

Banc Ceannais na hÉireann
Central Bank of Ireland
Eurosystem

Feedback Statement to Discussion Paper 12

Distributed Ledger Technology and Tokenisation in Financial Services

November 2026

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Executive Summary

Tokenisation and distributed ledger technology (DLT), including blockchain, have the potential to reshape how financial markets operate, how financial assets are issued, held and transferred, and how money and securities move through the financial system. Their significance extends beyond the digital representation of existing instruments, offering opportunities for greater automation, efficiency and connectivity across financial markets – as well as the provision of new, innovative financial services altogether. Realising these opportunities, however, requires more than technological capability. It demands an integrated evolution of the legal, regulatory, operational and monetary arrangements that underpin a trusted and resilient financial system.

As both an integrated financial regulator and a Eurosystem central bank, Central Bank of Ireland (the Central Bank) is well positioned to bring this perspective to bear. Our responsibilities span monetary and financial stability, prudential supervision, financial markets, consumer and investor protection, and the operation and oversight of payments and settlement systems. This breadth of mandate, together with Ireland's position as a leading financial services centre, informs our approach to tokenisation, recognising that developments in one part of the financial ecosystem may have implications for others.

A Changing Financial and Regulatory Landscape

In March 2026, we published Discussion Paper 12 - DLT and Tokenisation in Financial Services (the Discussion Paper / DP12) which invited views from across the financial system in relation to DLT and tokenisation. Since March, tokenisation has continued to evolve from experimentation towards practical application. Internationally, attention is increasingly focused on establishing the legal certainty, interoperable infrastructure, trusted settlement arrangements and regulatory conditions necessary to support adoption at scale.

Within Europe, the Savings and Investments Union (SIU) provides an important strategic context. The European Commission's Market Integration and Supervision Package (MISP) seeks to reduce fragmentation, deepen capital markets and facilitate innovation, including through proposed changes to the DLT Pilot Regime, trading

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and post-trading frameworks, and the replacement of the Settlement Finality Directive (SFD) with a directly applicable Regulation.

These developments are complemented by the Eurosystem's Pontes and Appia initiatives, which are advancing work on the settlement of transactions in tokenised financial assets in central bank money and the longer-term development of an integrated European tokenised financial ecosystem.

Together, these initiatives underline that tokenisation must be considered as part of the wider evolution of financial-market infrastructure, rather than as a series of isolated technological applications.

What We Heard and How Our Thinking Has Evolved

The responses to our Discussion Paper identified longstanding inefficiencies that tokenisation may help address, including fragmented systems, complex intermediation, sequential processing and operational constraints associated with the movement of assets, collateral and money. Respondents also highlighted practical applications across investment funds, securities markets, payments and settlement.

However, technological feasibility, on its own, will not deliver broader economic or market benefits. To date, given the limited scale of tokenised finance, there is also limited evidence on the materiality of those benefits to users of financial services, the commercial viability of emerging models and their resilience under stressed conditions. As tokenisation moves towards wider adoption, the focus must increasingly shift from what the technology can do, to what it demonstrably improves, as well as establishing certainty in the legal and regulatory framework. There are robust regulatory frameworks in place and therefore it is prudent to adapt existing regulatory frameworks where required, rather than implementing entirely new frameworks.

The consultation has reinforced our thinking that this is a system-wide transition that requires considering the conditions necessary for tokenisation to deliver sustainable benefits across the financial system and for users of financial services. Seven interrelated themes have emerged from our engagement: legal certainty; regulatory adaptability; governance and accountability; interoperability and infrastructure; tokenised financial assets; tokenised money and

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settlement; and the management of systemic, sectoral and transitional risks.

Our Role and Future Work Programme

Our approach remains grounded on technological neutrality. The Central Bank's role is to help establish the conditions in which innovation can develop responsibly, while preserving trust and confidence in the financial system.

For Ireland, this means building on our strengths as a credible, internationally-connected financial services jurisdiction. The Central Bank aims to remain sufficiently informed, responsive and adaptable to support responsible application of emerging technologies as markets and international standards evolve.

Our future work will be grounded in a unified Central Bank approach, bringing together our policy, supervisory, authorisation, innovation and central banking perspectives. It will be structured around five areas:

- As part of the Eurosystem, enabling central bank money settlement of on-chain transactions, and evolving the collateral framework to accept tokenised assets
- Supporting efforts domestically and in Europe to advance legal and regulatory clarity
- Evolving our innovation practices in line with the changing landscape
- Shaping the development of the tokenised ecosystem to guard against fragmentation
- Deepening our understanding of the macro-financial implications of tokenised finance.

This work will be supported by some specific innovations in our approach. A new Tokenisation Access Point (TAP) will provide a clearer route for engaging with the Central Bank on emerging tokenisation models, practical implementation issues and questions arising from the application of existing rules and frameworks. We are also undertaking a new programme of focused, time-bound sprints, working with ecosystem participants on specific dimensions of the evolution of tokenised finance. This will enable the Central Bank to examine emerging issues and to develop policy, supervisory and central banking thinking as the ecosystem evolves. Together, these initiatives will strengthen our capacity to respond in an agile

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manner to developments in tokenisation, while preserving established supervisory and authorisation responsibilities.

Our objective is to ensure that the legal, regulatory and institutional foundations of Ireland's financial system remain capable of accommodating technological change responsibly. Success will ultimately be measured by how innovation delivers meaningful benefits while preserving the integrity, resilience and trust on which financial markets depend.

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1. Engagement and Evidence Base

DP12 invited views from across the financial system on the opportunities, enablers, challenges and risks associated with DLT and tokenisation in the financial system.

The Central Bank received 42 written responses to DP12. Respondents represented six distinct categories:

- Digitally native firms, including crypto and Web3 firms
- Industry Associations and Advocacy Bodies
- Professional Services Providers
- Asset Managers and Fund Service Providers
- Market and Payments Infrastructure Operators
- Commercial Banks and Other Respondents

We are grateful to respondents for the depth and quality of the engagement.

The written responses were supplemented by the Central Bank's wider engagement with market participants and other stakeholders, including multiple roundtables, bilateral engagements, Innovation Hub or Sandbox engagement and engagement with regulatory peers in a variety of domestic, EU and international fora. We also conducted extensive outreach through our Financial Industry Forum, Irish Retail Payments Forum, and ad-hoc advisory engagements with academia, technologists and industry experts.

There was notable convergence on several underlying issues. Across sectors, respondents consistently emphasised operational resilience, legal and regulatory certainty, and the importance of cross-border consistency. More fundamentally, responses repeatedly pointed to a common set of dependencies that will shape the development of tokenised finance:

- harmonised or equivalent regulatory frameworks
- common technical and data standards allowing for regional and global interoperability
- safe, on-chain settlement assets
- scalable regimes for identity, governance, and accountability.

This convergence is significant. It suggests that many of the challenges associated with tokenisation are not specific to individual products or sectors, but concern the common legal, technological,

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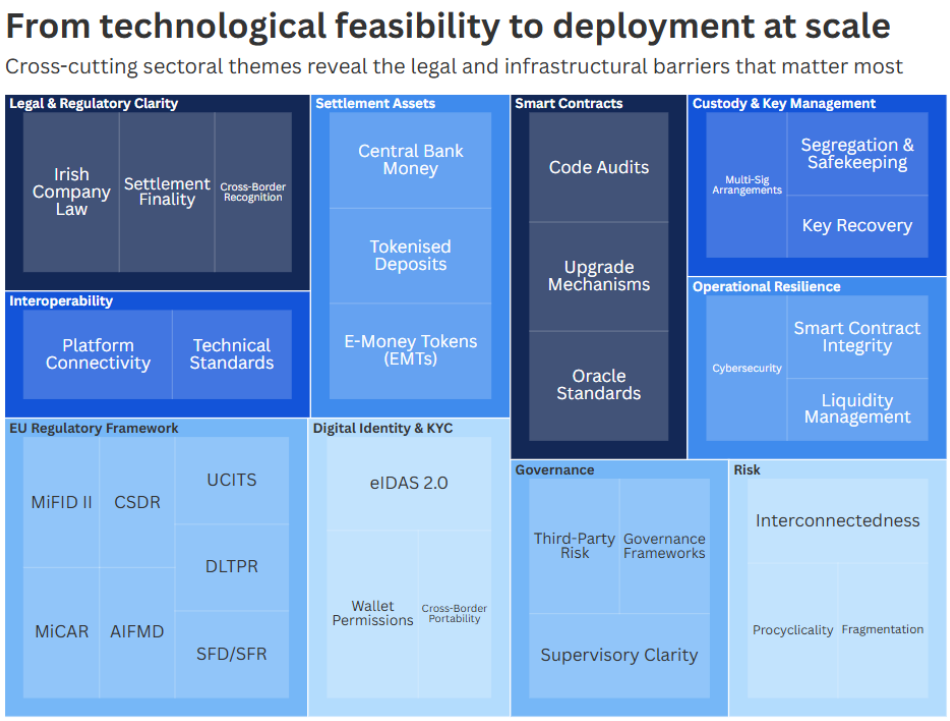
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and institutional foundations on which a more integrated tokenised financial system would depend.

