons, they are reluctant to share information about their applications in public. Generally speaking, a start is likely to be made with niche products of the securities markets. Direct benefits are not expected from this, but rather gains in terms of experience and the conduct of feasibility studies.

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<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>

GBIC largely agrees with ESMA's analysis.

We believe that some of the described challenges are more important than others.

- It is true that technical challenges exist and are an important hurdle that needs to be overcome before the DLT can be applied widely. However, GBIC is of the opinion that technical problems will find technical solutions. As soon as solutions are found and proven to be reliable, technological issues will cease to be a challenge. Banks are currently working on eliminating such challenges.
- GBIC believes that other challenges are different as they cannot be resolved by a single bank: the governance framework of a DLT, for instance, is a core issue. It needs to be clearly defined who can take part in the ledger, who has reading rights, who has rights to verify transactions, who is responsible for the access of new participants, who is responsible for error management, software and programming maintenance, voting, liability and many more issues. A question yet to be resolved is how several DLTs can be combined with each other (e.g. per ISIN).
- A huge challenge will be the transition from the legacy to the DLT systems.
- Some other issues need to be resolved with the involvement of players other than banks like, for instance, the possibility of making central bank money payments in a DLT.

We would also like to comment on the following items in more detail:

4.1 Technological issues:

Scalability issues

DLT scalability issues are normally related to the DLT's ability to process huge volumes of trades in a certain time period (transactions per second). Indeed there is currently no DLT-production-like system that processes large trade volumes. The ability to process huge volumes depends on the design of the DL (e.g. permissioned vs permissionless) rather than on

technological limitations. As things stand, there are certain solutions on the market that allow large volumes to be processed – take, for instance, HyperLedger, BigchainDB, SETL, etc. Scalability is also, we believe, an argument in favour of a permissioned DLT approach rather than a permissionless ledger.

Interoperability issues

Our opinion is very similar to ESMA's. We would like to point out that in some cases intermediaries can step up and drive DLT adoption as well as interoperability standards. We nevertheless deem this issue one of the most challenging. A situation should be avoided where several layers of technologies need to be kept working in parallel (except for a transitional period). Otherwise, efficiency benefits could be lost. Our members believe that this transitional period could – depending on the acceptance of investors – last for quite a considerable time.

Need to settle in central bank money

We agree that a number of technical and legal issues are raised by this topic but we are very confident that they can be resolved. In order to settle central bank money, the ECB and the central banks will have to work on a solution for central bank money payments in a DLT. To our knowledge, the ECB is about to set up a dedicated DLT task force, which should also cover the issue of central bank money.

Our members are of the opinion that payments for securities settlements are generally also possible in commercial bank money (like with ICSDs). Several solutions therefore seem possible:

- a) A national central bank issues central bank money in a DLT.
- b) A bank allocates certain funds for DLT payments in its account with the national central bank, tokenises them and transfers such claims into the DLT environment.
- c) Third parties use such claims in a DLT environment for payments.
- d) ICSD commercial bank money in a DLT environment.

There may be certain scenarios and legal frameworks where central bank money is not settled. If no central bank money is available in the DLT from the central bank, banks could facilitate DLT payments in the form of credits to their customers. In order to enable innovation and to avoid the development of fiat currencies in other (third country) markets for the purpose of DLT payments, EU regulators should support practicable solutions along the lines of a) to d) above.

We believe it should be possible to avoid virtual currencies, subject to further analysis and evidence.

Recourse mechanism

The DLT can be viewed as similar to other applications – business flows should be considered in detail before automated smart contracts are created. While a recourse mechanism is required, it should be borne in mind that a significant number of activities (e.g. trading) can take place off ledger. Consequently, this question is more related to how DLT delivery reflects the real world (with all the legal implications) rather than automated instances of small programs.

A correction will most likely not take the form of a cancellation of the DLT transaction as it is immutable. The correction of a record could be carried out off ledger by mutual agreement of

the affected parties. They would initiate a counter-transaction in order to correct the flawed record.

It will, however, be important what the governance framework of the DLT provides for. Questions need to be addressed such as how programming in a DL/an algorithm can be changed retrospectively across all participants (e.g. by counter-transaction), will there be a liable entity, etc. The questions ESMA raises in para 33 of the Discussion Paper would have to be addressed in the governance framework of the DLT.

