

OPINION

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Reshaping Financial Infrastructure: Global CSDs and South Korea's Post- Trade Market

Global financial market infrastructure is moving beyond record-keeping and custody. It is becoming platform infrastructure that connects multiple assets and networks. This shift reflects the growth of digital assets, tokenization, and distributed ledger technology.

Major CSDs such as DTCC, Euroclear, and Clearstream are not treating digital assets as a separate market. Instead, they are linking them to existing systems for issuance, custody, settlement, and rights management. This makes interoperability a central issue. As blockchains, distributed ledgers, and traditional financial infrastructure are likely to coexist, common standards are needed for asset and liability recognition, ownership verification, asset mobility, ledger management, and legal and regulatory alignment.

South Korea's capital market is facing a similar transition. Its infrastructure is becoming more layered through competition in trading infrastructure, discussions on multiple electronic registration institutions, and the institutionalization of security tokens. The launch of an ATS has already encouraged innovation in trading infrastructure. In a similar way, multiple electronic registration institutions could improve services and rights management in the unlisted-share market.

Yet competition alone is not enough. Post-trade infrastructure determines the identity of assets, the recognition of rightful holders, consistency across ledgers, and legal effect. South Korea therefore needs to discuss not only competition, but also infrastructure design based on interoperability.

* All opinions expressed in this paper represent the author's personal views and thus should not be interpreted as Korea Capital Market Institute's official position.

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In capital markets, trading usually receives the most attention from investors. But the stability of the financial system depends on what happens after trading: clearing, settlement, and custody. Once a trade is executed, cash and securities must be exchanged, risks must be managed, and ownership records must be maintained. These functions form the core of post-trade infrastructure. For many years, post-trade operations were viewed mainly as a source of cost reduction and efficiency gains. That view is changing. With technological innovation, post-trade infrastructure is becoming a space for revenue generation, service competition, and strategic positioning.

Three developments explain why post-trade infrastructure is drawing renewed attention. First, security tokens and digital assets are challenging the role of traditional infrastructure. Blockchain-based assets differ from traditional securities in their structure from issuance to settlement. Market participants are now competing over how these assets should be integrated into existing infrastructure. CSDs are using their post-trade expertise to become platforms that manage the full life cycle of assets. Second, AI and cloud technologies are changing data processing and risk management. Functions once performed manually, such as abnormal-transaction detection, collateral optimization, and operational automation, are increasingly handled by algorithms. This is changing the cost structure of post-trade operations. Third, shorter settlement cycles require end-to-end automation. The United States moved from T+2 to T+1 in May 2024. The EU and the UK plan to move to T+1 in October 2027. Shorter cycles require institutional investors, custodians, and brokers to complete trade confirmation, foreign exchange, and securities lending recalls within much tighter windows. Manual processes cannot meet this standard.

Developments at Major Global Infrastructure Institutions

DTCC, Euroclear, and Clearstream are responding to these changes in different ways. DTCC is seeking to move from a traditional clearing, settlement, and custody institution to a comprehensive platform for the digital asset era. Its role was once centered on the reliable processing of post-trade clearing, settlement, and custody. More recently, DTCC has made tokenization, real-time collateral management, and asset mobility key strategic priorities. In 2025, DTCC announced ComposerX, a platform that supports the issuance, distribution, rights management, and reporting of digital assets. ComposerX connects traditional financial

market infrastructure with digital asset infrastructure. Its goal is to manage the full asset life cycle within a single framework and to support interoperability. DTCC has also adopted a multi-chain strategy. Rather than relying on a single blockchain, it supports connectivity across different networks. This allows DTCC to expand the use of tokenized assets while maintaining its existing depository and clearing infrastructure. In this sense, DTCC is moving beyond the role of a central depository and clearing institution. It is becoming a next-generation infrastructure provider that connects traditional financial markets with the digital asset ecosystem.

Based on this platform, DTC, a DTCC subsidiary, announced the launch schedule for its tokenization service in May 2026. The service is expected to begin with limited live trading in July 2026 and to launch formally in October 2026. The initial assets include securities held in custody at DTC, such as Russell 1000 constituents, major index ETFs, and U.S. Treasuries.

In December 2025, DTC received a No-Action Letter from the SEC. This gave it a legal basis to operate the service for three years. DTC currently holds USD 114 trillion in custody. More than 50 institutions are participating in the service working group, including BlackRock, Goldman Sachs, JPMorgan, BitGo, Fireblocks, and Circle. DTC has stated that tokenized assets will have the same rights and ownership structure as assets already held in custody at DTC.

