Scaling tokenisation: how can wider adoption be enabled to support the SIU?

The Chair framed the main challenge as moving tokenisation from isolated pools of innovation to deep, scalable and liquid markets. Achieving this requires calculated risk-taking that can foster a chain reaction of growth and competition, alongside efforts to address key operational and regulatory challenges: interoperability in a DLT environment, common standards, deep secondary-market liquidity, appropriate settlement assets and sufficient regulatory certainty to move from experimentation to scale.

1. State of play of tokenised markets in Europe

1.1 Key market trends

A regulator observed that tokenisation has moved beyond the experimental and niche phase. Large incumbent institutions are considering real-life use cases, while digital-native firms are expanding their offerings. The technology is now readily available, projects are better understood and there is market appetite, with significant use cases emerging across the private sector, public-sector initiatives and public-private partnerships, including in funds, collateral management, securities and settlement. Momentum is therefore building and tokenisation's potentially transformative role is increasingly acknowledged, although views differ on the speed and magnitude of the transformation. Continued dialogue between public authorities and market participants will be important in this perspective. The regulator also emphasised the potential scale of tokenisation in Europe: according to an ECSDA estimate, securities worth €80 trillion are held in European CSDs, representing a significant stock of assets that could be tokenised if the appropriate framework is put in place rapidly.

An industry representative expected a gradual progression towards native on-chain issuance, with wrapper structures playing an important transitional role in bringing existing securities on-chain. These structures need to ensure that the rights attached to the underlying security are preserved in its tokenised representation.

1.2 Public-sector initiatives and partnerships

An official highlighted Pythagore as an example of a public-private initiative moving towards implementation at scale. This Banque de France - Euroclear project, due to launch in December 2026, aims to tokenise the approximately €310 billion French negotiable European commercial paper market, the largest short-term market in continental Europe. The market's short maturities, frequent issuance, concentrated issuer and investor base (predominantly French issuers with 10% of non-residents) and limited corporate actions make it relatively easy to tokenise, as previous experimentation has indicated. Tokenisation is expected to attract additional issuers and investors to the market by enabling faster settlement, greater transparency and reduced friction, while Pontes will allow transactions to settle safely in central bank money. Some firms that do not currently issue commercial paper have already expressed interest in entering the tokenised market. Having involved a broad range of issuers, investors and depositors from the outset, the project expects to launch in December 2026 with around 60% market participation, followed by two further issuance waves in the first half of 2027 to progressively increase volumes, participation and liquidity as the platform develops.

Another official identified the eligibility of tokenised securities as collateral for monetary policy operations as another potential enabler of tokenised markets. Consistent with the principle of technological neutrality, the Eurosystem aims to broaden collateral eligibility so that tokenised securities can be accepted where they otherwise meet the same eligibility criteria and appropriate safeguards as other securities, while addressing legal and operational issues around their mobilisation. A first, limited step was taken in March 2026: the Eurosystem now accepts de-tokenised versions of DLT-based securities issued through CSDs (i.e. converted into a form compatible with existing settlement systems), although not yet the same assets directly in tokenised form.

1.3 Experience with the DLT Pilot Regime

A regulator considered that the DLT Pilot Regime can be viewed as both a success and a missed opportunity, but overall fulfilled its experimental purpose as a sandbox, by allowing the EU to test diverse use cases, gain practical experience with the technology and provide space for innovation. Take-up remains limited, however, with only six projects authorised and around €500 million in tokenised assets issued.

An industry representative observed that Europe remains largely in an experimentation phase. Although technological breakthroughs have occurred under the DLT Pilot Regime, market participants are still taking a wait-and-see approach. The regime needs to provide a credible path from experimentation to production before major institutions are likely to commit at scale. The UK offers a clearer route from pilot to production, while the US market continues to develop despite the CLARITY Act failing to advance.

2. Interoperability across DLT platforms and with traditional markets

2.1 Key dimensions of interoperability

An industry representative identified three dimensions of interoperability that need to be addressed for tokenised markets to scale: between on-chain and off-chain assets, across different blockchains, and across jurisdictions that may treat on-chain activity differently.

