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ECB BEGINS PREPARATORY WORK FOR INVESTMENTS IN TOKENISED SECURITIES

The European Central Bank (ECB) has begun preparing to invest a small portion of its own funds in tokenised securities to gain investor experience and knowledge using distributed ledger technology (DLT) in financial markets.

The ECB's non-monetary policy portfolio provides it with income for operating expenses. The bank hopes to gain first-hand experience throughout the whole investment lifecycle, including trade execution, settlement, systems, and portfolio management.

According to the ECB, the initiative will also support the Eurosystem's goal of making central bank money "fit for the digital age". The strategy includes the Eurosystem's solution for settling tokenised assets in central bank money, Pontes — launched on 21 September 2026 — and Appia, which aims to deliver a model for a European tokenised financial ecosystem.

Purchases related to the initiative will be settled in central bank money utilising Pontes, with an initial focus on euro-denominated securities issued by euro area and regional governments, agencies, and supranational institutions.

Following the preparatory work, the ECB executive board will decide the operational details and timing of investments, accounting for any developments in tokenised issuance and its ecosystem throughout Europe.



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OWNERA AND DFNS PARTNER TO ACCELERATE ADOPTION OF TOKENISED COLLATERAL

Ownera and DFNS have signed a Memorandum of Understanding to launch a joint go-to-market focused on accelerating the adoption of tokenised collateral mobility and intraday financing across institutional markets. The partnership combines Ownera's orchestration infrastructure with DFNS' secure wallet, governance policy management, and transaction management-signing technology to help financial institutions manage, mobilise, and optimise tokenised assets.

Ownera's production-grade intraday repo and tokenised collateral platform has been validated through industry initiatives involving more than 70 institutions.

Under the partnership, the two companies will jointly market an integrated solution enabling institutions to custody tokenised cash, funds, and securities within DFNS-governed wallets while mobilising those assets across intraday repo and margin workflows.

Ownera will provide the interoperability layer through its FinP2P routing network to move assets across venues without bilateral integrations, while DFNS will deliver the institutional wallet infrastructure, key management, and programmable policy controls. Together, the organisations aim to deliver a complete collateral lifecycle solution spanning inventory management, margin calls, collateral optimisation, and atomic settlement.

As part of the collaboration, DFNS will become a Founding Member of the Open Collateral Network and will feature a live application within Ownera's SuperApps ecosystem.

The joint go-to-market initiative will focus on financial institutions facing growing collateral pressures, including hedge funds, asset managers, corporate treasuries, and market infrastructure providers.

Ami Ben-David, founder and CEO of Ownera, says: "Ownera's value offering of collateral mobility and intraday financing can be rapidly accelerated when paired with institutional wallet infrastructure.

"This agreement will simultaneously support and expand Ownera's impact whilst facilitating high-value commercial use cases for DFNS and their clients."

Clarisse Hagège, CEO of DFNS, comments: "The institutions we serve do not want to bet on a winning chain, and they should not have to. Ownera's FinP2P network lets them connect once and transact with every other participant, across EVM chains, Canton, Solana, and legacy systems alike.

"DFNS gives them the layer to execute, control, and operate on that network with the discipline their regulators expect."

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S&P Global to acquire OpenZeppelin

S&P Global has agreed to acquire OpenZeppelin, an onchain security firm, to complement its risk assessment and ecosystem development capabilities in digital asset markets.

OpenZeppelin combines onchain security assessment and secure development services with a library of open-source smart contracts, which underpin over US$37 trillion in value transferred, the firm says.

S&P says the acquisition will expand its risk assessment capabilities into the onchain technology risk layer.

OpenZeppelin will continue to operate as its own business unit under the same name, with Damian Brener, CEO of OpenZeppelin, continuing to run the company.

Brener will report to Yann Le Pallec, president of S&P Global Ratings.

Speaking on the acquisition, Le Pallec says: "As digital assets and tokenised markets continue to mature, OpenZeppelin's technology and expertise will complement our smart contract and onchain technology risk assessment capabilities, giving TradFi institutions and DeFi-native companies alike the confidence to build and transact in this new environment."

Brener adds: "OpenZeppelin's standards, technology, and expertise already power the infrastructure behind the world's leading stablecoins, tokenised funds, DeFi protocols, and onchain markets. With S&P Global, that foundation reaches a broader set of organisations entering this market, as well as the blockchain networks and DeFi protocols gaining institutional adoption."

The transaction is subject to closing conditions and the financial terms were not disclosed.

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Caceis becomes Crédit Agricole Caceis

Caceis has announced it is rebranding to Crédit Agricole Caceis, effective 1 October 2026.

According to the company, this new identity evokes both the expertise of a leader in asset servicing and the financial strength of a premier banking group.

The change supports Caceis' 2028 medium-term plan by aligning the business more closely with the Crédit Agricole brand; strengthening its international growth ambitions through the group's global footprint; and reinforcing its focus on technology-led innovation to deliver more effective solutions for clients, the firm says.

While the brand name has changed, Caceis' legal name, teams, and service offering remain unchanged.

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CLEARTOKEN RECEIVES BOE APPROVAL FOR DIGITAL SECURITIES DEPOSITORY

ClearToken Central Securities Depository (CSD) has received Gate 2 approval from the Bank of England (BoE) to operate a Digital Securities Depository (DSD) in the Digital Securities Sandbox (DSS). The authorisation allows ClearToken to issue and settle tokenised versions of existing securities under the Bank's supervision and certain limits.

At launch, the CSD live settlement services will support FTSE 350 equities, sterling-denominated government debt, and GBP and non-GBP corporate bonds, all of which can be used as collateral for securities financing transactions and 24/7 intraday repo.

ClearToken intends to expand eligibility in phases to more asset classes, including global public equities, private funds, physical commodities, and digital assets, subject to additional BoE approval. According to the firm, it is the first DSD to settle tokenised equities, corporate bonds, and sovereign debt; the second company to pass Gate 2 and the first non-bank; and the first cloud-native securities settlement system in the UK.

Speaking on the authorisation, Ben Santos-Stephens, CEO of ClearToken Group, says: "The biggest hurdle for institutional adoption of digital securities has not necessarily been the technology; it has been whether the infrastructure around that technology is sufficiently regulated, robust, and legally recognised."

Akash Sharma, head of policy and regulatory affairs at ClearToken Group, remarks: "The UK has turned a tokenisation framework into a live, supervised market infrastructure where regulated institutions can settle assets carrying real rights.

"We thank the Bank of England and the Financial Conduct Authority for a rigorous and proportionate process, and for their engagement throughout."



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SEC issues ‘Innovation Exemption’

The US Securities and Exchange Commission (SEC) has announced a temporary, conditional exemptive relief to allow Tokenised Securities Venues (TSVs) to trade tokenised National Market System (NMS) stock using automated market makers and liquidity pools (AMM Liquidity Pools). The Commission explains that the exemption for TSVs from the definition of ‘exchange’ — as it is currently defined in the Securities Exchange Act of 1934 — is subject to conditions designed to ensure the exemptive relief is in the public interest and consistent with protection of investors.

Paul S. Atkins, SEC chairman, in a statement says: “The Innovation Exemption, while temporary, would allow TSVs to trade tokenised NMS stock in a permissioned environment today while the Commission considers the need for additional action to facilitate onchain trading.”

Atkins expresses the exemption is a significant step forward to bring America’s capital markets “into the digital age”.

The order also temporarily grants a conditional exemption from the definition of ‘dealer’ as defined in section 3(a)(5) of the Exchange Act to liquidity providers in an AMM Liquidity pool used by a TSV.

The Committee states the exemptions are set to expire five years after publication, and the order solicits public comment about possible modifications to the exemptive relief and potential next steps.

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AllUnity expands onchain liquidity for CHFAU

AllUnity, a regulated European stablecoin issuer, has expanded onchain liquidity for its regulated Swiss franc-backed stablecoin, CHFAU, through new pools on decentralised markets — Base’s Aerodrome and Raydium on Solana. Flowdesk is supporting the initiative by bringing institutional liquidity and market-making capabilities to CHFAU.