Clearstream is leading the digitalization of post-trade operations through its D7 platform. Built with Google Cloud, D7 has reduced securities issuance time from up to two days to a few seconds. In 2024, D7 DLT participated in the European Central Bank's wholesale CBDC trials. It demonstrated the settlement of tokenized commercial paper and intraday repo transactions. In 2025, Clearstream launched security token issuance and management services fully aligned with the CSDR. Clearstream and Euroclear have also agreed to issue eurobonds in fully dematerialized form from the first quarter of 2026. They are continuing to digitalize the common issuance and management framework needed for this transition.

Clearstream's recently announced Digital Securities Infrastructure builds on these efforts. D7 focused mainly on issuance and registration. The new infrastructure aims to cover the full asset life cycle on a single platform, including issuance, distribution, settlement, custody, rights management, collateral management, and financing. The new infrastructure also has a hybrid structure. It can manage conventional securities, security tokens, and stablecoins within one portfolio. It also aims for interoperability without being tied to any single blockchain. This reflects an effort to expand the role of the traditional CSD into an asset management platform.

Euroclear is pursuing a similar direction through its Digital Financial Market Infrastructure, or D-FMI. Its first service, Digital Securities Issuance, uses distributed ledger technology for the issuance, distribution, and primary-market settlement of digital securities. Secondary-market trading and settlement remain connected to Euroclear Bank's existing infrastructure. This approach does not separate digital assets into a distinct market. Instead, it brings them into existing financial market infrastructure. Through D-FMI, Euroclear is issuing Digitally Native Notes. It also plans to expand the service to data management, regulatory reporting, and investor information.

The Importance of Interoperability

In the digital asset era, financial infrastructure must be built around standardization and interoperability. At a time when standards are still being formed, leading global CSDs have chosen to cooperate on interoperability rather than compete to control the standard. In 2024, DTCC, Euroclear, Clearstream, and Boston Consulting Group jointly announced the Digital Asset Security Control Principles, or DASCP. DASCP is a common risk-management framework for the safe adoption of digital assets. It is based on technology-neutral and asset-agnostic principles. It provides standards for managing legal, operational, and regulatory risks in the issuance, custody, and transfer of digital assets. Its purpose is to give market participants a common reference point and to support legal clarity, operational stability, and regulatory alignment.

In 2026, these institutions published a joint white paper focused directly on interoperability.¹⁾ The paper argues that the digital asset market is not converging toward a single technology or dominant platform. Instead, public blockchains, private DLT, tokenization platforms, and traditional financial infrastructure are developing at the same time. The result is a more pluralistic market structure. This structure creates risks of fragmentation. The same asset may be distributed across multiple networks, causing liquidity to become fragmented. Investors and financial institutions may need to access different systems separately. Additional costs may arise to maintain consistency across systems. Operational and regulatory risks may also increase. As a result, technological progress alone may not improve the efficiency of the overall market. Instead, digital fragmentation may emerge.

1) DTCC, Clearstream, Euroclear, BCG, 2026. 2, Building the Path Towards Digital Asset Securities Interoperability.

The joint white paper defines interoperability as more than a technical connectivity issue. It treats interoperability as a structural issue for the financial market as a whole. It identifies five areas where common standards are needed: asset and liability recognition, ownership verification, asset mobility protocols, ledger management, and legal and regulatory compliance. In other words, interoperability is about maintaining consistency across the entire process of issuance, holding, transfer, and exercise of rights. To implement these standards, the white paper emphasizes alignment in data, processes, and roles. On the data side, asset taxonomy, identifiers, and message formats must be standardized. In traditional markets, the International Securities Identification Number, or ISIN, has allowed the same security to be identified across countries and markets. Digital asset markets need similar data standards so that assets can be recognized consistently across ledgers and networks. On the process side, core functions such as trade confirmation, clearing, and settlement must also be consistent across networks. In traditional markets, SWIFT messaging and international settlement practices supported cross-border transactions and reduced operational risk. Digital asset markets likewise need common operational procedures to make post-trade processes predictable. Finally, the roles and responsibilities of key market participants must be clearly defined. These include custodians, CSDs, and clearing institutions. In traditional markets, these roles have been institutionalized through law and regulation. In digital asset markets, role clarity is also a precondition for interoperability. The reason competing institutions continue to cooperate on these standards is straightforward. The cost of fragmentation is ultimately borne by the entire industry.

The Layering of South Korea's Capital Market Infrastructure and the Interoperability Challenge

The transformation of global post-trade infrastructure has direct implications for South Korea. South Korea's capital market infrastructure is also changing across trading, registration, rights management, and digital assets. In trading infrastructure, the launch of Nextrade, an alternative trading system, introduced competition into a market structure long centered on the Korea Exchange(KRX). Trading hours have been extended. New order types and fee competition are also emerging. The launch of the ATS is also pushing the existing trading infrastructure to change. The KRX is pursuing an extension of trading hours in September 2026. This shows that competition does not simply divide the market. It can also improve existing infrastructure and raise market quality.