Insight: The convergence in responses across different stakeholder cohorts reinforces the conclusion that the development of tokenised finance is likely to depend on coordinated progress across an ecosystem of market participants and infrastructures rather than on the decisions of individual firms alone, or indeed technology itself.

Respondents indicated that tokenisation is progressing from conceptual and experimental phases towards further practical implementation. An example is the increasing exploration of digital twin models for investment funds, including the representation of fund interests and associated shareholder registers on DLT.

As tokenisation applications develop, financial system participants' attention is shifting from demonstrating technological feasibility towards the legal, regulatory, operational and infrastructural considerations necessary to support broader adoption and scalability.



Source: Central Bank of Ireland

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While there were commonalities, the breadth of information received illustrates that tokenisation affects different parts of the financial system in different ways. Different sectors also emphasised different priorities:

- **Technology and infrastructure providers** emphasised interoperability, technical standards, permissionless infrastructure, smart-contract governance and digital identity
- **Investment-fund respondents** highlighted fund registers, distribution, transfer-agency functions, depositary oversight, valuation, NAV processes, liquidity and collateral use cases
- **Securities and market infrastructure firms** focused on settlement finality, Central Securities Depositories (CSD) requirements, the DLT Pilot Regime, and the availability of on-chain settlement assets
- **Payment service providers (including banks and non-banks)** prioritised legal certainty (ownership, settlement finality), diversity of on-chain settlement assets (central bank money, tokenised deposits, regulated stablecoins), and interoperability.

Different sectors, different priorities

How risk priorities diverge across the tokenisation landscape



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Interpreting the Feedback and its Implications

In considering the written and verbal feedback received, we have sought to distinguish between the broader technological developments shaping financial markets, the practical challenges that tokenisation may help address, and the areas in which public authorities can most effectively contribute. Three considerations have informed our analysis:

1. **The wider technological landscape**: Recognising that tokenisation is developing alongside broader advances in digital technologies and, together, these are reshaping financial services and influencing the potential applications and benefits of DLT.
2. **The frictions tokenisation may usefully address:** Identifying the existing inefficiencies, constraints, fragmentation and dependencies across the financial system that tokenisation could help overcome, while distinguishing technological potential from demonstrable improvements in market and economic outcomes.
3. **The public-private partnership and appropriate role of public authorities**: Considering where regulatory clarity, legal certainty, trust in money and settlement, coordination or targeted intervention may be necessary to support responsible innovation.

Consideration 1: The wider technological landscape

The responses were received against a wider backdrop of accelerating technological change and digitalisation across financial services. While tokenisation continues to progress from experimentation towards practical application, advances in other technologies, most notably in Artificial Intelligence (AI) have accelerated also, with deployment increasingly extending into established financial activities and business processes. This wider digitalisation of the financial system is a crucial context as we assess the development of tokenisation.

Although the underlying technologies have differences and raise different policy questions, as AI continues to evolve and becomes further embedded in the financial system, there are likely to be broader interdependencies emerging between these technologies. While this was not explored in great detail in DP12, the Central Bank will continue to consider the intersection between DLT and AI. The

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pace of AI development also illustrates a broader lesson for policymakers and regulators: technological adoption can accelerate quickly, once capability, commercial incentives, legal and regulatory frameworks, and infrastructure begin to align. A number of responses stressed a sense of urgency in light of technological change and the increasing digitalisation of finance.

The recurring concern expressed by respondents was that unresolved legal, regulatory or infrastructural questions could unnecessarily delay potentially beneficial use cases, or fragment development across jurisdictions and platforms. This can result in "walled gardens" or closed-loop systems, which limit both the ability of DLT and tokenisation to scale safely, and to deliver the potential benefits of this technology to users of financial services.

The challenge for policymakers and regulators is to remain responsive to technological change without prescribing its direction or favouring particular technologies or business models, while having an eye to broader macro-objectives of avoiding fragmentation of financial systems, infrastructures and markets. Our approach is grounded in technological neutrality: where financial activities give rise to comparable risks, the same regulatory outcomes should be achieved, irrespective of the technology through which those activities are undertaken. Equally, regulatory uncertainty should not act as a barrier to the adoption of new technologies by the financial system. This requires regulatory frameworks that are sufficiently adaptable to accommodate innovation, while preserving the safeguards and protections, on which confidence and trust in money and the financial system depends.

A key regulatory principle is same activity, same risk, same regulatory outcome.



Insight: As tokenisation continues to move towards greater real-world application, it is crucial for policymakers to address material sources of uncertainty, to reduce the prospect of further fragmentation in market structures and maintain trust in money and settlement. Conversely, premature regulatory prescription could risk embedding assumptions about the technology's deployment in the financial system, while the architecture is still evolving.

Consideration 2: The frictions tokenisation may usefully address

The feedback identified a range of longstanding inefficiencies and / or frictions across financial markets that tokenisation may help

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address. These relate principally to fragmented systems and records, complex intermediation and sequential processing. Operational frictions associated with the movement of assets, collateral and money were also highlighted. Respondents pointed to the potential for tokenisation to simplify these processes, improve connectivity and enable greater automation across the financial value chain.

These opportunities are increasingly being explored through practical applications across securities markets, investment funds, payments and treasury activities. While the nature and maturity of these applications vary, they point to the potential for tokenisation to improve how financial assets are issued, held, transferred and settled, and how associated activities are coordinated across market participants.

That said, many of the frictions which exist along the value chain are related to economically valuable functions – e.g. to enable transactions and identities to be verified; assets to be safely moved; settlement to happen as planned. So, the technology needs to be able to demonstrate an ability to deliver the same outcomes, while removing frictions. Given that tokenised markets are still at the very early stages of development, there remains limited evidence on the potential scale and distribution of benefits to users of financial services; the commercial viability of emerging business models; the contribution to market liquidity and efficiency; and the resilience of distributed networks under stressed conditions.

There is still limited evidence of tokenisation's benefits to users of financial services, broader economic benefits, the commercial viability of some models, and the behaviour of tokenised markets and products under stress.

In assessing the feedback, we have therefore distinguished between outcomes demonstrated through practical implementation, issues identified through pilots and development environments, and potential benefits or risks that remain largely theoretical pending wider adoption.

This distinction becomes increasingly important as the market matures. While demonstrating that a technology can perform an established financial function represents an important early milestone, the progression towards broader adoption calls for more substantive focus on its effectiveness, resilience and added value.

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Insight: The focus needs to shift beyond whether a process can be tokenised, towards whether tokenisation along the value chain produces demonstrably better outcomes for market participants and users of financial services than the alternatives, when costs, risks, dependencies and system-wide effects are taken into account.

Consideration 3: The public-private partnership and role of public authorities

An effective public policy response to tokenisation requires a clear understanding of the nature of the barriers to its adoption and where responsibility for addressing them appropriately lies. In assessing the feedback, and considering our future work, we have distinguished between:

- gaps or uncertainty in the legal and regulatory framework
- questions concerning the interpretation or application of existing requirements
- constraints arising from market infrastructure and established practices
- commercial or technological challenges, that are primarily for industry to resolve
- activities that perform useful functions, and should be retained albeit in a new technological form (e.g. ID verification)
- market gaps or potential market failures, that warrant a role for public involvement – such as the need to preserve trust in money and settlement, or the desire to build stronger capital market integration.

Our Perspective: Our assessment, and consideration of future work, considers not only the evidence of barriers to adoption, but the underlying public policy objectives of existing requirements and whether any proposed intervention would deliver a demonstrable benefit without compromising established regulatory safeguards.

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Key Themes Emerging From What We Heard

Key Theme 1: Establishing Legal Certainty

The following emerged as priority legal issues to address amongst respondents:

a) On-chain ownership recognition in the context of funds and markets
b) Settlement finality
c) Clarity over the legal and regulatory status of tokenised deposits and deposit tokens
d) Smart contract enforceability and liability allocation.
e) A clear regulatory pathway for "pilot to production" transitions, beyond time limited experimental frameworks.

Key Theme 2: Adapting Regulatory Frameworks

a) Respondents generally did not advocate for the creation of a wholly separate regulatory framework for tokenised finance. It is preferable to make targeted adaptations at specific implementation points to existing regulatory frameworks.
b) Broad support for a technology-neutral, substance-over-form approach.

Key Theme 3: Maintaining Governance and Accountability

a) Responsibility for ensuring compliance and managing risk remains clearly with the regulated entity regardless of how distributed the underlying infrastructure becomes.
b) The interaction between private / public and permissionless / permissioned chains across layers will have important implications for the evolution of governance.
c) Oracle networks, validator infrastructure and smart contract represent new and untested systemic dependencies.