AllUnity says the expansion is indicative of its strategy to broaden regulated digital currency accessibility across major blockchains and decentralised exchanges.

Speaking on the extension, Peter Großkopf, chief technology officer at AllUnity, says: “By combining the scalable infrastructure of Base and Solana with leading decentralised liquidity venues such as Aerodrome and Raydium, and Flowdesk’s institutional liquidity capabilities, we are creating additional pathways for CHFAU to be used in real-world applications, payments, settlement, and digital financial markets.”

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DTCC's Fund/SERV adds Ondo Finance as first tokenisation member

The Depository Trust & Clearing Corporation (DTCC) and Ondo Finance, a blockchain-based technology company, have announced the subsidiary of Ondo Finance, Oasis Pro Markets, joins DTCC's Fund/SERV platform as a member.

Oasis Pro Markets is the first tokenisation platform to participate in the network which currently serves over 85 per cent of US mutual fund activity, reports the firms.

Further, the firms express the addition paves the way for Ondo tokenised funds to be distributed across the traditional fund ecosystem, advancing DTCC's strategy to support tokenised assets and facilitate interoperability across traditional and digital finance ecosystems.

Talia Klein, managing director and head of Wealth & Investment Solutions, DTCC, comments: "As financial markets continue to evolve, interoperability between traditional infrastructure and digital asset ecosystems will be critical to achieving scale and broad market adoption."

Klein adds: "Ondo's participation in Fund/SERV demonstrated how established industry infrastructure can support the next phase of market evolution by connecting fund innovation with trusted standards, seamless scalability, operational resiliency, and industry connectivity."

Ian De Bode, acting CEO and president, Ondo Finance, notes: "Through a single standardised connection, Ondo's subsidiary Oasis Pro Markets can transact with fund companies, wealth platforms, and service providers without requiring separate integrations.

"A key piece of infrastructure is now in place for tokenised funds to scale to mainstream adoption."

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Broadridge expands digital asset platform to US wealth managers

Broadridge has expanded its digital asset platform for wealth management firms to the US market.

The expansion aims to provide wealth managers with a unified way to offer cryptocurrencies and tokenised securities alongside TradFi investments.

The capabilities include support for tokenised real-world assets through its digital asset infrastructure platform DLX; support for advisor-led and self-directed management models; and integration with existing Broadridge or third-party books and records systems.

The initiative builds on the platform's availability in Canada and allows US broker-dealers to integrate digital assets into existing offerings. ■

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COLLATERAL MANAGEMENT



Reaching the endgame

Sam Edwards, managing director, Alpha Collateral Services at State Street, speaks to Carmella Haswell on how the firm is positioning digital assets within its Alpha Collateral Services platform, regulatory influence, and how these assets are changing the face of collateral management

With over 20 years of experience in the industry, how do you interpret the convergence of digital assets with securities finance?

I would describe it less as a convergence and more as an evolution of the market's operating rails. Securities finance has always been about mobilising assets efficiently, managing counterparty risk, and directing scarce collateral to where it creates the greatest value.

Tokenisation and distributed ledger technology (DLT) do not change those fundamentals; they create an opportunity to perform them with greater speed, transparency, and programmability.

The important development is that traditionally held securities, digitally native instruments, and new forms of cash can increasingly be managed through a common collateral process. The likely destination is therefore a hybrid market, not an abrupt replacement of established infrastructure: regulated institutions will continue to provide custody, governance, and risk management, while digital rails improve the way assets are represented, controlled, and moved.

Can you explore how digital assets, tokenisation, and the use of DLT is impacting Alpha Collateral Services in terms of its development strategy and where the firm is investing?

Digital assets are now central to our development strategy rather than a separate innovation track.

Our focus is to extend Alpha Collateral Services so that clients can manage traditional securities, tokenised representations of traditional assets, and externally issued digital assets through a consistent control framework.

That means investing in the ability to mobilise on-chain assets as collateral, to segregate traditional custody assets and create controlled digital representations of them, and to receive and service tokens issued elsewhere.

We are also investing in the foundations around those capabilities: digital asset and wallet data, connectivity to approved networks, optimisation, reconciliation, reporting, and auditable controls.

The objective is not to build a solution for one token or one venue, but a reusable, network-agnostic collateral gateway that can support margin, repo, securities lending, and broader liquidity needs while preserving enterprise-grade custody and risk controls.

How are your clients using the likes of digital assets and crypto to optimise and diversify their portfolio? What are you hearing in terms of client demand?

Client demand is real, but it remains pragmatic. Most institutions are still learning, testing use cases, and asking how digital assets can solve a specific funding, liquidity, or operating problem rather than seeking exposure for its own sake.

The strongest interest is in tokenised money market funds, government securities and other high-quality assets that can remain invested while being mobilised for margin or financing.

Clients also want greater interoperability: the ability to use assets held in custody across multiple counterparties and venues without creating fragmented pools or duplicating operating models.

COLLATERAL MANAGEMENT

I see 2026 principally as the year in which the industry establishes production-ready capabilities and controlled early transactions.

The more meaningful scaling of volumes is likely to follow in 2027 as asset supply, legal documentation, network participation, and digital cash options mature.

> **"Today, an eligible asset may still be difficult to use at the required moment because it sits in the wrong account, custodian, market, or time zone. A tokenised representation can make that asset discoverable and transferable on approved rails"**

Can you explore how the use of digital assets as eligible collateral is changing the face of collateral management?

The biggest change is that collateral can become more mobile, more precisely controlled, and available for longer operating windows. Today, an eligible asset may still be difficult to use at the required moment because it sits in the wrong account, custodian, market, or time zone.

A tokenised representation can make that asset discoverable and transferable on approved rails without losing the underlying controls around ownership, eligibility, and encumbrance. This supports closer-to-real-time allocation, substitution, and release, potentially reducing settlement exposure, trapped liquidity, and the need for precautionary buffers.

It can also support markets operating beyond traditional cut-off times. However, continuous movement is not automatically lower risk: valuation, liquidity, cyber resilience, permissions, and exception management must also operate reliably. The model therefore needs to combine faster rails with strong custody, reconciliation, segregation, and human governance.

How are current and prospective opportunities being shaped by regulations around the use of digital assets? And in which areas are market participants awaiting regulatory clarity?

Regulation is increasingly an enabler where it confirms that an asset does not lose its eligibility simply because it is represented on a distributed ledger. That supports opportunities around tokenised government securities, money market funds, and other familiar instruments within regulated collateral frameworks.

The remaining questions are often less about the technology itself and more about legal and operational certainty.

They centre on whether a token provides rights equivalent to the underlying asset and how ownership or title transfer is evidenced.

Other considerations include how settlement finality and insolvency are treated, who maintains the authoritative record, and how assets are returned, substituted, or enforced following a default.

Market participants also need greater consistency across jurisdictions, networks, and documentation.

Clear treatment of digital cash, custody, capital, liquidity, and cross-border transfer will be important before activity can scale. The practical path is to start with assets already accepted as collateral and apply the same risk-based standards to their digital form.

Looking ahead, what is State Street doing to drive change towards a truly digital collateral environment? What is the 'endgame' when it comes to the relationship between digital assets and securities finance?

Our aim is to make digital collateral part of the core collateral service rather than a parallel product. We are developing a controlled gateway that can mobilise assets already held in custody, manage digital assets received from other issuers, and connect both to margin, repo, securities lending, and triparty workflows.

That requires interoperability across networks, a consistent record of inventory and encumbrance, and intelligent allocation that considers eligibility, liquidity, funding cost, and settlement reach.

The endgame is frictionless, highly automated collateral mobility across traditional and digital markets, with assets allocated to the right obligation at the right time and with a complete audit trail.