Position netting

In our opinion, this can be resolved via services provided within the DL. Consequently, there will be nothing to stop parties from netting like existing providers do today. We believe, however, that SFTs should also be mentioned in para 34 of the Discussion Paper.

Margin finance and short selling

DLT solutions exist that allow the execution of smart contracts for both margin finance and short selling. As long as the settlement cycle is not too short, margin finance should not be a problem in our view.

4.2 Governance framework and privacy issues

Governance framework

We agree with ESMA's position. The rules for a permissioned ledger, the access to it, the interaction of its participants and the management of the ledger and its rules are a key challenge, in GBIC's opinion.

Privacy issues

In our opinion, privacy is one of the key points that is holding back wider adoption of the DLT. There are multiple ways of addressing the privacy issue:

- Encryption
- Restrictions on access to certain information
- Anonymization

In our view, the first two have the best prospects of being adopted in the financial industry.

4.3 Regulatory and legal issues

Legal issues

In order to enable technical innovation in the EU it is vitally important that EU legislators and regulators take a flexible approach regarding the DLT. We agree that the objectives and safeguards of the existing regulatory framework need to be maintained and should be taken into account when further developing the DLT. GBIC is, however, convinced that changes to the current legislation may be necessary to avoid limitations on the technology's deployment simply because the wording of the law does not reflect the new technical terms and opportunities.

It should be kept in mind that technical changes with the benefits described in the Discussion Paper and above should be supported and not hindered by outdated legal or regulatory provisions. Otherwise, we clearly see the danger of innovation migrating to markets outside the EU. Proportionate regulation is key in our view. Usage of the DLT does not change this.



Until the necessary legal changes are made, supervisory authorities need to interpret the existing law in the light of technical progress.

Countries which adopt the DLT first could gain a competitive advantage in our view. While there are many open questions with regard to civil law and regulation, most of them can be addressed by regulators in cooperation with the industry as the technology itself will not necessarily change the objectives of regulation. It should also be taken into account that legacy systems will most probably co-exist with DLT systems for quite a long period of time. Prudent regulation will set objectives without giving a preference to a certain technological system.

In any case, we believe that the DL technology is a global issue, which should be treated by regulators in a global context. The DLT is not limited to EU markets and therefore needs to be addressed by EU regulators, regulators in non-EU jurisdictions and global standard-setters alike. Close cooperation and alignment would be of great help.

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<ESMA_QUESTION_DLT_8>

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

<ESMA_QUESTION_DLT_9>

GBIC believes that the evolution from legacy systems to DLT-based systems (including interoperable systems) will pose a significant challenge. It will certainly have a big impact on the banks' role and function as well as their services. Furthermore, the DLT will have considerable impact on securities/financial instruments/products and on custody chains and financial market infrastructures.

Position of intermediaries

In our opinion, the DL could replace multiple intermediaries. Consequently, implementation in some areas may be more difficult than in others as it is likely some intermediaries will view the technology as a threat.

Many protocols

Lots of different standards, protocols and even languages may complicate DLT adoption; for this reason, interoperability and cooperation are of the utmost importance. Uneven or uncoordinated adoption of the DLT could impede mass adoption, without which all the DLT's benefits will fall short of expectations.

Another challenge is relevant to DLT implementation: cooperation between market players. This includes, among other issues, the definition of a common project and infrastructure, the identification of shared objectives, the hierarchy of governance infrastructures, definite business models and the implementation of common standards.

Regulatory risk

After a careful assessment by regulators, DLT implementation will need regulatory backing. Otherwise, all these initiatives may end up being distorted and/or incomplete and the system will not be able to benefit from them. Operations through the DLT have to be legally enforceable.



Another question might be whether the DLT is considered to have certain functions under MiFID or other European regulation. Please see also our reply to Q21.

Data privacy and retention rules

Regulatory rules on the retention of digital data and, in particular, the privacy of digital data could pose a considerable challenge for ledgers which are built on digitally stored data if an obligation existed to delete such data – for example after a certain period of time. The DLT is based upon blocks of transactions stored in a chain and is thus fully dependent on the ledger containing the complete set of all transaction data. An obligation to delete certain data would destroy the concept of the DL. A similar challenge exists regarding the different rules on retention timeframes in different jurisdictions. On the other hand, we would also like to mention that once digital data is stored in a DL, it will not be mutable or even deletable, which could create another challenge to the acceptance of the technology by ultimate beneficial owners.