Key Theme 4: Building Interoperability and Infrastructures

a) Emerging DLT-based infrastructures should be interoperable with traditional finance infrastructures.
b) Technical standards and cross-platform connectivity are essential to prevent liquidity fragmentation, or "walled gardens".
c) The development of common standards can accelerate adoption.
d) Digital identity and Know Your Customer (KYC) portability infrastructure is a critical path dependency for scalable tokenisation.

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e) Custody infrastructure and operational resilience require DLT specific standards and assurance frameworks.

Key Theme 5: Tokenisation of Assets

a) Cross-border legal recognition of tokenised assets is central to adoption and growth. The MISP and the broader SIU, aim to address these.
b) A critical distinction exists between "digital twin" models—where tokenised units represent parallel off-chain records—and "digitally native" models where the on-chain record is the authoritative legal record of ownership.
c) The near-instantaneous settlement and 24/7 transferability features of tokenisation provide meaningful benefits for collateral mobility and intraday liquidity management – also pointing to the link with on-chain money.
d) Fractional ownership is a core use case, allowing retail users of financial services easier access and lower costs to participate in investment markets.

Key Theme 6: Tokenisation of Money and Settlement

a) Tokenised settlement in central bank money represents the single most critical infrastructural development for scalable tokenisation.
b) Facilitating the development of tokenisation, while preserving the benefits of the two-tier monetary system and anchoring settlement in central bank money, requires credit institutions to work towards developing interoperable tokenised deposits.

Key Theme 7: Managing Risks

a) The principle of technological neutrality applies from a risk perspective.
b) It is expected that broader risk categories in regulatory frameworks will remain broadly similar in a decentralised environment – for example leverage and liquidity, operational resilience, and adequacy of outsourcing frameworks.
c) Regulatory authorities, including the Central Bank, will need to build capabilities to build adaptable capabilities to deliver on their mandates.

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2. How Our Thinking Has Evolved

Since the publication of DP12 in March 2026, developments in tokenisation have continued to gather momentum across financial markets and jurisdictions. What was previously characterised largely by experimentation and exploration is increasingly giving way to practical applications, alongside greater attention to the legal, regulatory and infrastructural conditions necessary to support adoption at scale.

In Ireland, the Central Bank has authorised three money market funds to utilise DLT-based digital twin representations of existing fund share classes[1], reflecting the emergence of tangible deployments within the investment funds sector. We are also seeing a range of broader authorisation applications which seek to leverage DLT and tokenisation across the financial services value chain.

The Central Bank's approach to tokenisation is grounded in our mandate to safeguard monetary and financial stability, protect consumers and users of financial services more broadly, and support the integrity and effective functioning of the financial system. Our role is not to determine the direction of innovation, but to help establish the conditions in which innovation can develop responsibly, deliver meaningful benefits, and preserve trust and confidence in the financial system, underpinned by trust in money itself.

Our approach is founded on technological neutrality, active engagement, infrastructure enablement and proportionate, evidence-based regulation. Where tokenisation enables existing financial activities to be undertaken differently, established regulatory and wider policy outcomes must continue to be achieved. Equally, where existing frameworks create genuine uncertainty or unnecessary impediments, clarification, convergence or targeted adaptation may be warranted. And where tokenised finance leads to distinct risks, the regulatory framework needs to adapt so that these risks are managed appropriately, at the level of both individual institutions and the wider ecosystem.

[1] There remains only one legally recognised share register – the one maintained by the fund in accordance with relevant underlying legislation.

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Responsible adoption depends on many enabling factors, as we indicated in DP 12. Legal certainty, interoperable infrastructure, trusted settlement arrangements, effective governance and commercial viability are interdependent, requiring coordination between public authorities and industry. While technology may transform how financial activities are undertaken, accountability for those activities and the management of associated risks must remain clear.

The feedback received has reinforced the importance of a coordinated approach to tokenisation. As applications develop across investment funds, securities markets, payments and settlement, collateral and repo, the issues arising transcend some traditional central banking, regulatory and supervisory boundaries. This calls for a more integrated approach to emerging developments and their implications for the financial system.

Our thinking has consequently evolved to capture both the opportunities and risks associated with individual tokenised applications, alongside the broader assessment of the conditions necessary for responsible adoption at scale across the financial system.

We see seven principal themes emerging from the engagement:

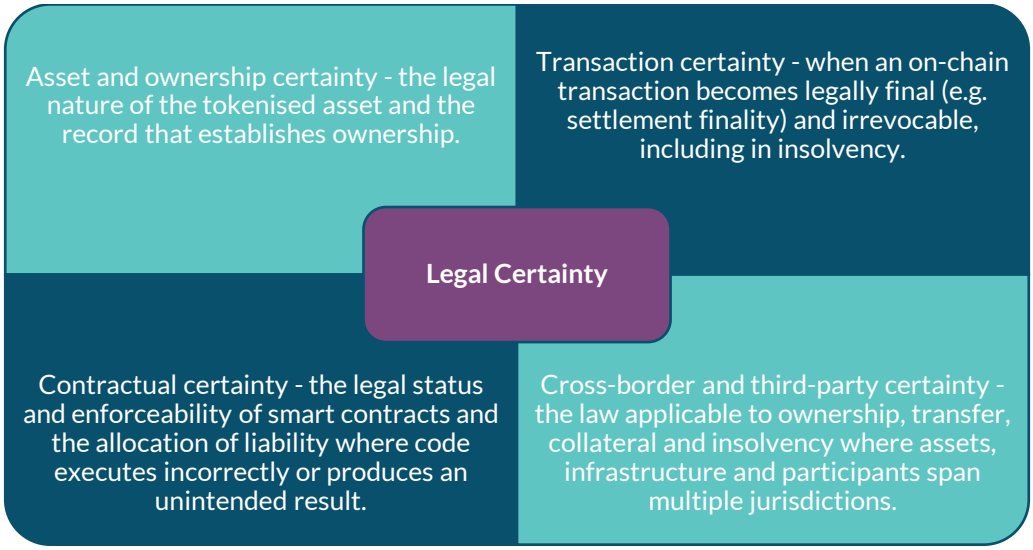
1. Legal Certainty
2. Adapting Regulatory Frameworks
3. Governance and Accountability
4. Interoperability and Infrastructure
5. Tokenisation of Financial Assets
6. Tokenisation of Money and Settlement
7. Managing Risks.

Key Theme 1: Establishing Legal Certainty

Legal certainty emerged as one of the strongest themes across the responses and bilateral engagements.

Respondents identified questions relating to the legal recognition of tokenised assets, ownership and property rights, settlement finality, smart-contract enforceability, insolvency protection, collateral practices, company-law transfer requirements and cross-border conflict of laws.

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Source: Central Bank of Ireland

A tokenised transaction can be technically irreversible while remaining legally challengeable. For example, a private key can provide technological control without necessarily determining beneficial ownership. A smart contract can execute automatically without resolving questions of contractual liability. This distinction is particularly important in cross-border markets.

While DLT infrastructures may operate across borders with relative technological ease, the rights represented through them remain subject to national company, property, securities and insolvency laws.

Domestically, legal certainty is needed in Irish company law and certain funds legislation. The Companies Act 2014, ICAV Act 2015, and Investment Limited Partnership (ILP) Act, for example, were drafted assuming centralised register infrastructure. Legislative intervention is necessary to establish this functional equivalence between off-chain and on-chain asset ownership and eliminate unnecessary duplicative record-keeping requirements.[2]

The Ireland for Finance Strategy – Vision 2030 publication includes a thematic focus on high-impact areas including Digital Assets and Tokenisation. Action 2 includes a commitment from Government to update Irish primary legislation to enable the digitally native tokenisation of assets and an authoritative on-chain ownership register. The Central Bank will continue its close coordination with the Department of Finance to support delivery on the actions set out below.

[2] See Tokenisation of Assets section where this is discussed in greater detail.

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10	The Department of Finance will strengthen its engagement with industry on digital assets policy through periodic specific roundtables, including with key international stakeholders. This will involve convening a Digital Assets Industry Group.
2	The Government is committed to legislative change to support tokenisation of investment funds as outlined in Action 2.
11	The Department of Finance will liaise with other Departments and agencies in their consideration of public sector use cases for digital assets.

Source: Department of Finance

At an EU level, ongoing efforts to improve DLT and tokenisation legal recognition and clarity will come in the form of upgrades to the DLT Pilot Regulation, amendments to the SFD and the Central Securities Depositories Regulation (CSDR) included in the MISP.