At that point, the distinction between 'digital assets' and 'securities finance' becomes far less meaningful: securities finance will simply operate in a hybrid environment where the asset may be traditional, tokenised, or digitally native, but the standards for control, safety, and client service remain the same. ■

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SFT SYMPOSIUM

Tokenised securities and the new collateral frontier

At the ninth iteration of the Securities Finance Symposium in London, a group of industry experts sit down to discuss what tokenisation needs to do to drive the market forward, and the interoperability and architectural issues currently holding it back





The Symposium's fourth panel of the day centred on the impact of tokenisation on the securities finance market. With the technology enabling the real-time mobility of assets — irrespective of custodian time zone — and a new suite of intraday liquidity services, the securities industry is met with a host of exciting possibilities and looming regulatory and market hurdles.

Tokenised assets, particularly tokenised bonds, currently dominate the tokenisation landscape, according to the panel's moderator — Steven Czarnota, head of digital at Tonic — which is "natural" given the high-volume, "backbone" nature of the instrument. To adopt the technology at scale, Czarnota believes that changing the settlement rails first, before looking to adopt the more "nascent" assets afterwards, "makes sense", and the current approach to tokenisation is on the right path.

But what "locked" assets would benefit from tokenisation, exactly? Which securities could be turned into financing collateral, and what is the main thing holding them back right now?

There are a few key reasons why these nascent assets are "locked up", in the view of Mike Lambert, securities lending product director at Broadridge. ETFs, for example, can be difficult to move as settlement can end up in the wrong place. Location is another important factor; time zones continuously pose problems for collateral managers on opposite sides of the world. Tokenisation, he says, can "solve a lot of those problems". And, while there is still work to be done, freeing these instruments would make them reusable.

Another important facet to ensure the successful implementation of tokenisation is optimisation. For instance, a portfolio position does not need to be redeemed when tokenising a money market fund (MMF), which circumvents cash drag, according to Jennifer Keser, head of market structure and regulation for EMEA and APAC at Tradeweb. Avoiding what is a notable concern in TradFi infrastructure is demonstrable proof of its potential advantages.

Sabine Farhat, head of securities financing, lending, and repo product management at Murex, highlighted the fact that tokenisation opens up access to pools of liquidity that would have instead been sitting idly. The technology, she says, allows collateral managers to gain better risk assessment and valuation insights by letting them see the asset onchain.

Furthermore, Sam Edwards, managing director, Alpha Collateral Services at State Street, explained that the growing acceptance of tokenised MMFs as collateral signals a shift towards a more efficient digital collateral ecosystem where assets can move more seamlessly between market participants. As friction is reduced and accessibility improves, new investors and counterparties are drawn into the market, expanding liquidity and increasing utility.

Edwards added that the key question is how these benefits can be extended to a broader range of collateral assets and short-duration instruments. By improving collateral mobility and reducing operational friction, tokenisation helps create a "liquidity flywheel": broader distribution creates utility, utility attracts participants, and increased participation deepens liquidity. This, in turn, makes the market more valuable and efficient for all participants, bringing more investors to the proverbial table.

The technology raises an interesting question: if collateral settles in minutes, how, then, does collateral optimisation evolve for tokenised assets, and how is more frequent optimisation balanced with factors like net settlement?

Fast settlement is "the most material change to the collateral framework", in the eyes of Wassel Dammak, strategic account director for capital markets, Europe and the UK at Vermeg. In today's markets, optimisation cycles are predictable. Obligations and inventory are collected, eligibility and concentration rules are applied, and funding and opportunity costs are considered. With the advent of tokenisation, the processing cycle has moved to real-time, which, according to Dammak, puts "more pressure on the decision-making", as allocation and optimisation need to be as fast as settlement. Dammak emphasised the importance of striking a balance between the bases of the whole collateral process, and warned that phases running at different speeds will result in more buffers being held.

Looking further ahead, Edwards argued that a truly onchain environment could deliver the industry a "golden source of truth" for assets and liabilities. Greater transparency would give firms a real-time view of available inventory alongside their funding and collateral obligations, making it easier to determine how best to deploy, mobilise, and source assets. This enhanced visibility has the potential to improve collateral sourcing, liquidity management, and overall market efficiency.

But all of this becomes difficult to attain if regulators are unclear in their frameworks, and authoritative certainty is not consolidated across jurisdictions.


Sabine Farhat, Murex


Steven Czarnota, Tonic

Czarnota emphasised the importance of regulatory readiness in unlocking the scale necessary to reap tokenisation's rewards, reflected in the surge in activity over the last 12 months. For example, the US Securities and Exchange Commission (SEC) clarified rules around crypto assets; the European Central Bank (ECB) accepted distributed ledger technology (DLT)-issued securities; and the Bank of England (BoE) and the UK Financial Conduct Authority (FCA) published feedback on wholesale tokenisation.

However, he noted that there was more work to be done in terms of unlocking scale in securities finance.

Keser echoed this view. She believes that regulatory certainty is the obvious next step in ensuring the market continues to scale and take full advantage of tokenisation. The speed at which jurisdictions are moving — particularly the US — is, on one hand, very encouraging, she said. On the other hand, each regulatory authority appears to be moving in a different direction, and subsequently heading towards a more fragmented global market.

Another potential pitfall permeating the prospect of tokenisation is the premise of hybrid regulatory environments, where digital and traditional assets are subject to different legislation. This can be "very messy", Lambert argued. The obvious way to get past this hurdle, he said, is to have one set of regulations to cover everything, which he believes is "unlikely to happen".

Instead, the potential ramifications could have regulators scratching their heads, trying to work out what exactly an asset is, where in the hybrid environment it belongs, where it needs to be to get reported, and whether it needs to be reported to the Securities Financing Transactions Regulation (SFTR), or somewhere else because it is digital.

What, then, does the securities market need to avoid fragmentation?

The panel agreed that this is no small order. "Fragmentation is the biggest practical hurdle to overcome," Dammak responded. Trying to fix each instance of DLT individually would result in "a

less efficient overall system" and siloed collateral — the exact problems already plaguing TradFi venues.

If the market wants to avoid repeating today's fragmented structure, Farhat argued that trusted IDs and orchestration layers are key enablers of interoperability at scale.

Without standardised asset identifiers across onchain environments and TradFi systems, she warned that firms run the risk of operating in silos, resulting in operational bottlenecks and potential double-dipping. Orchestration layers, Farhat explained, act as a bridge across disparate platforms, establishing a common set of books and records, and ensuring fluid, end-to-end collateral management and real-time data flow.

Edwards made the point that interoperability requires more than just connecting blockchains. Key enablers include a multi-chain wallet architecture, enterprise-wide visibility of assets and liabilities, and operational workflows that can support both TradFi assets and tokenised representations.


Wassel Dammak, Vermeg


Sam Edwards, State Street

He emphasised the importance of selecting both the correct account and wallet structure for an institution's operating model, all while maintaining a holistic view of inventory, obligations, and liquidity across the enterprise.

The industry's need for interoperability, not isolated networks, was further highlighted by Keser. Tokenised securities must connect across platforms with existing market infrastructure, supported by common standards. Crucially, she said, the


Jennifer Keser, Tradeweb


Mike Lambert, Broadridge

ecosystem needs an interoperable digital cash leg to enable true delivery-versus-payment. For Keser, the goal is clear: move from electronic to digital, not create a parallel market. Unfortunately, according to Lambert, institutions are not taking advantage of the tools that would allow for interoperability.

The Common Domain Model (CDM) — a digital blueprint for how financial products are traded and managed across their entire lifecycle — is not being utilised enough. He added that there is a "certain competitive advantage in not being interoperable", particularly for triparty agents and other types of vendors. However, he believes that if the market forces enterprises to become interoperable, then they would do so.