These changes are not limited to trading. Discussions are also underway on multiple electronic registration institutions.²⁾ The Electronic Securities Act, which took effect in 2019, was designed as a licensing regime that permits multiple institutions to enter the electronic registration business. Yet no new entrant has emerged in the six years since the Act took effect. The Korea Securities Depository(KSD) has therefore operated as the de facto sole electronic registration institution. The current electronic registration system has worked stably in large and standardized markets, such as listed stocks and bonds. But it has been used less effectively in markets such as unlisted shares, where issuance sizes are smaller and the number of companies is much larger. There are around 40,000 venture companies in South Korea. Only about 300 use electronic registration. Most unlisted companies still manage their shareholder registers manually or with spreadsheets. This creates limitations in rights verification, shareholder-register consistency, and transaction transparency. It also leaves room for forgery, alteration, and disputes. To address these problems, the Financial Services Commission is preparing licensing review criteria for a new electronic registration institution specializing in unlisted shares. The market is also responding. For example, Quota Lab is pursuing the establishment of a company tentatively named Korea Electronic Securities.

The direct benefit of multiple electronic registration institutions would be greater legal certainty and better service access in the unlisted-share market. An institution specializing in unlisted shares could make issuance and rights management more convenient. It could also provide customized services based on a company's growth stage and ownership structure. This is especially relevant for ventures and startups. Their rights relationships often become complex through investment rounds, stock options, convertible securities, and preferred-share terms. These companies need services that go beyond simple title transfer or shareholder-register management. In this area, an electronic registration institution could become post-trade infrastructure that supports capital policy and investor rights management for unlisted companies.

Even if an electronic registration institution specializing in unlisted shares is introduced, however, the assets will not remain within a single infrastructure. When an unlisted company grows and becomes listed, its shares must be traded on the exchange market and connected to central clearing and settlement infrastructure. In some cases, the electronic registration

2) Financial Services Commission, 2025. 12. 22, press release.

institution may need to be replaced by the KSD. In other cases, the registration institution may remain in place, while settlement is carried out through the KSD. The introduction of multiple electronic registration institutions is therefore not just a question of allowing a new institution to enter the market. It raises a broader question: how should assets and rights information move and connect among the unlisted market, the listed market, registration institutions, and settlement institutions?

At the same time, the institutionalization of security tokens is expanding the way securities rights are recorded. Rights may no longer be recorded only in centralized electronic registration account books. They may also be recorded through distributed ledgers. If security tokens are introduced as a form of securities issuance under the Electronic Securities Act, the KSD will perform its existing functions as an electronic registration institution. These include eligibility review, management of total issuance and circulation volume, preparation of ownership records, and support for the exercise of rights by holders. This is important because security tokens would not be treated as assets outside the existing financial market infrastructure. They would be incorporated into the electronic securities regime as a new form of issuance. For security tokens to be issued and circulated safely, consistency must be maintained between distributed ledgers and linked account books. Total issuance volume and total circulation volume must also match. Quantity-change information must be linked among account management institutions. The KSD's work on standard requirements for security token distributed ledgers is related to this need.

These domestic developments are closely connected to global trends. Major CSDs overseas are seeking to connect digital assets with existing financial market infrastructure. South Korea may also move toward a structure in which existing electronic securities infrastructure, an electronic registration institution for unlisted shares, and security token infrastructure coexist. In that environment, the core issue is not competition itself. The core issue is how to secure interoperability among different infrastructures. Once multiple electronic registration institutions are introduced, common standards will be needed for asset identification, rights verification, transfer of issuance and registration information, linkage of account books, connection to settlement infrastructure, and recognition of legal effect. The five areas of interoperability identified by global CSDs may arise in South Korea in the same way. These are asset and liability recognition, ownership verification, asset mobility protocols, ledger management, and legal and regulatory frameworks.

The launch of the ATS has encouraged competition in trading infrastructure and led to improvements in existing infrastructure. Multiple electronic registration institutions could have a similar effect in the stock market. They could improve services and strengthen rights management. But post-trade infrastructure is different from trading infrastructure. In post-trade infrastructure, consistency of rights and legal certainty are far more important. Competition in trading infrastructure is mainly about price, speed, and access. Competition in registration and settlement infrastructure involves the identity of assets, the recognition of rightful holders, consistency across ledgers, and legal effect. The introduction of multiple electronic registration institutions should therefore be understood as an infrastructure design issue. It is not only about whether a specific institution should be allowed to enter. It is about how to build a connected framework in which assets and rights can move seamlessly across multiple infrastructures. Global experience shows that CSDs and other post-trade institutions are evolving. They are no longer simple record-keeping and custody institutions. They are becoming core infrastructure that connects multiple assets and multiple networks. South Korea's capital market has also reached the point where it must discuss infrastructure design based on both competition and interoperability.