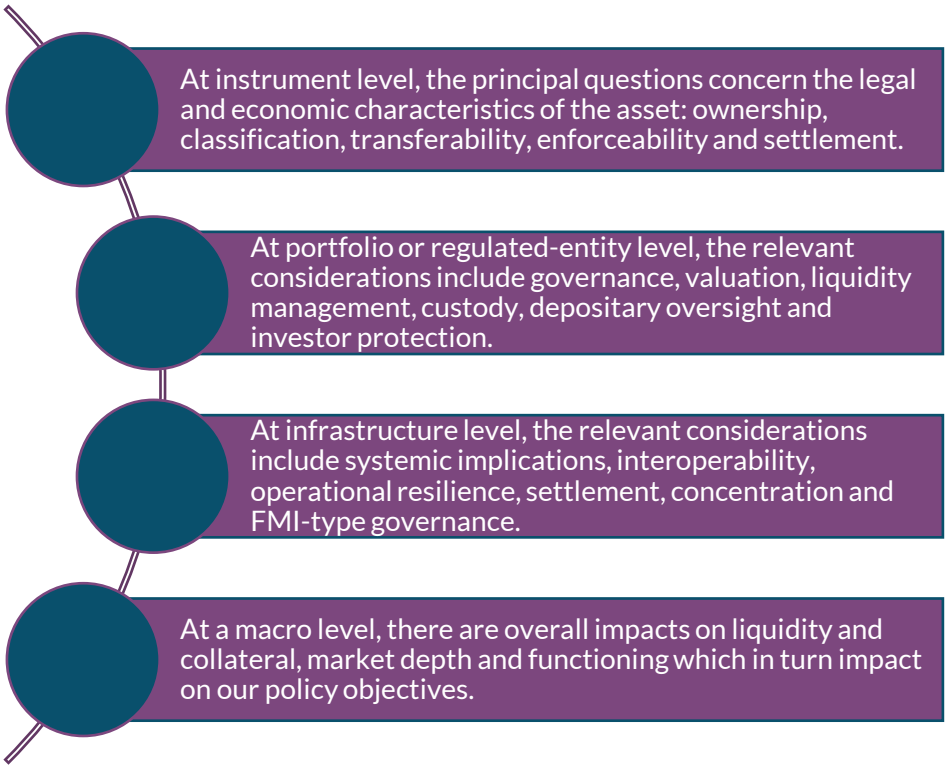
Insight: Technological capabilities do not, by themselves, address legal considerations or enforceability of rights. The evolution of the European framework will be important in determining whether tokenisation can achieve meaningful scale, including across borders.

Our Perspective: While we have seen industry adapting to the current legal environment, legal certainty would be desirable so that asset ownership, settlement finality, smart contract enforceability and cross-border recognition align simultaneously. The Central Bank will continue to coordinate with the Department of Finance domestically, and with our partners at EU level, to support progress towards greater legal certainty for digital assets and tokenisation.

Key Theme 2: Adapting Regulatory Frameworks

Respondents generally did not advocate for the creation of a separate regulatory framework for tokenised finance. Instead, there was broad support for a technology-neutral, substance-over-form approach. This means looking at the economic function being performed: a tokenised bond remains a bond; a tokenised fund interest remains an interest in an investment fund; and a tokenised deposit remains a claim on a credit institution.

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As noted in DP12, these levels are cumulative rather than mutually exclusive. This suggests that regulatory clarity is required not only within each level, but also regarding how requirements apply as the different levels interact.

A distinction should be drawn between three potential policy responses:

1. In many areas existing regulatory objectives and requirements remain appropriate, including those relating to investor protection, governance, valuation, liquidity management, operational resilience and regulated-entity accountability.
2. Policy or supervisory clarification may be appropriate where existing requirements apply to new technological arrangements but there is uncertainty regarding how they should be implemented in practice.
3. Targeted legislative or infrastructural adaptation may warrant consideration where requirements assume a particular technological or institutional architecture and may unnecessarily prevent an equivalent regulatory outcome from being achieved through an alternative model (e.g. exemptions under CSDR in the DLT Pilot Regime).

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Our Perspective: The objective is to identify the regulatory outcome that must be preserved and assess whether the existing regulatory framework enables that outcome to be achieved safely and effectively through a DLT-based architecture.

Regulation should be technology-neutral, but that does not mean it is technology agnostic. The appropriate intensity of supervision and oversight should reflect factors including scale, interconnectedness, substitutability, concentration and the consequences of disruption.

2.1 Digital Identity, Verification, and Trust

Responses identified digital identity as an important foundation for tokenised finance, particularly as markets become more automated and interconnected.

Insight: Existing Anti-Money Laundering / Countering the Financing of Terrorism (AML/CFT) remain fundamental, in particular 'Know Your Customer' (KYC) and customer due diligence (CDD), but their application may need to evolve as financial activity increasingly involves digital wallets, automated transactions and distributed infrastructure.

Effective and interoperable identity solutions could support customer verification, investor eligibility and suitability checks, regulatory reporting and the movement of investors across platforms. Without common approaches, there is a risk that proprietary identity and AML/CFT arrangements create new barriers to interoperability and reproduce existing fragmentation in digital form.

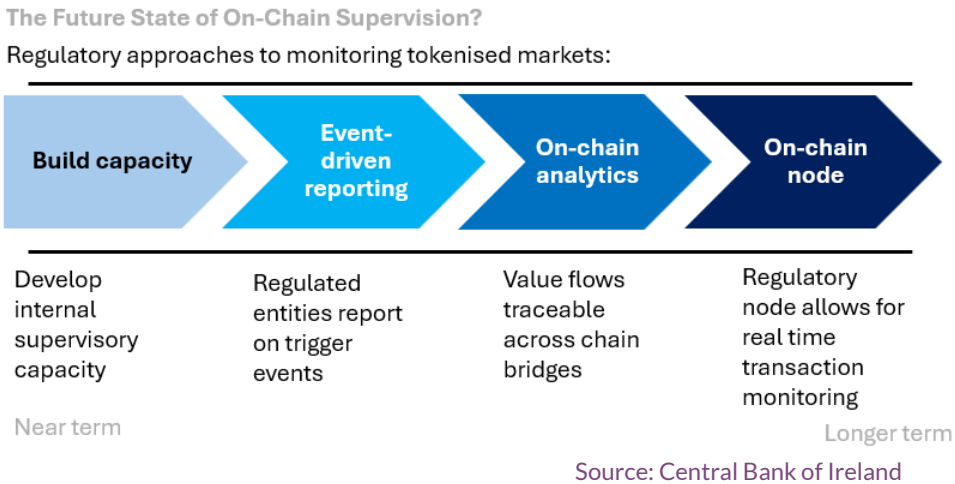
Greater portability must, however, be accompanied by appropriate traceability and accountability.

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Our Perspective: European initiatives, including eIDAS 2.0, provide an important foundation for digital identity. Further considerations will include reliable due diligence, digital identity portability, the role of wallet providers and the allocation of monitoring responsibilities across tokenised transaction chains. The objective should be to enable a trusted digital identity that can reduce friction without weakening financial crime controls or conduct safeguards and standards.

2.2 Data, Operational Resilience and Scalability

Responses identified opportunities for supervisory approaches to evolve, alongside greater data availability within tokenised markets. On-chain access, blockchain analytics, event-driven reporting and greater visibility of common infrastructure dependencies could provide supervisors with more timely and granular information. However, greater data availability does not automatically translate into better supervisory insights or outcomes. Effective use will depend on data quality, common standards and analytical capability, including the ability to distinguish on-chain activity from the legal entities and economic exposures that sit behind it. Greater supervisory visibility must also not dilute firms' responsibility for identifying and managing their own risks.



Source: Central Bank of Ireland

Tokenisation may also introduce or increase dependencies that do not map neatly onto conventional Information and Communications Technology (ICT) and outsourcing models. These include smart-contract vulnerabilities, validator and consensus dependencies,

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oracle concentration, bridges and interoperability layers, and custody and key-management risks.

Common infrastructure can create concentration risk – failures in widely used protocols, oracles or other dependencies may transmit risk rapidly across multiple firms or markets. Public DLT networks also raise particular governance questions, where regulated firms rely on infrastructure that is not subject to centralised control and cannot be subject to conventional third-party oversight.

As financial activity becomes more deeply embedded in technology, understanding the technology will increasingly form part of understanding the regulated activity.

Key Theme 3: Maintaining Governance and Accountability

A common consideration by respondents is that tokenisation should not weaken the governance standards that underpin confidence in the financial system.

The more distributed the technological architecture, the more important it becomes that responsibility for the regulated activity remains clear.

This is particularly important where financial activities become more automated or technologically decentralised. Automation may change how a function is performed, but it does not remove the need for judgement, oversight and accountability. Similarly, reliance on third-party or decentralised infrastructure does not transfer responsibility for regulatory outcomes away from the regulated entity.

The Central Bank's existing regulatory and oversight frameworks already reflects these principles, including for example the Consumer Protection Code 2025, the PISA framework[3], the Committee on Payments and Market Infrastructures (CPMI) and International Organization of Securities Commissions (IOSCO), Principles for Financial Market Infrastructures (PFMI), specifically Principle 2: Governance.[4]

Emphasis on producing better outcomes

Weak governance across a number of firms or market infrastructures can permit common vulnerabilities to build unnoticed. This includes reliance on the same infrastructure, similar automated strategies,

[3] The Eurosystem's oversight framework for electronic payment instruments, schemes and arrangements (PISA)

[4] This Principle outlines that an FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

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common valuation inputs, or correlated liquidity assumptions. In such scenarios, governance, consumer and investor protection, and financial stability can intersect.