If the securities industry is serious about moving forward, the panel concluded that common standards, such as the CDM, trusted IDs, and orchestration layers, would be crucial if the market is to adopt tokenisation at scale. But until that happens, institutions run the risk of repeating the fragmented, siloed architecture they already rely on. ■

BEYOND TOKENISED TREASURIES

Why real-world asset markets need to reconnect capital with production

As tokenisation gathers momentum, Dr Shlomo Ovadiah and Dr Camila Ovadiah of S.P.O.T.T.Y. examine how blockchain infrastructure could unlock capital for underserved businesses and reconnect investment with the productive economy



The blockchain industry promised to democratise finance. Instead, it is mostly digitising what already works. The real-world asset (RWA) tokenisation market has reached a key moment. Tokenised assets have surpassed US$15 billion in market capitalisation, with projections suggesting exponential growth ahead. Yet beneath the impressive figures lies a fundamental question the industry has largely avoided: are we using blockchain technology to solve the right problems?

The current wave of tokenisation has focused overwhelmingly on assets that traditional finance already handles efficiently, such as US Treasury bills, government bonds, money market funds (MMFs), and publicly traded equities. These initiatives may improve settlement speed and operational transparency, but they fail to address the structural failures that have left operating companies across the global economy underserved and underfinanced.

The distinction that matters

The term 'real-world assets' has become ubiquitous in blockchain circles, yet it obscures more than it clarifies. A more useful framework separates native digital assets from externally referenced assets. Native digital assets derive their existence from blockchain protocols themselves. Externally referenced assets — whether commodities, receivables, real estate, or equipment — exist in legal, physical, or financial systems outside the blockchain. The token represents a claim over something that must be independently verified, legally enforceable, and operationally maintained.

This distinction matters because it determines what blockchain can actually improve. Externally referenced assets depend on chains of human and institutional performance: someone must verify the asset exists, maintain custody, enforce legal rights, manage defaults, and ensure the digital record corresponds to physical and legal reality.

Where capital is not flowing

Traditional finance excels at funding standardised, liquid, large-scale instruments. These were optimised for a narrow set of assets while leaving vast portions of the productive economy without access to institutional capital. Consider the businesses that struggle to access global investment despite generating genuine economic value: agricultural producers managing working capital across harvest cycles; commodity traders financing inventory; regional manufacturers requiring equipment financing; warehouse operators holding verified inventory; family enterprises with operational history but limited financial reporting; and export-oriented businesses in emerging markets facing high transaction costs.

These businesses are not necessarily poor investments. They are expensive to evaluate, difficult to monitor, and inefficient to finance through systems designed around standardisation and liquid secondary markets. Traditional finance often ignores them because the cost of verification has historically exceeded the potential return.

This problem is particularly pronounced in developing and emerging markets. Productive businesses across Latin America, Africa, and Asia frequently possess strong fundamentals yet remain invisible to institutional investors. Economic viability is not the barrier.

The barrier is the infrastructure required to make these businesses investable at scale.

The tokenisation paradox

Blockchain technology is positioned to address this gap. Digital ownership records, continuous collateral monitoring, transparent production data, and auditable transaction histories can theoretically reduce the cost of trust. If verification becomes cheaper and ongoing monitoring more efficient, previously fragmented assets might become accessible.

Yet the current market is moving in the opposite direction. Rather than using blockchain to finance underserved productive assets, the industry is primarily repackaging instruments that already have deep liquidity. Tokenised Treasury bills improve settlement efficiency, but the US government has no difficulty borrowing. This creates the tokenisation paradox: the technology capable of reducing verification costs is being applied to assets that need it least, while businesses that could benefit most remain outside the system.

The explanation is straightforward. Tokenising existing securities presents fewer hurdles because the legal frameworks, custody infrastructure, and regulatory pathways already exist. But ease of implementation should not be confused with economic importance. If blockchain simply recreates yesterday's portfolios with better software, it represents extraordinary technology serving ordinary ideas.

When 'real-world assets' are not real yet

The rush to capitalise on RWA momentum has produced another problem: the merging of potential with present reality. Across the tokenisation market, proposed projects are increasingly described using the language of existing assets. Planned mines, future agricultural production, and projected revenues are marketed as though the underlying value already exists.

The distinction between development-stage risk and asset-backed instruments is fundamental. Traditional finance developed necessary distinctions between existing

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assets and projected income precisely because markets repeatedly suffered losses when expectations were confused with present value.

Blockchain cannot transform a feasibility study into inventory or a permit application into a producing mine. Technology can strengthen evidence, but it cannot substitute for underlying legal and operational reality.

If ownership, custody, or enforceability remains uncertain, placing a token on a blockchain does not remove that uncertainty. It just makes the claim easier to transfer.

The risk transfer problem

Perhaps the most critical issue in RWA tokenisation is one that receives insufficient attention: who carries the loss when things go wrong? Risk is rarely eliminated in financial structures, it is transferred.

In tokenised RWA structures, holders may unknowingly absorb the failure of issuers, custodians, warehouse operators, technology providers, or legal counterparties.

The relevant questions are: who carries the risk? Do they understand it? Was the transfer consensual? Does the recipient have capacity to survive the loss?

RWA instruments are especially vulnerable because they depend on chains of human and institutional performance. Someone must verify the asset, maintain records, protect collateral, and manage defaults. When those parties lack competence, capital, or oversight, the risk is silently transferred to token holders.

Technology does not remove the human factor. A smart contract can execute instructions, but it cannot independently determine whether an invoice is fabricated, goods are pledged twice, or a warehouse operator has colluded with a borrower.

Building credible infrastructure

A credible RWA market requires more than placing information on a blockchain. It requires:

Independent verification: The underlying asset must be verified by qualified third parties. Legal ownership must be established. Rights of token holders must be clearly defined.

Auditable custody: Assets must be legally segregated from issuer balance sheets. Custody must be independently verifiable. Collateral must be protected from double-pledging.

Transparent valuation: Valuation methodologies must be disclosed and independently applied. Recurring proof of reserves and performance data should be standard.

Enforceable legal rights: Token holders must possess clear legal claims. Redemption mechanisms and default procedures must be established before issuance.

Aligned incentives: Originators should retain meaningful first-loss exposure. Verification, custody, and valuation should remain independent.

These requirements increase issuance costs, but necessary friction protects markets from instruments that should not exist in their proposed form.

A different approach

While much of the tokenisation industry focuses on repackaging traditional securities, a different model is emerging. A model that reconnects digital claims with identifiable, verifiable physical assets.

S.P.O.T.T.Y. is a tokenisation platform built on the Stellar blockchain that digitises commodity certificates for physical commodities already owned and stored in certified third-party facilities. Rather than creating exposure to commodity price movements through derivatives, S.P.O.T.T.Y. tokens represent defined physical units backed by verifiable inventory, including gold, crude oil, sugar, rice, cocoa, and lithium.

The first issued token, S.P.O.T.T.Y. Commodities Oil Token (SCOIL), is fully backed by crude oil.

The structure is designed around the commodity certificate model, comparable to traditional warehouse receipts. Each token provides a claim over physical inventory, not equity in the platform. There are no dividends or yield promises, only the right to redeem the underlying commodity through cash settlement or physical delivery. This approach addresses several structural challenges:

Verification and custody: Commodities are stored in regulated third-party facilities with independent attestation and regular audits. The platform does not act as a centralised custodian; custody and risk are separated across institutional custodians, storage providers, and token holders.

Transparency: Blockchain settlement provides continuous visibility into token issuance, transfers, and redemptions. The structure combines Canadian corporate governance, third-party storage providers, and onchain issuance.

Operational coverage: The model uses stored physical inventory, forward supply contracts, and liquidity capacity to support delivery and redemption obligations, operationally aligned with traditional commodity logistics.

Market access: By enabling fractional access, faster settlement, and programmable transferability within a regulated framework, the platform reduces barriers that have historically limited participation to large institutional players.

SCOIL exemplifies this model.

The SCOIL token represents fungible crude oil inventory stored in regulated facilities.

This structure addresses the settlement delays, transparency gaps, and high operational barriers that characterise traditional commodity markets.