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<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>

We welcome the current industry initiatives to analyse the potential of the DLT.

We feel that ESMA should set the regulatory framework and interpret existing legislation in such a way that DL technologies can be used reliably and prudently.

There are multiple challenges and potential solutions:

- Technical challenges (scalability, privacy) are likely to be resolved by the industry.
- Governance challenges are more dependent on industry bodies, consortiums and emerging platforms that will regulate who can join them, what the legal framework around it will be, whether smart contracts can be enforced, etc.
- Regulatory and intermediaries' challenges are highly dependent on market authorities' understanding of the DLT, participation in the development of new standards and recognition of the changing nature of the regulators' role – within DLs, regulators may not just supervise, but actively define rules and market practices.

Our members' running projects are dealing with the challenges mentioned in the Discussion Paper. Banks, through their relationships and partnerships with blockchain companies, are working on all of these challenges from different angles. Depending on the protocol to be used, the potential solutions vary widely. It is currently too early to outline concrete solutions to the challenges discussed.

Depending on the business case, the cooperation is needed of all parties concerned across different groups (including regulators) particularly, due to the required network effect, for wholesale adoption. Furthermore, there will be a need for standards enabling different DLTs to work together. From a settlement perspective, a T+0 settlement cycle might be considered unworkable without a very liquid repo market available alongside.

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<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>

Basically all important risk classes are covered.

We believe that

- the maturity and quality of the DLT's software codes
- the secure access of end investors to the system and
- the coordinated development of the DLT in securities markets

are most important.

GBIC believes that a multi-speed target architecture in securities markets lacking coordination among (main) market players, regulators and policy-makers could be a dangerous but not necessarily unlikely scenario containing risks outweighing the opportunities.

Furthermore, we would like to comment on the chapters as follows:

5.1 Cyber risk, fraud and money laundering

While ESMA's points are certainly relevant, we would like to highlight the fact that existing applications have most of those risk points as well. Consequently, these may not be relevant to the specific DL, but to general network security, operational practices, etc. We assume that permissioned ledgers are used across authorised financial institutions. Therefore, we do not see the risk in the DL technology itself but in the vulnerability of clients' (or end investors') access to the system. Furthermore, depending on the nature of the DLT (private or public), the potential operational risks deriving from sophisticated cyber-attacks need to be distinguished. In private ledgers a single point of failure could, if attacked, result in significant losses. Cyber-attacks which are supported by certain states could also pose a risk. It should therefore be considered in the governance framework that not a single person or state can control the network or system.

5.2 Operational risks

The use of smart contracts could result in unforeseen legal consequences as a result of inadequate programming (as recently seen in the Decentralised Autonomous Organisation [DAO]). The point raised is very similar to discussions on flow automation in general. It should be consistent with legal framework and provide mechanisms for stopping smart contracts from execution. While the point is relevant, it should be considered for implementation and testing. Please note that many existing processes are almost automated and individuals can only deal with exceptions (e. g. payments processing).

5.3 Market volatility, interconnectedness and new pockets of risks

The herding scenario described by ESMA is, in our view, unlikely to occur with the application of privacy rules in the governance framework. While such scenarios would only be trade-related, the DLT provides opportunities to quickly and transparently identify those scenarios and allow regulators to react and enforce certain rules. Consequently, in our opinion this is more related to regulators' role and the question of whether regulators should more actively participate in contingency scenarios resolution within DLTs. In contrast, one can argue that the financial crisis in 2008 happened due to the lack of transparency surrounding traded positions that impacted trading activity and liquidity.

As the DLT will bring absolute transparency and more certainty, certain events that could encourage market volatility will be reflected in the DL. In other words, the impact of market

rumours, which can be difficult to control, can be lessened using the DLT. Volatility can turn into a more fact-based market variable. Also, information that causes volatility will be traceable, which makes the whole financial system more controllable and accountable.

5.4 Fair competition and orderly markets

In our opinion, ESMA assumes certain DL framework / visibility across DL participants. Practical engineering solutions may prevent any disclosure of positions across non-traded parties. Consequently, it may be impossible to leverage DL membership to extract information useful for trading.