From a consumer or financial services user perspective, it remains critical that firms consider whether the resulting product or service is understood by the target market; whether information is presented effectively; whether technological features create unrealistic expectations regarding liquidity or security; whether customers understand the nature of their legal rights; and whether appropriate arrangements exist where technology fails or transactions occur unexpectedly.

The relevant question is not whether tokenised finance is inherently more or less risky than conventional finance - it is whether firms and market infrastructures have the governance, capability and accountability necessary to ensure that their innovation produces better outcomes. In striving to deliver better outcomes, it is crucial that the risks – whether created, migrated, concentrated, accelerated, connected or obscured – remain understood and effectively managed. As tokenised markets develop, market participants and regulatory authorities will need to deal with both micro-level governance and system-level dependencies.



Our Perspective: Good governance should ensure that technological characteristics are not presented in ways that obscure the economic characteristics of the underlying product, service or infrastructure, and the risks are well managed. Innovation in financial product or service delivery should not weaken responsibility for the outcome experienced by the investor or consumer.

Distributed infrastructure and identifiable accountability

Decentralised infrastructure raises some novel governance questions. Traditional financial regulation generally expects that identifiable legal entities exercise control over systems through which regulated activities are performed. In distributed systems, responsibility for protocol development, validation, upgrades and intervention may be dispersed among different participants through Decentralised Autonomous Organisations (DAOs), governance tokens, and various other means.

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This can create a potential gap between technological governance and regulatory accountability. Where a regulated firm or operator of market infrastructure chooses to use decentralised infrastructure, it is critical that they understand the governance of that infrastructure, the extent to which it can influence or respond to changes, the consequences of forks or protocol upgrades, the arrangements available during disruption and the circumstances in which continued reliance on that infrastructure would no longer be appropriate. Decentralisation should therefore not be treated as a substitute for governance; rather, responsibility for the regulated activity must remain clear.[5]

Technology can decentralise processes, but it should not decentralise accountability for regulated entities.

Our analysis of the feedback suggests three related layers of governance:

1. Regulatory accountability of the regulated entity
2. Governance of the underlying infrastructure
3. Operational control and intervention arrangements when something goes wrong.

This layered and self-reinforcing approach to governance takes on particular importance and relevance for permissionless infrastructure, where the regulated entity or operator of market infrastructure remains fully accountable - while having limited ability to influence the operation or evolution of the underlying protocol.



Our Perspective: The Central Bank considers that regulated-entity accountability should remain the starting point for effective supervision and regulation, with emphasis on building technological capability and maintaining effective board challenge for outsourced activities.

Key Theme 4: Building Interoperability and Infrastructures

Integration of financial market infrastructures in Europe has long been a strategic objective of the European System of Central Banks (ESCB), alongside maintaining the safety, security, and efficiency of the payments and settlement system. A technology intended to

[5] This is consistent with DORA's broader approach: digital operational resilience is not solely an IT function. It is a matter for the governance and risk-management framework of the financial entity.

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facilitate shared infrastructure could, if implemented through incompatible ecosystems, reproduce or amplify existing market fragmentation.

Next generation operational paradigms

Financial market infrastructures are evolving towards faster, more automated and increasingly continuous models of operation. Tokenisation has the potential to accelerate this transition, including through more automated workflows and instant or near-instantaneous delivery-versus-payment (DvP). This could reduce existing settlement frictions but also could have important implications for the availability and management of liquidity, collateral and settlement assets, particularly where markets operate beyond conventional operating hours. In particular, this could materialise during the earlier stages of the transition to tokenised markets if liquidity is fragmented across a range of non-interoperable platforms.

These developments are taking place alongside wider changes to European market infrastructure. The move to T+1 securities settlement in October 2027, for example, will significantly shorten the period available to complete post-trade processes. This change will increase the importance of automation across trade matching, clearing, collateral management, foreign exchange and corporate actions. Similarly, greater use of API connectivity and ISO 20022 messaging should support richer data exchange and more automated processes, while introducing new operational and interoperability dependencies.

Taken together, these developments point towards a financial system in which the distinction between trading, clearing, settlement and liquidity management may be compressed and even collapse into one. The challenge for both public and private infrastructures is therefore to ensure that greater speed and programmability are accompanied by appropriate liquidity arrangements, operational resilience and interoperability. In particular, continuous technical availability should not be assumed to equate to continuous economic or operational readiness, and the implications of increasingly 24/7 markets will require careful consideration as the infrastructure evolves.

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Our Perspective: Market participants and market infrastructures must consider the operational impact of moving to a 24/7 'on-demand', enriched data operating model as part of transitioning to tokenised financial operations. It is crucial for development efforts to build in backwards compatibility where tokenised systems will co-exist with legacy processes and systems.

Interoperability as a means of achieving scale

Respondents consistently identified interoperability as a key condition for tokenisation to achieve meaningful scale. Feedback reinforced our understanding that fragmentation could arise across multiple layers and therefore cannot be effectively addressed through isolated solutions. Interoperability should be designed into the emerging ecosystem from the outset, alongside the protections on which confidence in financial markets depends.

At an international level, common identifiers (ISIN, LEI, DTI) and messaging standards (ISO 20022) are likely critical to enabling tokenised finance to develop beyond individual platforms, institutions and jurisdictions. Identity credentials and settlement semantics matter, because platform connectivity alone does not produce consistent legal or operational outcomes. Without effective cross-network communication and common approaches to areas such as data, identity and asset servicing, tokenisation risks reproducing or deepening existing market fragmentation, including through the creation of separate pools of assets and liquidity.



Insight: Interoperable infrastructure is a necessary condition to guard against fragmentation and enable financial assets and information to move more efficiently across markets. Conversely, the development of multiple proprietary or incompatible ledgers, token standards, settlement assets and identity systems could create new liquidity silos and increase fragmentation.

Interoperability is also a cross-border challenge, requiring European and international coordination. However, distributed networks

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challenge some existing international frameworks for designing and implementing common standards (e.g. the rate of technological advancement, different sectoral frameworks, different regulatory authorities, different entities coming into the regulatory perimeter).

A key focus area for respondents was interoperability between permissionless and permissioned blockchain ecosystems, including to what extent regulated firms can process transactions on the "Layer 1" (the underlying blockchain network where transactions are recorded), with distributed or decentralised governance arrangements. Viewpoints diverged on the most appropriate balance between permissioned and permissionless networks or layers, and how best to build connectivity between the two.

In general, DLT-native providers favoured permissionless while emerging market players and fintechs favoured a hybrid approach. Traditional providers demonstrated a distinct preference for permissioned, in light of their extensive regulatory obligations, but many acknowledged that permissionless networks could be considered, if they could demonstrate equivalent standards of transparency, control, and risk management.

Most respondents agreed that European public infrastructure has an important role in supporting interoperability, while maintaining safe and reliable settlement. It is for this reason that the Eurosystem – under its Appia programme – has a stream of work on Asset Interoperability and Standards, as a critical component of the broader programme to consider the longer-term architecture for a more integrated European tokenised financial ecosystem.

Understanding the need to advance common protocols and settlement networks alongside a clear delineation of the respective benefits of public and private infrastructures, will be crucial to designing standards and architecture that bring about the greatest public benefit from tokenised interoperability.



Our Perspective: The Central Bank supports common standards that enable tokenised markets to scale across infrastructures and borders without creating new fragmentation or weakening existing

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safeguards. The Central Bank considers exploration of interoperability between permissioned and permissionless networks to be a priority policy focus.

Key Theme 5: Tokenisation of Assets

Over the past year, we have seen continued growth in the tokenisation of financial assets from about €20.5 billion in October 2025 to €34.5 billion in October 2026.[6] The vast majority of tokenisation at instrument level is in fixed income, particularly US government debt, which accounts for approximately €13 billion of the overall asset tokenisation market.

Notable developments in the market include:

- The bulk of tokenised activity takes place in the market for repos[7]. Latest IMF figures point to an average of $300 billion to $350 billion in daily transaction volume (July 2026), reflecting tokenisation's appeal for collateral management[8]
- Tokenised assets (credit, money market funds, and equities, among others) add another $65 billion in volume. [9] This activity concentrated in a few markets, mainly the US
- On tokenised money market funds (tMMFs), the ECB recently reported global tMMF capitalisation reached roughly €7 billion (about $7.6 billion) by early 2026, with EU-domiciled funds accounting for roughly €725 million
- In relation to tokenised equities (also referred to as stock tokens and/ or equity-linked products), reports suggest that total on-chain value in this market has risen from approximately €500 million to over €2.8 billion in the 12 months between end September 2025 and September 2026.[10]

[6] https://app.rwa.xyz
[7] These types of repurchase agreements entail short-term loans backed by government bonds, in which the parties agree to reverse the transaction at a later date.
[8] International Monetary Fund, Chapter 3 – Scaling Tokenization: New Efficiencies, New Vulnerabilities – Global Financial Stability Report, October 2026.
[9] IMF, GFSR, October 2026. While these assets have been growing rapidly, they are still a tiny proportion compared to traditional versions – the volume of the US repo market is about $13 trillion daily, while global capital markets represent $300 trillion in assets.
[10] Report by on-chain data provider, Dune (September 2026)

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A consistent theme across responses is that the technical capability to tokenise an individual financial instrument is increasingly established. Respondents identified existing and prospective applications across securities issuance, investment funds, collateral management, derivatives, custody settlement, treasury management, and other post-trade activities.