It is a digital representation of physical inventory, designed to make verifiable commodity ownership accessible, transferable, and redeemable through blockchain infrastructure.

This is not speculative exposure to commodity indexes or derivative contracts.

The path forward

The RWA market stands at a crossroads.

One path leads towards incremental improvements in traditional finance. This path is valuable, but it does not fundamentally change who has access to capital. The other path uses blockchain to reduce the cost of trust in markets where verification has historically been expensive and access limited. It finances commodity inventory, regional manufacturers, and family enterprises that create economic value but have remained outside institutional portfolios.

Intelligent investing has never been about following the crowd more efficiently.

It is about identifying productive value before it becomes obvious and building the structures necessary to finance it responsibly.

The question is no longer whether the world can be tokenised. The relevant question is whether tokenisation is building a more productive and inclusive financial system merely reproducing the old one with better software.

For investors, platforms, and regulators willing to do the harder work, building verification infrastructure, establishing custody standards, and financing productive assets that have been overlooked, the opportunity remains significant. The technology exists. The productive assets exist. What is needed now is the discipline to connect them properly. ■

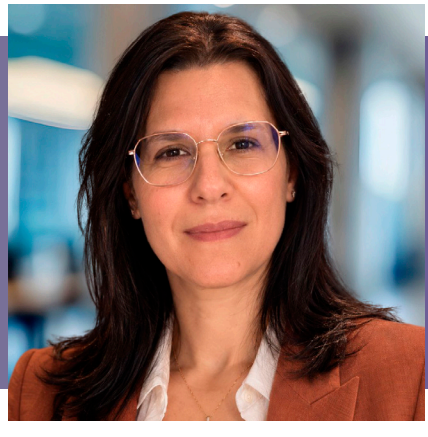


“The relevant question is whether tokenisation is building a more productive and inclusive financial system or merely reproducing the old one with better software”

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S.P.O.T.T.Y.



FROM SILOS TO INTEGRATION

CSDonDLT and the future of capital markets

KDPW's Michal Krystkiewicz, head of Innovation, Dorota Mackiewicz, deputy director, Legal Department, and Rafał Wawrzyniak, chief technology officer and IT MD, explore how CSDonDLT aims to integrate distributed ledger technology with existing post-trade infrastructure, enabling innovation without compromising legal certainty





The capital market is always keen to herald a new beginning. The dematerialisation of securities freed us from the constraints of paper-based circulation; electronic trading shifted the execution of transactions from trading floors to IT systems; and the European harmonisation of post-trade processes and the launch of T2S significantly reduced settlement fragmentation. Each of these changes has genuinely reshaped the market, but none has created it anew.

The emergence of distributed ledger technology (DLT) is no exception. In the early stages of the debate, blockchain was expected to eliminate intermediaries, shorten the value chains, and replace centralised institutions with code. Over time, the narrative became more cautious. Full decentralisation has been replaced with talk of the tokenisation of traditional assets, regulated platforms, and institutional DeFi. The approach has changed, but many projects continued to rely on the following premise: given that the existing market infrastructure is complex, the simplest solution is to build a new one.

At the design stage, this may seem attractive. A new platform can be created without having to consider all the interdependencies, communication standards and processes in place in the market. It is easy to showcase transactions executed in a matter of seconds in a closed environment, and not so easy to integrate transactions with securities accounts, payments, corporate actions, reporting, and risk management systems. The difficulties arise later on, when a successful experiment attempts to become part of the real market.

A platform may be able to handle thousands of transactions per second, operate round the clock, and provide near-instantaneous technical finality, yet still remain a silo. Scaling requires more than just computing power; it also takes assets, issuers, investors, liquidity, a secure settlement currency, access for intermediaries, and recognised legal effects.

A token is not yet a market

The digital representation of an asset is a relatively straightforward part of tokenisation. The real challenge is to ensure that an entry in a distributed ledger represents a right which its holder can effectively exercise. In the case of securities, a technically adequate transfer of a token between two blockchain addresses does not, in itself, result in the transfer of ownership which is effective against third parties with the legal finality of the transaction.

Nor does it address questions regarding incident management, the consequences of the platform operator's insolvency, or the exercise of corporate rights.

Tokenisation does not magically eliminate the instrument's lifecycle. It is still necessary to carry out issuance and distribution, enable trading and settlement, ensure the safekeeping of assets, manage corporate rights and benefits, and fulfil reporting obligations. DLT may change the way these functions are performed, combine some of them into a single process, and redistribute tasks differently amongst market participants, the infrastructure operator, and the code.

However, the need for specific economic and legal outcomes remains unchanged.

As a key element of the post-trade infrastructure, the central securities depository (CSD) keeps records, ensures the integrity of issues, handles settlement, sets out the rules for participation, and is responsible for the continuity of processes.

DLT may change the way some of these tasks are technically carried out, but it will not make them redundant. This is the premise on which CSDonDLT is based.

The distributed ledger changes the way selected processes are carried out, but does not remove them from the remit of a regulated and authorised infrastructure.

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Legacy is not redundant

Debates about the future of the capital market often deploy the term 'legacy infrastructure'. It is a convenient notion, but it may be misleading. It lumps together existing IT systems and components, mature communication standards, and well-established legal frameworks.

"Importantly, the model proposed by KDPW does not require the simultaneous migration of the entire market"

However, infrastructure that has been developed for many years need not be technologically or operationally obsolete. Its value also lies in accumulated experience, tried-and-tested security mechanisms, and risk expertise.

A distributed ledger can reduce the need for multiple copies of the same data, minimise the number of reconciliations, and enable participants to verify transactions directly. Smart contracts can combine actions currently carried out in different systems, and greater infrastructure availability can improve the mobility of assets both in the local market and across borders. After all, settlement finality, the protection of client assets, operator liability, the ability to handle incidents, and risk controls are not relics of a bygone era. They are the conditions for trust, without which the market cannot function properly.

Innovation should not be measured by how much existing infrastructure is discarded or rebuilt, but by how effectively its security, asset protection and legal certainty are combined with DLT's shared ledger and programmability. This approach has been adopted in CSDonDLT, where new technology complements the existing depository and settlement system rather than competing with it. The aim is not to create a parallel reality from scratch. It is about the evolutionary development of market infrastructure based on its stable and proven foundations.

Risk of new fragmentation

One paradox of tokenisation is that technology designed to integrate the market may facilitate the emergence of new silos. Launching a platform for an asset class, a group of participants, or a single use case is becoming increasingly simple. However, if each such platform develops its own access rules, identification models, token standards and monetary solutions, they will form a constellation of isolated ecosystems rather than a single market.

For participants, each new platform implies a separate integration, access management, asset custody, and having to ensure liquidity in yet another environment. Individual solutions may operate quickly and efficiently, but they may also make the market more complex as a whole. Merely building technical connections between platforms does not solve this problem. A single market does not require a single ledger. However, interoperability must be taken into account right from the design stage; otherwise, multiple modern and efficient platforms will not come together to form a single, efficiently and securely functioning market. It is precisely this problem that is one of the starting points for CSDonDLT.

CSDonDLT: Evolution, not revolution

CSDonDLT is based on a different premise. The KDPW project does not create a new post-trade infrastructure operating in parallel with the current system. Instead, it introduces a complementary layer to the existing depository and settlement system. This model preserves and strengthens the role of existing market participants while opening up opportunities for them to expand their services to include the handling of digital assets. The distributed layer is not a technical replica of assets which remain registered in the traditional system. It constitutes a fully-fledged record-keeping layer shared by KDPW and market participants.

Importantly, the model proposed by KDPW does not require the simultaneous migration of the entire market. The decision to transfer securities to the DLT is up to the investor, and the order is executed by the KDPW participant serving the investor. The new layer can therefore be used for selected assets and transactions, while leaving the remaining part of the portfolio in the existing environment. The transition to the new model can take place gradually, at a pace that suits the participants' needs.