Connecting traditional, off-chain markets with on-chain markets is a major challenge. Assets held with a custodian or CSD need to be capable of moving on-chain, while regulated entities such as MiFID firms, market makers or broker-dealers need to be able to arbitrage away price differences between the traditional and on-chain markets. A recent case involved a tokenised equity paired with a meme coin in an on-chain liquidity pool. A surge in demand for the meme coin disrupted liquidity in the tokenised equity and caused a price dislocation between its on-chain price and the corresponding traditional-market price. Because this occurred over a weekend, when on-chain liquidity was insufficient and there was no effective mechanism to arbitrage between the two markets, the price difference could not readily be corrected. This demonstrates the importance of effective economic arbitrage mechanisms between traditional and on-chain markets to mitigate such risks.

Another industry representative added that interoperability must be considered at several levels. Technical interoperability between chains is necessary, but interoperability between assets and standardisation at the business level are equally important. Cross-border interoperability must also cover the cash leg of transactions. Stablecoins may play a role in this regard, while another approach could involve interoperable tokenised deposits for cross-border payments or settlement connected to CBDCs used for domestic settlement. These different forms of digital money can be complementary, but bridges are needed between cross-border and domestic settlement arrangements.

2.2 The need for common standards and rights portability

An industry representative stated that, from an operational perspective, interoperability requires open standards that allow multiple issuers to operate on the same blockchain and asset portability so that assets can move between different chains. This portability needs to cover both the asset and cash legs so that delivery-versus-payment (DvP) can occur atomically. Issuers need to be able to burn an asset on one chain and mint it on another. Crucially, the rights attached to the asset must also be preserved as it moves between chains, particularly for tokenised securities; otherwise, transferring the token does not amount to transferring the same financial asset.

A regulator agreed that, as tokenisation scales, it is essential to ensure that the rights attached to financial products remain clear and are preserved when they are tokenised, and that investors understand those rights so that innovation develops on a robust basis.

An industry representative emphasised that standardisation is one of the strongest tools available to prevent fragmentation. This involves some harmonisation of legal, operational and governance arrangements, as well as business standards covering the data used to define assets, their lifecycle and the roles and rights of the actors interacting with them. While technical standards exist, such as ERC-20, which standardises basic functions of fungible tokens on Ethereum, they do not cover these business-level elements, which are needed to ensure reasonably consistent characteristics and functionality across chains and issuers. Without such consistency, fragmentation will constrain scalability and the added value of tokenised assets. Existing messaging and reference-data standards from traditional finance provide a useful starting point, but more autonomous on-chain processes require a different approach to what needs to be standardised. Since traditional and digital infrastructures are likely to coexist for many years, standards also need to enable digital assets to interact with one another and business processes to operate seamlessly across both environments without loss of data or process integrity. Standards for tokenised markets should also be conceived globally from the outset to preserve cross-border interoperability, rather than developed independently in Europe and aligned with other markets later.

An official agreed that standards should build where relevant on those developed in traditional finance. Standard-setting should remain market-led, with the official sector facilitating coordination among stakeholders and European work aligned with international initiatives.

3. Conditions for increasing market liquidity

3.1 Building institutional investor participation

A regulator noted that developing deeper markets requires attracting institutional investors, which in turn depends on the availability of accessible, interoperable and predictable market infrastructure that can support scale without reproducing existing fragmentation.

An industry representative agreed that scaling tokenised markets requires competitive and accessible tokenised markets across Europe that can attract investors and support deep secondary-market liquidity. Market makers are ready to provide liquidity as demand develops but will allocate resources where the prospects of success justify the investment required. Their engagement will therefore depend on large institutions developing sufficient conviction in the future of tokenised markets in Europe.