The potential benefits of tokenisation will therefore depend on the extent to which these different components can operate together safely and efficiently.



Insight: To operate efficiently at scale, a tokenised financial instrument needs to interact with digital identity, existing compliance processes, trading and post-trade systems, custody arrangements, money and settlement infrastructure and, ultimately, the legal framework through which ownership and transactions are recognised.

Digital representations towards digitally native

A particularly consistent theme in the responses concerned the relationship between on-chain records and conventional financial records.

Respondents considered that some of the strongest potential efficiencies associated with DLT arise from the possibility of maintaining a shared record of ownership and transactions, thereby reducing duplication and reconciliation between records maintained by different institutions.

A number of respondents considered that these efficiencies are materially reduced where tokenised structures are required to maintain a parallel traditional register or record alongside the on-chain record. This can result in the creation of requirements for reconciliation and potentially adding a further technological layer rather than simplifying the existing architecture. However, the true benefits of tokenisation are likely to be seen in more digitally native environments.

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Considerations regarding digital twins arose in different contexts, including securities issuance, fund registers and CSD-related requirements.

The Central Bank recognises the significance of this issue. However, the question is not simply whether an on-chain record can technically replace a conventional one. A legally authoritative record performs important functions in establishing ownership, supporting third-party enforceability and providing certainty in the event of dispute or insolvency. Any evolution towards greater reliance on DLT-based authoritative records would therefore need to preserve these outcomes.[11]



Insight: A ledger may provide a technically robust and cryptographically verifiable record of a transaction without necessarily determining its legal effect. Similarly, technological control of a token does not necessarily determine legal ownership of the financial claim represented by it.

Unlocking liquidity through enhanced collateral mobility

Respondents highlighted that the near-instantaneous settlement and 24/7 transferability features of tokenisation will provide meaningful benefits for both collateral mobility and intraday liquidity management.

From a collateral management perspective, tokenisation can mitigate operational risks and decrease the cost of collateral funding, with coupons and dividends coordinated via a smart contract on DLT. Atomic settlement unlocking liquidity tied up in the T+2 cycle was also frequently cited. That said, questions remain regarding the true efficiencies of atomic settlement, particularly where prefunding is needed and there is the loss of multilateral netting.

The potential risks of liquidity fragmentation caused by limited interoperability across networks was also raised, illustrating the delicate balance between the benefits and risks of tokenisation scaling. The Central Bank has also observed that limited secondary

[11] In Q3 2026, Aviva Investors, BlackRock, and Schroders received Central Bank approval for tokenised fund structures.

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market liquidity is also emerging as a barrier to widespread adoption of tokenisation and is creating fragmented pools of liquidity.

Respondents identified potential benefits associated with the expansion of tokenised bonds, whether sovereign or corporate. The Central Bank recognises the important role of tokenised bonds in encouraging broader digital market participation and, over time, contributing to deeper and more liquid secondary markets and enhancing the functioning of digital markets. These assets can be used both to increase liquidity in the market as eligible collateral, or to expand access to safe savings and investment products.



Our Perspective: The Central Bank supports further exploration of bond issuance and the Eurosystem's work to align its collateral framework and collateral management practices with technological advancements in financial markets. The Central Bank supports the Department of Finance's goal as laid out in the Ireland for Finance Vision 2030 to work with Government departments and agencies in their consideration for public sector use cases for digital assets.

Key Theme 6: Tokenisation of Money and Settlement

The limited prevalence of regulated, euro-denominated, on-chain settlement assets received the strongest signal across the entire consultation. Asset tokenisation has progressed faster than payment tokenisation. As some financial activity shifts to tokenised infrastructure, it is important that central bank money remain as the ultimate settlement asset for wholesale transactions, while allowing for private sector innovation to meet market demand.

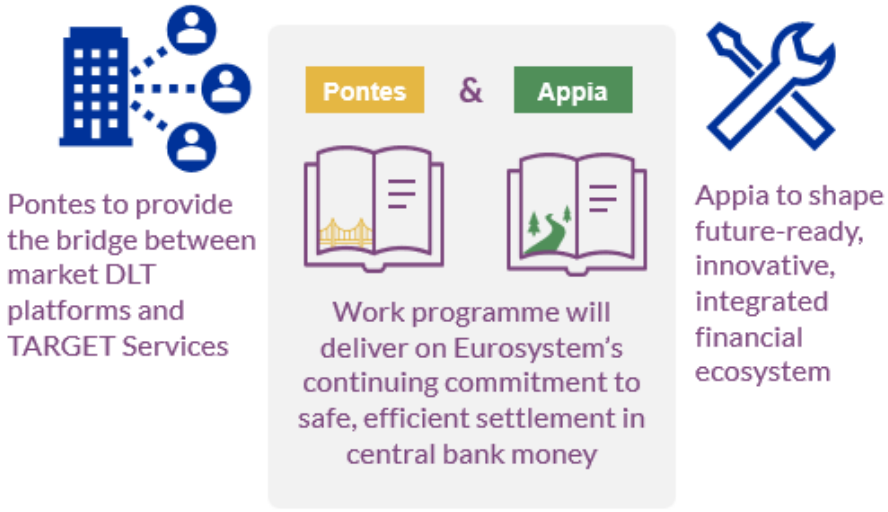
Preserving central bank money as the anchor for safe settlement

Respondents strongly supported continued access to central bank money as the anchor for settlement in tokenised wholesale markets, reflecting its role in preserving settlement certainty and the integrity of the two-tier monetary system. The Eurosystem's Pontes and Appia initiatives were therefore strongly welcomed, with respondents encouraging the Central Bank to actively participate in their development and ensure that Irish market perspectives inform the emerging European architecture.

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Responses also highlighted the importance of maintaining flexibility as that architecture evolves. While Pontes provides an important near-term bridge between DLT-based markets and central bank money, respondents identified potential concentration and dependency risks and cautioned against premature technological lock-in. They also highlighted the need to manage the transition to the longer-term architecture being considered through Appia, particularly if this ultimately differs materially from the arrangements developed under Pontes.

The Central Bank agrees that central bank money should remain the settlement anchor, mirroring the CPMI principle that wholesale settlement in central bank money is the preferred option where practical and available, while recognising that the infrastructure providing access to it should be capable of evolving with the market. The Central Bank will continue to contribute actively to the development of Pontes and the Appia blueprint, with particular focus on resilience, interoperability, and avoiding unnecessary technological dependency or fragmentation.



Source: European Central Bank

Pontes, which launched in September 2026, connects DLT platforms with the Eurosystem's TARGET Services.[12] This enables transactions in tokenised financial assets to be settled safely in central bank money.

Appia is a longer-term, whole-of-ecosystem approach. It brings together public and private sector stakeholders, to examine how

[12] TARGET Services is structured as a multiplicity of payments systems using a single technical platform. The Irish component system of T2, operated by the Central Bank, is TARGET2-Ireland.

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central bank money and collateral services could be provided, via different DLT networks, and how policy objectives could be provided via different DLT networks and in different scenarios.

The aim of the Eurosystem is to deliver, by 2028, a blueprint for a safe, innovative and integrated tokenised EU financial ecosystem, that considers market, legal, regulatory and international developments, including ways to support development of DLT networks with EU governance and common standards.

Together, these initiatives aim to support innovation and efficiency in financial markets, while preserving the role of central bank money as a trusted settlement asset and safeguarding monetary policy effectiveness, financial stability and the smooth functioning of payment systems.



Our Perspective: The Central Bank, as part of the Eurosystem offers Pontes as a bridge between DLT markets and central bank money, preserving central bank money as the settlement anchor while tokenised markets mature. The Central Bank will use experience gained through Pontes, together with insights from the domestic market, to actively shape the longer-term European architecture being developed through Appia.

Bringing commercial bank money into the tokenised ecosystem

Respondents broadly supported tokenisation developing within the two-tier monetary system, anchored in central bank money. Within that framework, MiCAR-regulated e-money tokens (EMTs, i.e. stablecoins) and tokenised commercial bank deposits were generally viewed as potentially complementary forms of settlement asset, reflecting their different characteristics and use cases.

Respondents noted that, as a bearer instrument, stablecoins can circulate more readily across crypto-native or open-network environments. They also have a potential advantage over tokenised deposits for cross-border remittances - owing mostly to the fact that stablecoins can operate on public permissionless networks, rather than the closed loop networks where tokenised deposits mostly

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operate. However, their systemic implications vary significantly depending on their regulatory status, issuer, denomination, and jurisdiction. For example, they are inherently more susceptible to deviations from par.