The CSDonDLT architecture has been designed not only with a view to securities transferred from the traditional layer of the system, but also to instruments registered on the DLT from the outset. As the market develops and the regulatory environment is adapted accordingly, the solution will be able to accommodate DLT-native assets without a major overhaul of the infrastructure. The layer currently under development therefore addresses current needs and makes the market ready for a model where securities are created and operate entirely onchain.

CSDonDLT operates on a private Hyperledger Besu network compatible with the Ethereum Virtual Machine. This combines the access control of regulated

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infrastructure with established EVM tools and expertise, reducing technological lock-in. It also provides a foundation for controlled integration with services outside CSDonDLT, including those operating on the public Ethereum network. While this does not guarantee automatic interoperability or the unrestricted transfer of assets between networks, it allows complementary services and applications to develop externally, with CSDonDLT remaining the regulated layer for record-keeping and settlement.

Regulation, stupid!

To paraphrase a classic, it is regulations, above all, that may determine the future of DLT in the capital markets infrastructure. Legislation that links a specific function exclusively to a single market model or type of system eventually poses a barrier to innovation and development. If, however, the mere use of DLT automatically places an activity under a separate legal regime, technology is no longer a neutral tool and becomes a regulatory trigger.

This is why the changes proposed under the Market Integration and Supervision Package (MISP) are so important. They aim to confirm in the Central Securities Depositories Regulation (CSDR) that CSDs may use DLT to provide their services without leaving the main regulatory regime. It is equally important to adapt the rules on settlement finality so that transfers of securities and cash in DLT ecosystems produce unambiguous and legally binding effects. Regulation should protect the outcome of the functions performed while leaving room for changes to the underlying technology.

The DLT Pilot Regime plays a key role in this regard. It provides a safe space for testing models in which not only the technology changes, but so does the division of functions and responsibilities among market participants. However, it should not become an end in itself or evolve into a permanent regime competing with the CSDR. The pilot regime serves to identify risks and develop appropriate safeguards, while mature solutions should gradually be incorporated into the regulatory mainstream.

The permanent coexistence of two distinct regimes for functionally comparable services would violate the principle of a level playing field and could lead to regulatory arbitrage. The specific features and exemptions characteristic of the pilot regime are justified as long as they remain proportionate and support the convergence of the two regulatory frameworks, rather than perpetuating market fragmentation.

It is therefore crucial to clearly separate these two paths. The first allows CSDs to use DLT within the framework of the CSDR to perform the functions for which they are already responsible.

The second provides scope for testing models that modify the roles, scope of services and responsibilities of individual entities. Both approaches are necessary, but they should not be conflated. The appropriate legal regime should be determined by the function and the associated risks, rather than by the choice of technology alone.

Regardless of the architecture, regulation must ensure the integrity of issuances, the protection of investors' assets, settlement finality, operational resilience, effective supervision, and a clear allocation of liability. DLT may change the way these objectives are achieved, but not the standards that the market is entitled to expect.

The future will be shared

The future of the capital market will not be decided by a simple choice between traditional infrastructure and DLT-based solutions. The most likely scenario is a gradual convergence of both models. DLT brings programmability, a shared ledger, and greater asset mobility.

The existing infrastructure provides legal certainty, security, clearly defined liability, and access to a functioning market and its liquidity. CSDonDLT shows how such an approach can work in practice.

"The way forward requires the seamless integration of securities, money, market participants, and the legal consequences of executed transactions"

Adding DLT as a complementary layer to the depository and settlement system allows its capabilities to be exploited without a one-off migration of the entire market, the duplication of assets through secondary tokenisation, or the fragmentation of liquidity across competing ecosystems. Participants can use this layer where it adds real value and continue to carry out other processes in the existing infrastructure. The way forward requires the seamless integration of securities, money, market participants, and the legal consequences of executed transactions. The future does not lie with yet more technological silos, but with solutions that the market can share and co-create. We do not need a second capital market. We need infrastructure that will enable the existing market to take the next step. ■

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24/7 TRADING DOES NOT MEAN 24/7 LIQUIDITY

Vladimir Tikhomirov, founder of Theorem and co-founder of Algebra, speaks to Matthew Challis about the mechanics of secondary real-world asset liquidity, adapting automated market maker architecture for institutional assets, and why continuous compliance requires programmable infrastructure

Traditional equity markets operate on localised exchange hours, whereas onchain venues run non-stop. When market operators deploy 24/7 trading for tokenised equities, where does overnight or weekend liquidity realistically come from without creating wide bid-ask spreads and severe price slippage?

The very first item we need to clarify here is that 24/7 trading doesn't mean 24/7 liquidity. Those are two very different things.

Blockchain gives us the technical ability to trade around the clock, but that does not automatically create buyers, sellers, or price discovery.

If the underlying stock exchange is closed, the main source of price formation disappears with it.

That naturally means fewer market participants, less available capital, wider spreads, and greater execution risk.

This is one of the biggest misconceptions around tokenisation today. Simply moving an asset onchain doesn't suddenly make it behave the same way as BTC or ETH.

A tokenised equity is still fundamentally tied to the economics of its underlying market.

That's why it's important to design real-world asset (RWA) market infrastructure that can continue to provide liquidity and sensible pricing when the traditional reference market is unavailable because it closed down for the day.

Without that, 24/7 availability still won't create a functional market.

Crypto-native protocols often rely on token emissions or yield farming to attract liquidity providers. What economic models or capital-efficiency mechanisms can incentivise institutional market makers to commit balance sheet capital to secondary tokenised asset venues?

Yield farming was effective in early DeFi, but for institutional markets, it is not the best liquidity model.

Professional market makers don't allocate capital because there's a temporary token incentive. They look at whether the underlying economics make sense and promise benefits in the long run.

And that, in turn, means they look at things like trading volume, fee generation, and capital efficiency to assess how much risk they're taking on and in exchange for what expected returns.

For tokenised RWAs, risk management becomes even more important because these assets typically have an external reference price. The more efficiently a trading venue can deploy liquidity and keep prices aligned with

external markets, the less idle capital market makers need to commit to achieve the same execution quality.

There's also the fact that the existence of secondary markets builds confidence in the asset itself. If investors know they can exit their position quickly, they're much more willing to enter it in the first place. That's why issuers often provide liquidity themselves in the early stages to make the buying and selling of their tokens possible through familiar DeFi mechanisms.