DLT network that prevents new participants from joining could happen in practice, but it is inherent to all industry innovation, not only to DLTs. Our recommendation is that regulators impose interoperability requirements across DLs. In this case, DL membership restriction can be mitigated.

It should be taken into account, however, that this situation is the case in many markets today – without being a problem: in order to gain access to a certain market segment like, for instance, XETRA, market participants need to find a “member participant” with direct access to the system. Certain rules or framework parameters that exist for trading on trading venues or clearing in CCPs will also be established for settlement in a DL. Regarding fair competition and orderly markets, we believe that the advantages of the DLT (including transparent governance) outweigh the risks.

Furthermore, the success of the DLT is going to be linked to massive usage, meaning that market participants are interested in major usage of the DLT. We therefore expect them to promote the technology and grant wide access to clients and counterparties.

We also do not agree with the statement in para 55, (“exploit the information on recent trades to front-run them or manipulate the market”). As the success of the DLT also depends on the level of trust that users have in this technology, a permissionless set-up would be unlikely to sufficiently address this issue. In a permissioned network, public/private keys secure the confidentiality of data of other participants. Besides, we would like to point out that front-running and market manipulation are not the focus of our analysis (post-trading). The same applies to ESMA’s other non-post-trading-related remarks in paras 48, 51 and 52.

5.5 Other risks

GBIC agrees with the issues regarding interconnectedness and the running of parallel systems.

We do not, however, agree that the DLT would add layers of complexity to supervision due to encryption technologies. Information in financial markets is highly protected, as markets rely on trust and information asymmetry. A highly protective governance framework needs to be established while the technology is developed. However, the gathering of or access to relevant information for risk management or oversight purposes should be improved through the use of DLTs. We see the challenge for supervisory work not so much in getting the information but in evaluating it, drawing the right conclusions and taking the necessary action.

GBIC is of the opinion that DLT participants will be different from supervisory authorities, with different levels of access to information, as participants will not be entitled to view the transactions of other participants in a competitive environment. It should be ensured that the accessible data correlates with the type of users: banks should only be able to see their own and their clients’ data, while supervisory authorities should be able to see all the data.



This condition is one of the prerequisites for (permissioned) DL implementation in securities markets.

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<ESMA_QUESTION_DLT_11>

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

<ESMA_QUESTION_DLT_12>

We would like to mention the following additional potential risks:

- Run on IT/DLT experts. Especially if financial market infrastructures or other SIFIs lose key members of staff, they could see a lot of irreplaceable knowledge walking away.
- The need for flawless programming of DLT-based systems and smart contracts. This does not mean that our members are in doubt about the technology itself but that challenges exist in terms of a timely and prudent process when establishing DLT-based products.
- In connection with the immutable nature of the DLT record, correction mechanisms and processes need to be invented. If not included in DLT governance, contractual agreements appear necessary. These could include risks regarding cross-border application, liabilities, conflict of laws, etc.

Some other potential risks may emerge during the project lifecycles.

The risk of technology misalignment and different DLT interpretation and understanding by the different market participants is being offset by industry consortia (e.g. R3CEV, PTDL, Z/Yen, Fix Trading organisation blockchain working group.)

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<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>

Addressing the risks from a supervisory perspective is, in our view, a global matter. It should therefore be addressed by international standard-setters (G20 – FSB). It is important that no dependencies on single states or certain quotas occur.

Cyber risk

Cyber risk could be addressed by building bank-grade tested DLTs using permissioned ledgers.

The risks can be addressed if the DLT systems are designed to include a bulletproof cybersecurity infrastructure and hierarchised governance between stakeholders, reflecting the legacy structuration of securities markets.

ESMA says that the technology itself is considered secure and has not been hacked to date. In fact, the main issue with regard to the security of the technology stems from the actual user. Moreover, in a permissioned system participants would probably only see what they are allowed to see, with a regulator holding a master key.

A key to a functioning DLT system would be the limited participation and the subsequent identification (KYC) process for those part of the system. This helps create a level of confidence and trust that no fraudulent transactions are being executed.