3.2 Operational and regulatory conditions for institutional participation

A regulator identified four interconnected priorities for creating the conditions for institutional participation at scale. First, cross-border access to DLT platforms should be standardised so that participants do not need a new technical connection, contract or onboarding process for every DLT platform or jurisdiction, particularly in the EU, where tokenisation should help overcome rather than recreate existing national silos. Second, infrastructures and custody arrangements need to be interoperable, with clear rules on ownership, custody, client asset protection, transfer rights and responsibilities when problems arise, giving investors confidence that assets can be safely held and transferred across infrastructures. Equivalent risks should also be treated consistently regardless of the technology used. Third, the regulatory framework must support the entire lifecycle of tokenised securities, including asset servicing. This requires greater harmonisation across platforms and jurisdictions, supported by common data standards. Interest and dividend payments, redemptions, corporate actions and tax processing need to function reliably across platforms and jurisdictions, otherwise inefficiencies in asset servicing could offset the gains achieved through tokenisation at issuance and transaction execution. Fourth, settlement arrangements must support scale and liquidity without creating new fragmentation, including through reliable DvP and legal certainty around settlement finality.

An industry representative also identified regulatory asymmetry as a major obstacle to liquidity provision. A tokenised version of an underlying asset may face different prudential treatment simply because it settles on different rails, potentially being treated like bitcoin rather than according to the risk profile of the underlying asset. Differences and gold-plating across jurisdictions compound the problem, fragmenting liquidity and making effective market-making more difficult.

4. Policy priorities for scaling tokenised markets

4.1 Targeted regulatory relief to support innovation

A regulator emphasised that the public sector should provide a clear and predictable framework for market participants without compromising orderly markets or financial stability. The immediate priorities are legal certainty, interoperability and a workable cash leg for settlement, with the ECB working to address the latter. Regulatory responsiveness is also essential: the SEC no-action letter allowing DTCC to launch a tokenisation service for three years, within defined limits on eligible securities, blockchains and participants, illustrates how targeted action can provide legal clarity in a timely manner without waiting for broader changes to the regulatory framework. Europe lacks an equivalent mechanism and needs to consider how to provide such clarity when needed, to respond more quickly to market developments and support innovation.

An industry representative similarly emphasised the need for regulatory speed in allowing tokenised markets to operate at meaningful scale. Following the US Senate's failure to advance the CLARITY Act - a legislation intended to establish a framework for digital-asset markets and clarify the respective oversight responsibilities of the SEC and CFTC - the two agencies are expected to move ahead separately with initiatives that had been held back while the legislation was being considered. In particular, a forthcoming SEC "innovation exemption" is expected to facilitate on-chain trading of tokenised equities under targeted regulatory exemptions, a significant development for Europe to monitor when considering how to enable similar innovation.

4.2 Adjusting the DLT Pilot Regime and enhancing supervisory convergence

A regulator considered that the broadly consensual MISP proposals regarding the DLT Pilot Regime appropriately address several constraints identified through the experience with the regime so far, including its scope, eligible asset classes, project-size thresholds and procedural requirements. The proposed removal of its time limit would also give firms greater long-term visibility to make substantial investments and launch major products. One unresolved issue is what "graduating" from the DLT Pilot Regime should mean: whether two parallel systems would remain permanently available, including for large projects, or whether firms would eventually be expected to leave the pilot framework, and how any transition could be made seamless.

Another regulator noted that the MISP adjustments to the DLT Pilot Regime should provide greater flexibility for DLT market infrastructures and enable stronger supervisory convergence as these infrastructures grow and become more interconnected, within a framework that is more proportionate to risk, technologically neutral and capable of adapting as DLT markets evolve. Three priorities can be identified for the adjusted regime. First, the proposed removal of the current six-year limit on permissions to operate under the regime would provide greater regulatory certainty for DLT platforms to move from experimentation to sustainable market activity and encourage long-term investment in technology, governance and operational resilience. Second, requirements should become more proportionate and risk-sensitive, reflecting the scale, complexity and interconnectedness of each infrastructure rather than relying excessively on fixed thresholds. Third, the framework should better accommodate different operating models, including individual CSD services and smaller DLT infrastructures, while maintaining equivalent safeguards in a proportionate manner. This greater flexibility will require stronger supervisory convergence to ensure consistent application across Member States, particularly for cross-border infrastructures. This requires a clear allocation of supervisory responsibilities and coordination supported by ESMA, underpinned by data-driven supervision based on common EU standards and taxonomies, harmonised reporting where possible, timely machine-readable access to

relevant on- and off-chain data and common indicators.