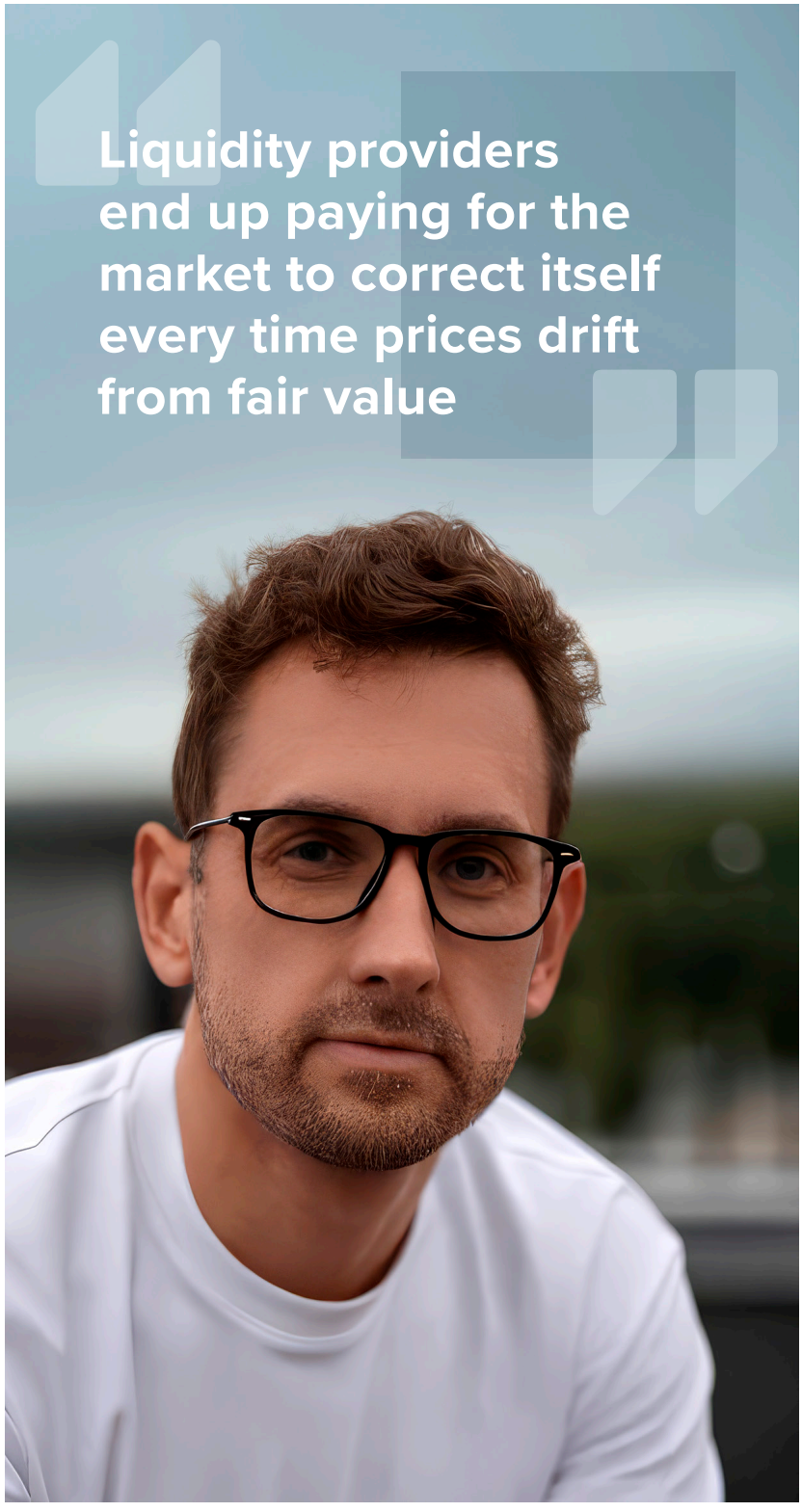
That's why, in the future, I think secondary RWA markets will compete by becoming the most economically efficient place for professional liquidity providers to operate in.

With institutions issuing RWAs across diverse permissioned ledgers and public Layer 1 and Layer 2 networks, how can the market prevent severe liquidity fragmentation and pricing arbitrage gaps between isolated venues?

The crypto industry often talks about interoperability like it's a technical challenge, but I think the deeper issue here is economic in nature. Connecting blockchains is relatively straightforward compared to connecting liquidity.

If every venue has its own isolated liquidity pool or order book, we're effectively taking one liquid market and splitting it into many smaller ones, which creates shallower liquidity, inconsistent pricing, and overall poor execution.

But at the same time, forcing everyone onto a single blockchain or exchange isn't an option either. Different asset classes have different trading rules, compliance requirements, and pricing mechanisms, so venues need to be adaptable. And the same is true for frameworks within which institutions trading those assets have to operate — they will always vary.



We also have to account for the fact that the market is still in its early stages, so all chains are naturally trying to carve out a niche for themselves. I don't expect that everything will end up converging around a single network. More likely, we'll see multiple major public ecosystems alongside many permissioned networks operated by banks and financial institutions.

We've already seen something similar happen in crypto, back when Ethereum and Tron competed over being the dominant ecosystem for DeFi. Ethereum ultimately came out ahead in that race, but Tron established itself as one of the leading networks for stablecoins. They serve different purposes now, and that's perfectly okay.

I think RWAs might evolve in a similar way, and that's going to make interoperability even more important, because liquidity will need to move efficiently across all of those chains.

Traditional finance overwhelmingly favours CLOBs, while DeFi relies heavily on AMMs. Is standard AMM architecture capable of managing the risk and quote precision required for regulated RWAs, or will institutional secondary venues require new hybrid models?

I don't think this is really a central limit order books (CLOBs) versus Automated Market Maker (AMM) debate. The real question is whether the market structure reflects the characteristics of the asset being traded. Traditional AMMs were designed for crypto-native assets, where price discovery happens largely within the market itself.

RWAs, like we already covered, are different because they almost always have an external reference price. If an AMM ignores that external reality and prices an asset as if it only exists onchain, arbitrage becomes inevitable. Liquidity providers effectively end up paying for the market to correct itself every time prices drift away from fair value.

That being said, there is evidence that AMMs play a big role in RWAs.

When tokenised RWAs first started gaining traction, a lot of participants gravitated towards request for quote-based execution that was already familiar to institutional players. But that has changed over time.

> **"Tokenisation is not just about improving secondary markets, but also about making crowdfunding and investment more efficient and inclusive"**

By mid-2026, Uniswap alone has processed over US$9 billion across RWA pools — that's millions of transactions and almost 150,000 wallets involved. So clearly, AMMs do have a place in tokenised markets; the issue is just how they need to evolve to better meet institutional requirements.

Institutional RWA markets need infrastructure that can adapt liquidity around external market conditions and apply asset-specific risk controls. Different assets have different trading and settlement models, as well as different regulatory requirements, so trying to fit all of them into one AMM architecture doesn't make much sense. Which is why I think we're going to see a combination of models existing side-by-side, with different approaches being applied for different assets.

Primary issuance onchain is easily managed via investor whitelists. How can secondary trading infrastructure dynamically enforce transfer restrictions, identity checks like KYC and anti-money laundering, and jurisdictional suitability during high-frequency or peer-to-peer execution?

You can whitelist investors when an asset is created, but that's only the beginning of its lifecycle. Once that asset starts changing hands, that's where the complexity begins.

Secondary markets can't rely on static whitelists alone because eligibility isn't universal. The rules can differ depending on the asset, the investor, the jurisdiction, or even the time of execution. Those checks have to happen continuously, not just once at issuance.

The good news is that modern market infrastructure is already capable of enforcing many of these requirements.

Today's AMMs can support configurable trading rules, asset access restrictions, trading hours, Know Your Customer (KYC), and more. Different assets have different regulatory obligations and market structures, so there isn't a single rulebook that works for everything. Market operators need the ability to configure those rules around the asset they're listing, rather than forcing every asset into the same framework.

That's one of the reasons we've taken a programmable infrastructure approach with Theorem. Instead of brute-forcing every tokenised asset to follow the same rules, the venue itself can be configured around the requirements of a particular asset class. Different markets can enforce different compliance frameworks without sacrificing the efficiency of onchain trading.

I think that's a much more scalable model than trying to squeeze every regulated asset into one fixed market structure.

If a major macroeconomic event occurs on a Sunday while underlying traditional exchanges are closed, how can an onchain venue maintain accurate price discovery for a tokenised stock without exposing liquidity providers to toxic order flow?

This is probably one of the hardest market-design problems that tokenisation faces today.

If an event takes place on Sunday, everyone knows Monday's opening price for a particular stock won't match Friday's close, so leaving that price unchanged clearly isn't right. But at the same time, the reference exchange hasn't opened yet, and pretending the onchain venue can somehow determine the new fair value with perfect accuracy isn't realistic either. At that point, liquidity providers face greater risk because some traders will inevitably have better information (or just stronger expectations) about where the prices are headed by Monday's opening.

And if they trade while the onchain price hasn't caught up yet, liquidity providers themselves end up bearing the cost. To avoid such situations, the industry needs infrastructure that recognises periods of elevated uncertainty and responds appropriately. That could be accomplished by incorporating external reference signals where available, applying additional risk controls, or even introducing market-specific safeguards until reliable price discovery resumes. In fact, this whole example is a perfect practical example of what we talked about in the beginning — why 24/7 availability requires rethinking how markets operate when the traditional mechanisms of price discovery temporarily disappear.