Meanwhile, tokenised deposits are supported by an institutional framework that supports singleness of money, they can bear interest and – assuming equivalent treatment to standard deposits – would be covered by national deposit guarantee schemes (DGS) up to a maximum of €100,000 per depositor per credit institution. These key benefits can bring DLT capabilities, in particular programmability, to commercial bank money, while preserving its role within the two-tier monetary system. Promising emergent use cases include corporate group treasury and liquidity management for global clients and supply chain management.

However, respondents have identified several barriers to wider adoption of tokenised deposits:

1. The fact that the legal definition of "deposit", whether tokenised or traditional, is not harmonised across Europe
2. Equal treatment under national DGS, while assumed, has not been explicitly addressed through supervisory guidance
3. The capital and liquidity treatment of tokenised deposits under the Capital Requirements Regulation / Capital Requirements Directive (CRR/CRD) – and whether it differs from traditional deposits – has not been explicitly considered or addressed through supervisory guidance
4. Interbank settlement of tokenised deposits requires co-ordination amongst the ecosystem, which is only beginning to emerge in the European market
5. The EU regulatory framework for stablecoins is more mature than that for tokenised deposits, leading to a cautious approach whereby EMTs/stablecoins may be considered initially a more commercial means of exploring the viability of tokenised settlement assets in the European market, prior to committing significant investments.

The emergence of multiple forms of tokenised settlement assets places particular importance on the need to maintain monetary

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singleness and interoperability. As different settlement assets and infrastructures coexist, maintaining reliable convertibility at par, preserving central bank money as the ultimate settlement anchor, and enabling interoperability across platforms will be important to avoid fragmented pools of money and liquidity as tokenised markets develop.



Our Perspective: The Central Bank advocates for an integrated ecosystem that preserves the role of central and commercial bank money, while allowing for the use of the most appropriate settlement asset for distinct roles and use cases. The Central Bank will support collective efforts to advance interoperable tokenised deposits in the European market.

Key Theme 7: Managing Risks

The Central Bank does not consider that tokenisation creates an entirely new taxonomy of risk. Many of the underlying risks –credit, liquidity, market, operational, concentration, third-party, legal and governance risks – still provide an appropriate taxonomy of risks in a tokenised ecosystem.

What may change is where those risks reside, how they interact, how quickly they crystallise and how rapidly they can be transmitted through the financial system.

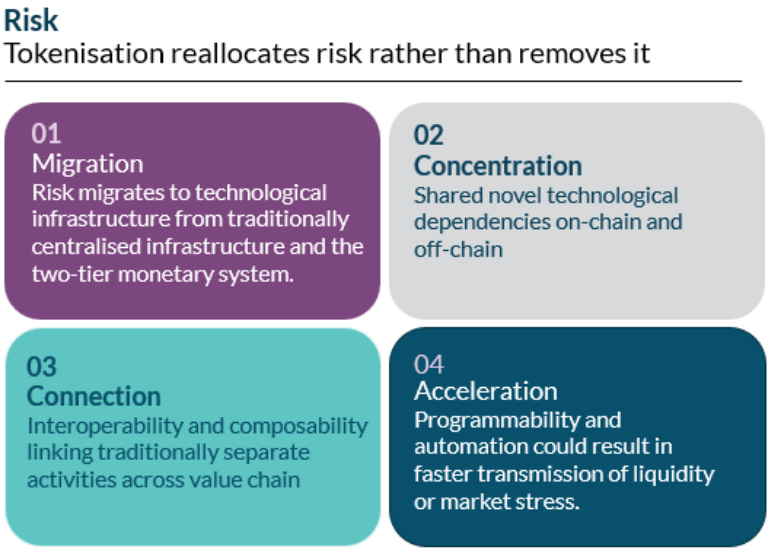
Drawing on the responses, we consider that tokenisation may, in different circumstances:

- Create or transform new risks or dependencies, both at an individual firm level and at a system level
- Migrate existing risk from one participant, process or infrastructure to another
- Concentrate risk through common infrastructure, providers or protocols
- Accelerate the transmission of shocks across the financial system
- Connect activities and markets through new transmission channels
- Or, potentially obscure underlying economic risk through apparently frictionless technological processes.

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Insight: Tokenised systems may create and increase novel dependencies on smart contracts, DLT network operators, validators, oracle providers, bridges, wallet providers and other technology infrastructure which need to be managed.

During our engagements and analysis, the following themes emerged with respect to risk transformation in a more tokenised system:



Source: Central Bank of Ireland

The resilience of a tokenised financial system will therefore depend not only on the resilience of its individual components, but on understanding the dependencies and transmission channels created when those components interact.

New operational risks from a tokenised infrastructure

The technological architecture of tokenised finance can raise new operational risks, at a firm and system level.

Smart contracts may perform functions previously undertaken through conventional operational processes. Errors in code, vulnerabilities, inappropriate permissions or unintended interactions between contracts can therefore have direct financial consequences.

Respondents similarly identified dependence on external data sources and oracles. Where smart contracts rely on external information for prices, interest rates, collateral values or other inputs, the integrity and availability of those data become integral to the operation of the financial activity.

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Cryptographic key management presents another distinctive dependency. Compromise of a private key may permit unauthorised transfer, while loss of a key may prevent access to an asset.

Large numbers of firms may depend on the same DLT network, a relatively small validator population, common smart-contract protocols, a limited number of oracle or data providers, interoperability infrastructure, or common custody and key-management providers. As with all third-party activities, these dependencies may be manageable when considered individually but significant or systemic when aggregated across the financial system.

The approach reflected in both the Digital Operational Resilience Act (DORA) and the Central Bank's Outsourcing Guidance already recognises that dependence on external providers can create concentration, resilience and oversight risks that require active management. As tokenised activity scales, supervisors and firms will need to consider whether apparently distributed infrastructure contains common dependencies capable of becoming single points of vulnerability.

Interaction with traditional financial risks

Traditional vulnerabilities – such as those stemming from liquidity mismatches, leverage or interconnectedness – could emerge in different forms in tokenised markets. Indeed, a recurring theme in the responses is that tokenisation can remove a particular friction, without necessarily eliminating the underlying economic risk.

For example, faster collateral mobilisation may reduce liquidity trapped within operational processes, while transferring liquidity demands elsewhere. Greater collateral mobility could also support larger leverage positions than would otherwise be the case, potentially amplifying deleveraging pressures during stress. While any differences in perceived liquidity between a token and its reference asset may lead to run-like dynamics and redemption pressures in times of stress. From an interconnectedness perspective, common settlement assets, collateral arrangements and programmable interaction between tokenised instruments may create linkages between institutions and markets that were previously more distinct.

Ultimately, risk management – at the firm and the system level – will require looking beyond the immediate efficiency gained from the tokenisation of certain activities, and understand the end-to-end risk consequences of these changes. At this stage, given the size of tokenised markets, the system-wide implications of these risks

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remain limited. But if tokenisation scales, it will be critical to ensure that the evolution of traditional financial vulnerabilities can be measured and managed across the financial system.

Stress dynamics

Responses highlighted the importance of considering how tokenised systems may behave under stress as well as in normal market conditions. Characteristics that can increase efficiency – including, inter alia, speed, automation, transparency and transferability – may also change the way financial stress develops and is transmitted. Programmable systems could automate margin calls, collateral movements, liquidations or portfolio adjustments / rebalancing, in turn reducing operational latency while potentially accelerating the transmission of market movements through the financial system.

These considerations form part of a broader move towards faster and more automated markets. The transition to T+1 settlement in the EU, and the potential for increasingly continuous or 24/7 tokenised markets, will increase demands on post-trade processes. Firms will need to consider their implications for liquidity and collateral management, operational resilience and the capacity to intervene during periods of stress. In that context, risk management, supervisory and financial stability practices will need to consider how evolving market practices and structures could potentially affect the transmission of risk under stressed conditions and how that can be managed effectively.

Transparency and Regulatory Reporting

Responses identified opportunities for supervisory approaches to evolve – to include on-chain supervisory access, blockchain analytics, standardised reporting schemas, event-driven data feeds, smart-contract information and system-wide monitoring of common infrastructure dependencies.

These developments could potentially increase the timeliness and granularity of information available to supervisors, although data quality, common standards, and a clear understanding of the legal and economic relationships represented by on-chain activity will be needed.

Supervisory understanding of the technology will become an increasingly important component of understanding the regulated activity itself.

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3. Next Steps and Future Workplan

The feedback received, together with developments across financial markets and regulatory jurisdictions, has sharpened our understanding of both the opportunities presented by tokenisation and the conditions necessary for its responsible adoption. While existing regulatory frameworks provide an important foundation, further clarity, coordination and, where justified, targeted adaptation may be required as applications develop and market practices evolve.

The publication of this Feedback Statement is set against a transition from understanding the potential of tokenisation towards contributing to developing the conditions for its responsible scale. The Central Bank's approach will remain iterative and evidence-led, recognising that technology, market structures, the European regulatory framework and our own policy and supervisory perspectives will continue to evolve.