The success of a DLT system also largely depends on the acceptance of a wider market; imposing significant conditions would not help increase the level of trust. However, a permissioned system needs to create transparent access requirements but, at the same time, sufficiently high requirements to deter parties with improper intentions.

Operational risk

Operational risk could be addressed by establishing a control body for testing and verifying smart contracts. Banks will need new staff profiles in this regard (combination of lawyers that understand and write software codes).

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<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>

As already mentioned in the introduction, GBIC warmly welcomes ESMA's approach in seeking views on the impact of the applicable EU regulatory framework and sees the need to also take into account legal considerations of national jurisdictions. The categorisation or legal nature of assets in a DL may be questionable under the applicable national (civil) law. We assume that the actual application of the DLT will heavily depend on the legal standpoint on these questions. In our opinion, there are therefore multiple scenarios as to how the DLT can be used for OTC / exchange derivatives clearing and other types of assets, as the DLT is still under development:

Our members could imagine the use of the DLT being possible for all of the scenarios above. It could be especially useful to automate manual processes, but since no focusing has yet taken place, we believe that anything is conceivable. It should also be borne in mind that the market will eventually determine which scenarios are beneficial.

Cleared – CCPs taking on the DLT:

- CCPs can start using the DLT to streamline their collateral management, while allowing participants to maintain ownership across their assets and quickly free them up.
- CCPs can use the DLT for collateral locking whenever parties exceed their risk tolerance limits, but would like their trades to be cleared rather than rejected.

Cleared – regulators agree with the DLT taking on CCP functions:

A DL will support all CCP functions – margin framework, risk calculations, default fund / default waterfall management.

OTC derivatives – simple scenario.

Participants can use the DLT for collateral management automation and counterparty risk reduction.

OTC derivatives – complex scenario.

It is likely that the market can create a CCP-like solution for non-mandatory cleared derivatives where participants can introduce a shared default fund (assuming agreement from regulators) and receive benefits from trade netting across multiple parties.

In scenario 3 'Clearing of transactions of other types of assets', MiFID securities, stock lending, repos, and collateral could be prime areas for the use of the DLT.

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<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>

We believe that, first of all, each single DLT has to be reviewed carefully by a potential participant with regard to governance, security, compliance including operational aspects, as the participants themselves are responsible for compliance and still remain responsible if a DLT is going to provide such services for them.

Cleared derivatives:

- **Cleared – CCPs taking on the DLT.** No changes to existing framework (from CCP perspective).

Derivatives would need to be issued on the ledger. However, a DL is used as an automation tool.

- **Cleared – regulators agree with the DLT taking on CCP functions.** Regulators would need to adjust the framework, recognising that certain intermediaries are no longer required if the industry can demonstrate a similar level of safety via DL application.

OTC derivatives

- **OTC derivatives – simple scenario.** It is expected that participants will push their trades to a DL and will perform reconciliations accordingly before accepting the trades for collateral margining.

- **OTC derivatives – complex scenario.** This is very similar to the previous scenario – regulators would need to recognise shared default fund applicability and allow parties to reduce initial margin requirements / margin period of risk taking into account offsetting collateral in a default fund.

We believe that ensuring regulatory compliance can notably be achieved by treating the DLT as a pure technology-based platform replacement project. If the idea is removed that the DLT can redefine everything in phase 1 but reap operating efficiencies, there would be minimal perceived challenge to the regulatory status quo. However, it depends on the actual way the DLT will be used, so that regulatory changes could still be necessary.

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<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>

As mentioned in the introduction, GBIC warmly welcomes ESMA's approach in seeking views on the impact of the applicable EU regulatory framework and sees the need to also take into account legal considerations of national jurisdictions. The categorisation or legal nature of assets in a DL, for instance, may be questionable under the applicable national (civil) laws. This will, in consequence, lead to questions about how securities are transmitted and recorded onto the DLT, how securities or ownership of securities can be legally transferred and how rights attached to securities can be exercised, particularly in an international context. We assume that the actual application of the DLT will heavily depend on the legal standpoint on these questions.