Sometimes the appropriate response is to stop instead of continuing to trade, no matter the costs. If reliable price discovery isn't possible, the infrastructure should be able to pause trading until market conditions normalise. That's something we've built into Theorem because there are situations where protecting market integrity is more important.

Institutional trading in traditional markets relies on prime brokerage, bilateral credit, and end-of-day net settlement rather than full pre-funding. How must clearing and credit infrastructure adapt to support liquid secondary trading for tokenised assets?

If tokenised markets want to attract institutional-scale liquidity, they can't assume every large-scale participant is willing to lock up capital before every trade. One of the biggest differences between TradFi and DeFi is that institutional markets aren't built around fully pre-funding every transaction. That simply isn't how most of these organisations operate.

I think the future will be a combination of both worlds. Blockchain can be used to streamline settlements and make them faster, while traditional concepts like credit provision and clearing continue to exist, albeit in forms that are compatible with programmable markets.

I've said as much many times before, but this is where I feel the conversation around tokenisation sometimes becomes too narrow. It's not enough to tokenise securities. For secondary markets to work, the supporting infrastructure — trading, clearing, settlement, credit, etc. — has to evolve and work together.

Do you expect meaningful secondary liquidity to accumulate on closed, bank-led networks, or will institutional traders eventually be forced onto public, interoperable blockchains to access sufficient market depth?

I do believe in the power of open markets. Ideally, the long-term goal should be to make investment opportunities as broadly accessible as possible, while also respecting the regulatory requirements that apply to different asset classes.

Tokenisation is, in many ways, not just about improving secondary markets, but also about making crowdfunding and investment more efficient and inclusive. A company raising capital shouldn't be limited to investors in only one jurisdiction. If the infrastructure is interoperable, you can open opportunities to a much wider investor base.

The problem arises when every institution decides to build its own isolated ecosystem. If each issuer, bank, or blockchain creates a separate liquidity pool that can't interact with the rest of the market, we're simply recreating fragmentation. Capital becomes trapped inside individual venues, execution quality drops, and users ultimately suffer for it. So, again, I think interoperability is the way to go. Infrastructure that allows liquidity, assets, and market participants to connect across various environments is how we build market depth.

The digital asset sector currently measures tokenisation success by total asset value issued or TVL. What specific secondary market metrics should the industry track to measure true market health?

Total value locked (TVL) is important, but it's only part of the picture. It can tell us how many assets have been tokenised; it doesn't tell us whether those assets are actually traded. The more practical thing to do, in my opinion, is to look at whether secondary transfer volume is growing faster than assets under management.

That way, you can see if assets are circulating or simply sitting in wallets. Holder distribution is also a useful signal: if an asset is mostly held by issuers, partners, and market makers, we don't have broad market participation.

Then we should also look at independent utility. When a tokenised asset starts being accepted as collateral or integrated into applications outside the issuer's own ecosystem, that's a sign the market is assigning it genuine value. And investor behaviour can also be quite telling; if Treasury yields fall but investors continue holding the assets, it means they're staying for the utility and accessibility, not just for the yield. ■

INDUSTRY APPOINTMENTS



Euroclear appoints Haswani

Euroclear has hired Bhavna Haswani as APAC head of collateral management and digital assets, as part of the Product, Strategy, and Innovation (PSI) division. Based in Hong Kong, she will report to Elodie Norman, chief commercial officer, Asia Pacific.

In her new role, Haswani will focus on strengthening market infrastructure partnerships and cross-border mobility of assets; expanding regional market connectivity to international investors; and building next-generation collateral solutions that bridge traditional and digital asset ecosystems.

Haswani brings almost two decades of experience to the role, serving most recently as director of digital assets strategy at HSBC.

Prior to this, she was vice president at J.P. Morgan and BNY, having previously operated as a trader for Barclays Investment Bank, Deutsche Bank, and Futures First.

In an online statement, Haswani says: "I'm looking forward to collaborating with our clients, central banks, market infrastructures, regulators, industry bodies, and strategic partners across the region. Euroclear's Collateral Highway is uniquely positioned to support regional CSDs and clients through this shift — unlocking liquidity, resilience, and cross-regional connectivity."

Staveley joins Ctrl Alt board

Ctrl Alt, a tokenisation infrastructure provider, has appointed Amanda Staveley, founder and CEO of PCP Capital Partners, to its board of directors as a strategic adviser.

Through PCP, Staveley has been involved in several prominent transactions, including the 2008 recapitalisation of Barclays, the acquisition of Manchester City in the same year, and the 2021 takeover of Newcastle United.

At Newcastle, Staveley served as a director between 2021 and 2024.

According to Ctrl Alt, Staveley's knowledge of the UK and the Middle East will benefit the firm, as its main operations are centred in these regions.

Commenting on her appointment, Staveley says: "I've spent my career closing deals where access to capital was the binding constraint.

"Tokenisation is the first real structural fix to that problem, and Ctrl Alt has done the hard part first — building the regulated infrastructure that institutions and governments actually need before scaling the market around it."

Matt Ong, founder and CEO at Ctrl Alt, adds: "From our first conversations with Amanda, it was clear we shared the same conviction about how this technology can fundamentally change the way we transact in alternative assets. We're proud to have her on the board and looking forward to building together."

Ctrl Alt holds several regulatory authorisations, including licences from the UK Financial Conduct Authority, Dubai's Virtual Assets Regulatory Authority, the Central Bank of Ireland, and the Guernsey Financial Services Commission.

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INDUSTRY APPOINTMENTS

Apex Group appoints Ouaknine

Apex Group welcomes Jørgen Ouaknine as the global head of Digital Markets Infrastructure & Wealth Distribution.

Reporting to Georges Archibald, CEO of Apex Distribution, Ouaknine will lead the group's strategy across digital markets infrastructure and wealth distribution.

Based in New York, Ouaknine will focus on expanding relationships with digital exchanges, financial market infrastructures (FMIs), and intermediaries, as well as aid in connecting fund managers and issuers to new distribution channels, investors, and sources of capital.

Ouaknine joins Apex Group from Euroclear, where he most recently served as global head of Innovation & Digital Asserts and head of Products Americas.

Here, he built Euroclear's digital assets practice, leading the development and launch of its first digital market infrastructure.

Curtoni to head digital assets in Europe at Citi

Michele Curtoni has left SIX Digital Assets (SDX) following five years with the firm to join Citi as head of Europe for digital assets, tokenisation, and commercialisation services.

At SDX, he most recently served as head of digital assets and financial information strategy.

Curtoni began his career as an associate at the London Stock Exchange Group (LSEG), going on to lead group strategy for mergers and acquisitions before transitioning to emerging technologies. He left LSEG to join State Street as vice president and digital assets lead.

Widmann departs from Komainu

Sebastian Widmann has departed from his role as chief of staff at Komainu following eight years with the digital asset custodian.

Throughout his time at the firm, Widmann also served as head of strategy, general manager, and a member of its Middle East and Africa Free Zone Establishment board.

Earlier in his career, he spent time with Nomura as vice president of digital assets and is a contributor to Forbes on industry matters.

Widmann holds a bachelor's degree from University College London, with a published thesis entitled 'The challenges limiting the widespread adoption of Distributed Ledger Technologies'.

Reinhardt to head investor relations at Galaxy Digital

Galaxy Digital has appointed Taylor Reinhardt as head of investor relations, following five years as head of communications and marketing at advisory firm Perella Weinberg.

Reinhardt will report to Galaxy's chief financial officer, Tony Paquette.

Earlier in her career, she spent six years in investor relations and corporate communications at Apollo Global Management, before which she worked in investor relations and corporate communications at Teneo Holdings.

Galaxy says Reinhardt's expertise will play a role in "helping us engage with our shareholders and the broader investment community".

She holds a bachelor's degree in economics from Drew University. ■



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