Engagement between central banks, regulators, industry and the broader ecosystem will continue to be critical to responsible innovation and development of DLT and tokenisation in the financial system. Our next phase of work will bring together market engagement, focused policy development, regulatory clarification, infrastructure development and working together with domestic, European and international stakeholders through a connected programme of work.



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Priority Area 1: Enabling Central Bank Money Settlement and Evolving the Collateral Framework

As part of the Eurosystem, the Central Bank will work to ensure the benefits of tokenised assets are supported by safe, efficient and interoperable settlement through active participation in both Pontes and Appia. Together, these initiatives will support innovation and efficiency in financial markets, while preserving the role of central bank money as a trusted settlement asset and safeguarding monetary policy effectiveness, financial stability and the smooth functioning of payment systems.

Pontes is already operational and the Central Bank as operator of T2-IE, the national component of the payments system in Ireland, stands ready to support relevant financial market participants who are seeking to access the system. From mid-2027, as part of Eurosystem-wide efforts, the Central Bank will work to implement further enhancements to Pontes, including settlement finality within Pontes and extended operating hours, with the onboarding of further capabilities expected in 2028.

Beyond that, the Central Bank will continue to work closely with Eurosystem partners and market stakeholders through the Appia initiative, contributing to the development of a long-term blueprint for Europe's tokenised financial ecosystem by 2028 (further details below).

In addition, the Central Bank – in collaboration with the Eurosystem – will be progressing work around collateral eligibility of tokenised assets. Our market engagement indicates collateral eligibility is an important enabling factor for markets to scale. Since March of this year, the Eurosystem has accepted marketable assets issued in CSDs using DLT-based services as eligible collateral for Eurosystem credit operations.[13] The Eurosystem has also launched a work plan to explore if, how and under what criteria assets issued using DLT and not represented in eligible securities settlement systems could

[13] Like other marketable assets, they must comply with Eurosystem collateral eligibility criteria and collateral management requirements. See ECB paves way for acceptance of DLT-based assets as eligible Eurosystem collateral

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become eligible and be mobilised as Eurosystem collateral in the future.



Priority Area 2: Support Efforts Domestically and in Europe to Advance Legal and Regulatory Clarity

Legal and regulatory clarity was a consistent theme in the feedback received from market participants to the DP.

Some of the key areas that have been identified require legislative change, domestically or in Europe. The Central Bank will continue to engage with relevant domestic and European authorities to identify and prioritise issues that may require legislative change. This engagement will cover issues such as smart contracts, legal ownership and transfer, authoritative records or settlement finality. Legislative amendments are already being progressed at an EU level to facilitate DLT and tokenisation.

This includes updates to the SFD, CSDR and the DLT Pilot Regulation. The Ireland for Finance Strategy – Vision 2030 includes a commitment from Government to update Irish primary legislation to enable the digitally native tokenisation of funds and assets and an authoritative on-chain register. The Central Bank will continue its close coordination with the Department of Finance to support delivery on these actions.

Other areas relate to the regulatory framework, without requiring changes to primary legislation. The Central Bank will seek to identify and prioritise those areas, working with European partners via the European Supervisory Authorities (ESAs) or the Single Supervisory Mechanism (SSM) to progress these. The objective is to provide increasing clarity on the conditions under which tokenisation can develop safely and at scale, while supporting innovation and efficiency and preserving resilience, financial stability, investor and consumer protection, safe settlement and clear accountability.

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Priority Area 3: Evolving our Innovation Practices in line with the Changing Landscape

Tokenisation can have implications for where risks reside, how they interact, how quickly they crystallise and how rapidly they can be transmitted through the financial system. This requires firms' risk management practices to evolve as tokenisation scales. Adaptations of the existing regulatory framework may also be needed in certain areas to address novel technological elements or idiosyncratic risks arising from the use of DLT and tokenisation applications.

Amidst continued innovation in tokenised finance, it is critical that the Central Bank has a targeted mechanism for better understanding the implications of these developments on our objectives.

In support of this, the Central Bank will launch a Tokenisation Access Point (TAP). This will build on the success of the Innovation Hub and existing channels for engagement across policy, supervision, oversight and authorisation, leveraging specialist expertise across the breadth of our mandate. The purpose of TAP is twofold:

- For ecosystem participants, it will provide a clearer route through the Innovation Hub for engaging with the Central Bank on the changing tokenisation landscape, practical implementation issues and questions arising from the application of existing rules and frameworks
- For the Central Bank, we envisage it will provide an important source of intelligence and practical evidence on how technology and markets are developing, helping us to identify emerging opportunities, risks and dependencies at an earlier stage, as well as the effectiveness of our policy actions.

Similar to the broader Innovation Hub, engagement through TAP will not constitute regulatory approval, an alternative authorisation path, or endorsement of a particular business model or technology. Rather, it will serve as a targeted mechanism for engagement with the sector, through which we more efficiently identify and consider emerging questions concerning tokenisation, facilitating joined-up consideration of material issues. It will also inform the Central Bank's

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input to European and international rule-making and supervisory fora, as well as its contribution to the Eurosystem's Appia project.

The Central Bank is also launching a new, more pro-active approach to engaging with the ecosystem on specific dimensions of innovation in finance, with particular emphasis to be placed on tokenisation over the coming months. Our Innovation Insights model will involve focused, time-bound sprints, working with the sector, on particular aspects of the evolution of tokenised finance that require deeper exploration. Initial areas of focus are expected to include operational resilience for DLT infrastructure; smart contracts; governance and accountability – including in the context of open, permissionless chains.

This mechanism will allow us to engage broadly with the innovation ecosystem, to examine emerging policy questions and respond to material issues as they arise, drawing also on developments identified through the Innovation Hub, TAP, supervision, authorisation and wider market engagement.

It will also enable the Central Bank to more rapidly develop our policy and supervisory thinking as the market develops, allowing us to provide early clarity for industry, while providing informed input towards European deliberations around the evolution of a tokenised ecosystem.

The Central Bank will publish a series of Tokenisation Insights Reports addressing sectoral and system-wide developments affecting the tokenised financial system. These reports will translate intelligence and emerging questions into considered policy, supervisory and central banking perspectives.



Priority Area 4: Shape the Development of the Tokenised Ecosystem to Guard Against Fragmentation

The Central Bank will actively participate in the Eurosystem's Appia work, which seeks to pave the way for a future-ready, integrated financial ecosystem in Europe, leveraging tokenisation and DLT.

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Given the scope of the work, Appia relies on significant engagement with the private sector – and the Central Bank will lead this engagement at a domestic level, while participating in the Appia Contact Group at a European level.[14]

With Appia, the Eurosystem is examining how central bank money and collateral services could be provided via different DLT networks and assess how its policy objectives could be achieved in different scenarios, considering market, legal, regulatory and international developments. In addition, the Eurosystem will investigate ways to support the development of DLT networks that function as basic infrastructures with European governance and common standards.

The Central Bank stands ready to support efforts by the domestic ecosystem in exploring how to progress interoperable, tokenised commercial bank money, alongside settlement in central bank money. More broadly, we will support industry-led efforts to develop common standards and practices, advancing interoperability and guarding against fragmentation. Finally, as referenced above, the Central Bank is ready to support any further exploration of tokenised bond issuance, settling in central bank money through Pontes.

Complementing this, we will continue our proactive engagement through ESMA to develop convergent regulatory approaches to tokenised finance from a securities markets perspective. We will also continue to actively engage at an international level including through the work of the Bank of International Settlements (BIS), the International Monetary Fund (IMF), IOSCO and the Organisation for Economic Co-operation and Development (OECD). Through these fora we will explore exploring the possibility of common standards to deliver interoperability and other public policy outcomes as DLT and tokenisation play a larger role in the financial system.

Finally, the Central Bank will also monitor ECB preparatory work[15] to invest a small portion of its own funds in tokenised securities, and we will explore the possibility of taking a similar initiative with our

[14] See: https://www.ecb.europa.eu/press/intro/news/html/ecb.mipnews260819.en.html

[15] See: https://www.ecb.europa.eu/press/pr/date/2026/html/ecb.pr260921_1~5a011ecbea.en.html

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investment portfolio in order to gain practical experience as an investor in DLT-based assets.

Priority Area 5: Deepening our Understanding of the Macro-Financial Implications of Tokenised Finance

A final strand of our work will be enhancing our understanding of how tokenisation affects the risks facing the financial system, the implications for market functioning, as well as the efficiency of evolving payments and settlement systems.

Research and analysis forms a core foundation of our ability to respond effectively to a changing financial system – and the shift to tokenised finance is no exception. This will be a multi-year, multi-faced work effort, building on the recent direction of the Central Bank to enhance its understanding of the economics of payments. It will include, amongst others: deepening our own research and analysis as well as building on the work of other bodies; enhancing our market intelligence including on digital instrument usage in real-world applications; and building our capabilities to monitor and understand on-chain developments.

Finally, the Central Bank will continue to contribute to Eurosystem and ESA research and analytical initiatives to keep pace with the macro-financial implications of developments in tokenisation.



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