GBIC therefore believes that the DLT can generally be used for all of the scenarios and even for scenarios which are not described in the discussion paper. If the securities issuance processes basically remain the same as today (e.g. only tokenisation of securities for the DL), the DL users will either be CSDs or banks as settlement internalisers. In terms of today's

definitions, scenarios 1.1, 1.2 and 2 all seem possible. Scenario 1.2 (acting as a settlement internaliser) is probable as one of the more likely solutions. This would be the development of a DL as a transaction management system interfacing with CSDs. It follows that settlement internalisation would be part of such a system.

It also seems possible for the DLT to operate as an SSS among the participants in the DL but not, however, to be designated as an SSS in the sense of Article 2 (2), indent 3 of the SFD. This would seem quite probable for instruments which are not settled on designated SSSs as of today. The SSS would be operated by all DL participants which are usually not CSDs.

Furthermore, the DL could also be regarded as a pure technical platform, so that it would not fall under the definition of an SSS.

Additionally, other forms of issuance are conceivable, leading to other concepts of or terminologies for "securities". This, in turn, may result in scenarios where the DL will not be defined as an SSS and thus neither the SFD nor the CSDR would be applicable.

We therefore see the risk that an overly strict construction or overly narrow interpretation of the CSDR or SFD rules could result in the technology drifting towards more liberal and innovative markets. As long as no adaptation of the regulatory requirements has taken place, ESMA should consider interpreting the existing rules in a way that allows the DLT to develop. Such interpretation of the rules should not banish or scare away the possibilities of the DLT regarding settlement activities. This would mean that the objectives remain the same (e.g. the moments of finality must be defined in the DL governance like in an SSS under the SFD). However, it could be possible that the application of the DLT modifies the market setting and processes in such a fundamental way that the foundation for certain rules is not suitable any longer although the wording of the rules still seems to be applicable. An SSS is, *inter alia*, an arrangement between three or more participants, excluding the system operator of that system. A DL appears to fit into this structure. Nowadays, the system operator of the SSS operates a central system and keeps a centralised ledger of the securities. This would be entirely different under the DLT. CSDs ensure centralisation of safekeeping of securities, but if the DLT is adopted by markets, it would allow financial institutions to manage trustful ledgers independently of CSDs. Moreover, the DLT is a record that is complementary to account management provided by financial institutions.

The DLT is a technology still under development which could result in a different functionality of securities settlement and of the current market players. Therefore, some of the CSDR or SFD definitions could be outdated/inappropriate in the future.

It could, furthermore, be the case that products settled in a DLT are not considered to be securities settled in an SSS, so that they would be out of the scope of the CSDR or the SFD. However, other regulations could prevent (certain) investors (e.g. UCITS, see Article 50 of UCITS 2009/65/EC) from utilising such DLT because they are required to invest in products settled in an SSS, which may cause further problems.

In any case, existing rules should not result in a general prohibition of the new technology or monopolisation of operators without any good reason.

Moreover, we would like to highlight that the Australian market has embarked on a project to introduce the DLT as part of its securities market revision. While more details are yet to be made available, it is understood that the technology is to be used to cover trading, clearing and settlement processes going forward.

From a long-term perspective, a T2S replacement by a DLT platform could be considered. In this context, the DLT would most likely serve as a technical platform but not as an SSS. The same is true for the T2S platform itself today, which is generally accepted to be a technical solution rather than an SSS, whereby each participating CSD operates the respective SSS.

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<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>

With regard to securities settlement, the CSDR has set the framework for European activity. As a result, securities settlement using new technologies will have to comply with these requirements. This does not mean, however, that new technologies cannot change the current set-up of market players and consequently the way settlement works today. In a centralised world, the CSD is needed as the top-tier record-keeper and operator of an SSS. Therefore, it is reasonable that a designated SSS should be operated by a CSD.

If new technologies change the settlement process in a fundamental way, considering changes to the legal framework might be justified. The objective of Article 18 of the CSDR and the SFD is to ensure that the operator of a centralised system which is designated to be the central system for all settlement and where settlement finality needs to be determined should be one specific financial market infrastructure. If, however, settlement can take place in a decentralised environment in future where the system could be operated by more than only one entity, the potential operator may also be different from a CSD.

Any law is supposed to set a framework for certain given circumstances. If fundamental changes occur to the circumstances, regulators should be justified in applying the rules taking into account such changes and assessing whether the modified circumstances still correspond to the cases which the law was originally designed for. It might be necessary to interpret the rules in a way that the DLT, for instance, can be applied under that regime (respecting the same legal objectives).