The first regulator considered that supervisory convergence could be further supported by a 28th regime providing a single framework for firms using tokenisation across the EU. Such a regime could limit fragmentation and provide legal clarity, addressing cross-border issues including settlement finality, tax treatment and corporate actions. However, political appetite is limited and implementation may be challenging.

4.3 Providing appropriate settlement assets

An official noted that tokenised central bank money can help address liquidity trapped across isolated DLT networks by providing a common settlement asset. In the traditional system, transfers between customers of different banks ultimately settle in central bank money through the Eurosystem's RTGS system. Central bank money provides a safe and trusted settlement asset that can be made available at the scale required by wholesale markets; a tokenised equivalent can perform the same bridging function across DLT networks, as well as providing the cash leg of DvP transactions. The Eurosystem has moved rapidly to provide this solution through Pontes, which went live as a production-grade service in September 2026. Beyond providing tokenised central bank money for DLT-based settlement, Pontes makes the Eurosystem's commitment to tokenised markets tangible, providing visibility and institutional credibility that can help the market scale with more confidence.

The official emphasised that tokenised central bank money is not intended to replace private tokenised settlement assets but can support their development by bridging different banks and networks. If banks issue their own tokenised deposits, for example, central bank money can provide the interbank settlement asset, as it does in the traditional financial system.

Another official added that Pontes initially operates with limited opening hours, extending to TARGET Services hours by mid-2027 and to 24/7 operation within two years.

4.4 Appia: towards an integrated tokenisation ecosystem

An official explained that the Eurosystem Appia initiative is intended to complement MISP proposals addressing legal and regulatory fragmentation, by focusing on architecture and standardisation, with the objective of developing an open-access ecosystem of compatible platforms and services. Through practical experimentation with market participants, Appia is exploring alternative architectures for achieving this objective. One option is a unified ledger hosting both tokenised securities and the full range of settlement assets, including central bank money, stablecoins and tokenised deposits, providing integration by design. An alternative is a set of interoperable utility-like ledgers, open to competing services and designed to work together from the outset. Common standards supporting interoperability across DLT platforms and compatibility of tokenised assets, smart contracts and data formats are another component of the integrated ecosystem envisaged under Appia. The experience with TARGET2-Securities (T2S) illustrates the need to pursue integration across these different dimensions: settlement-level harmonisation can advance market integration but is not sufficient when fragmentation persists elsewhere in the post-trade environment. Alongside architecture and standards, deeper and more integrated tokenised markets will also require progress on legal certainty and harmonisation of corporate actions and tax treatment.

Another official added that Appia's development of common standards should help prevent new fragmentation as tokenisation initiatives multiply across the market. Appia will also need to accommodate a clearing layer for transactions between banks using their own tokenised deposits, with ultimate settlement in central bank money. This clearing function could be incorporated into Pontes or, preferably, provided by the private sector, as in traditional markets. Such an arrangement could replicate the existing two-tier monetary system, with private settlement assets such as tokenised deposits and, potentially, stablecoins used for transactions, while central bank money remains the ultimate settlement asset.

An industry speaker emphasised that interoperability requires an open architecture allowing multiple participants to use and build on the same infrastructure rather than limiting activity to closed, proprietary networks. Ethereum illustrates this model by providing a common rail on which multiple parties can build, including permissioned applications on top of a permissionless blockchain, without a single technology firm, bank or financial institution controlling the distribution and movement of assets. From a regulatory perspective, this requires regulated activity to be permitted on open networks and clarity on how permissioned and permissionless blockchain environments can connect.