Conceivably nothing would need to change if the DLT could be considered a platform replacement project and all legal provisions (e.g. in Germany) stayed the same.

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<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, this is very likely. As ESMA states in para 101, there is no harmonised definition of safekeeping and record-keeping and two levels are being looked at in scenarios 1 and 2. We believe that, irrespective of a concrete definition of the terms "safekeeping" and "record-keeping", such services or obligations comprise the custody of the securities, bookkeeping and reporting for the client at each level in the chain.

We believe it is possible that within a DLT-supported environment the services could be replaced and performed by the DL, as the DL offers the possibility to serve as "the record". As a consequence, it would be necessary to develop applications which are able to extract all the information needed on the securities and to create an account or wallet similar to the accounts known today or to reconcile own accounts with the DL.

Significant barriers are in place that would prevent such services being provided without adding additional complexity and cost to existing arrangements like, for example, the CSDR requirement that issues should be held in a regulated central securities depository. The CSD holds accounts at top-tier level and operates a (designated) SSS, as today's systems work on a centralised basis. All CSD participants therefore need to reconcile their securities holdings with the CSD and reflect this in their own books and records. In a DLT-supported environment, however, the centralised structure is substituted by a distributed ledger where all participants have the same picture of the ledger's actual contents.

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<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>

If the DLT is regarded as a pure technical solution for securities settlement, securities need to be tokenised in order to bring them onto the DL, and no change seems necessary according to German law. In this case, ESMA's remark in para 105 (German corporate law requiring creation of a physical certificate) would not be an obstacle to the digitalisation of securities.

However, GBIC believes that the potential of the DLT is wider than a pure technical tool for settlement processes and that the DLT could be applied to the whole lifecycle of a security. For full digitalisation of securities, changes to national and European law are necessary. Not only German corporate law but also German securities law as well as German safe custody law (DepotG), for example, would need to be changed/adapted. As we understand it, other jurisdictions which do not necessarily request a paper certificate for the issuance of (dematerialised) securities may still refer to securities accounts, which could cease to exist under the DLT. The changes relate to existing rules for the issuance, safekeeping and record-keeping of securities as well as the concepts of how ownership of securities can be established and transferred and of how rights attached to securities can be exercised.

As already mentioned in the introduction and in Q14 and Q16, GBIC deems it necessary to also take into account legal considerations of national jurisdictions. The categorisation or legal nature of assets in a DL are crucial for the safekeeping and record-keeping of ownership and may be questionable when recorded in a DL under the applicable national (civil) laws. This will, in consequence, lead to questions about how securities are transmitted and recorded onto the DLT, how securities or ownership in securities can be legally transferred and how rights attached to securities can be exercised, particularly in an international context. We assume that the actual application of the DLT will heavily depend on the legal standpoint on these questions. Such considerations need to be taken into account by policy-makers and legislators in the first place. German market participants are just starting to discuss these issues. For the purpose of this response, we have therefore not yet developed a detailed position and would welcome further discussion with ESMA in the future.

In order to achieve full digitalisation of securities with the DLT, however, appropriate adjustments to German and European law are necessary. Without such adjustments, compliance with the regulatory requirements could pose a great challenge and lead to an uneven playing field among the different jurisdictions.

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<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 our opinion, the DLT can be used for regulatory reporting purposes, assuming that regulators will maintain or have installed a node for them within the DL. In this case, any settlement activity can be simply "forwarded" to regulators. All settlement-related information would be available to regulators and there would be no need for dedicated feeds with associated reconciliation problems. Regulators would have access to the golden record in real time.

Previously implemented regulations highlighted data quality issues faced by the industry due to different interpretations.

In relation to trade reporting obligations, it should be noted that our response focuses on settlement-sided aspects only and our members cannot comment from a trade repository perspective. Our members can, however, imagine that the DLT could cover or be used for various reporting (including trade-related reporting). Depending on the design and configuration of the DLT and on the information included, reporting in general will be facilitated by the use of the DLT. Reporting obligations can be disposed of as far as the information needed is contained in the DL.

The challenges associated with reporting via a DLT include issues concerning data protection, cyber security (as the regulator holds the access to all data on the DL, it might itself become a target for cybercrime attacks). Therefore, the set-up may have to be view-only, which can be addressed in a permissioned set-up (only).

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<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>

In our opinion, the DLT can become a designated trade repository. Alternatively, regulators may select part of the DLT (e.g. regulators' node) to be defined as a compliant trade repository. From a regulators' point of view, the respective authorities would have to establish the connections to the respective DL or have designated service providers in place in order to obtain the data for their purposes.

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<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>

As already mentioned earlier, we believe that the DLT could be used for various financial services, including securities-related services like issuance or trading, but our response is focused on post-trade-related securities services.

Additionally, we believe that the DLT could also be used for in-house reconciliation tools and thus replace multiple trade booking engines or trade reporting engines within a particular asset class.

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<ESMA_QUESTION_DLT_22>

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

<ESMA_QUESTION_DLT_23>

We feel that regulators / supervisors should be involved at a very early stage. This will eliminate / reduce the risk of regulatory impediments to globally evolving innovation.

In fact, GBIC sees many potential regulatory impediments to the deployment of the DLT in securities markets. The analysis of concrete regulatory provisions will depend on the concrete envisaged application of the DLT. As a general rule, we would like to point to different national legal concepts of securities and safekeeping/custody of securities. Different civil laws or legal concepts should not lead to a preference for certain markets or jurisdictions because regulators' view or interpretation of the law is more open and innovation-friendly. International harmonisation of regulation applied to securities markets could be of help.

Regulatory rules which do not necessarily focus on the way securities markets work could also pose obstacles like, for instance, rules on data privacy and data retention. If an obligation to delete certain (digital) data after a certain period of time were to be applied although the data is technically needed, this could pose an impediment to ledgers under the DLT, as the DLT is based upon blocks of transactions stored in a chain and is therefore fully dependent on the complete set of all transaction data in the ledger. An obligation to delete certain data would destroy the concept of the DL. A similar challenge exists regarding the different timeframes of retention rules throughout different jurisdictions. Furthermore, the situation of nodes in the DLT in multiple legal jurisdictions will raise conflict-of-law issues. Even with one contractual law, these may prove hard to manage, particularly when referencing to the SFD.

It should, moreover, be assessed whether CSDs will still be the central position in the new DLT system. In this context and as a more concrete example, Article 3 of the CSDR could be seen as a regulatory impediment to securities traded on a trading venue, as it requires such securities to be recorded in book-entry form in a CSD. Article 18 of the CSDR could also be a potential impediment if a DL is considered to be a designated SSS.

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<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>

Yes. A short- to medium-term view on how acceptable such solutions are within the existing regulatory framework and a long-term view on how things may need to change if the technology shows a credible business case for change would be helpful. However, our members take the view that, as the DLT is still at an early stage of deployment, it should not be prematurely regulated. Any reaction by regulators should be proportionate to the new applications and should, if possible, be consulted with market participants.

In general, the industry is of the opinion that regulation should be technology-neutral – it is up to each entity to decide which technology to use (e.g. whether Windows or Mac is to be used). It would not be appropriate to regulate a "technology" (such as DLT), whereas activities (rules of conduct) or outcome (such as trade reporting requirements), i.e. the specific application of the DLT, are considered the right targets of regulation.

Having said this, there has to be some sort of regulatory framework for the DLT to be adopted in securities markets – without an appropriate regulatory framework, it would be



challenging for regulated entities (like our members) to use/adopt the new technologies/services. What regulators (ideally on a global basis, such as IOSCO and/or CPMI) can do is 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. The DLT could replace intermediaries, but needs to meet certain requirements with regard to, for example, governance structure, risk assessment, access control, data protection, etc.

The PFMI (Principles for Financial Market Infrastructures, published by CPSS/IOSCO) would be a good starting point. These were prepared as a regulatory framework for financial market infrastructures (such as CCPs, CSDs, trade repositories) but could also serve as a guideline for DLT-based environments among and between other financial intermediaries like, for example, banks. Not all 24 principles may be relevant, but it would be up to regulators to choose the ones to ensure that the DLT governance body satisfies the PFMI objectives. Such (global) principles could then translate into appropriate legislation in the various jurisdictions. Regulators could review the "application" of the DLT PFMI.

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<ESMA_QUESTION_DLT_24>