

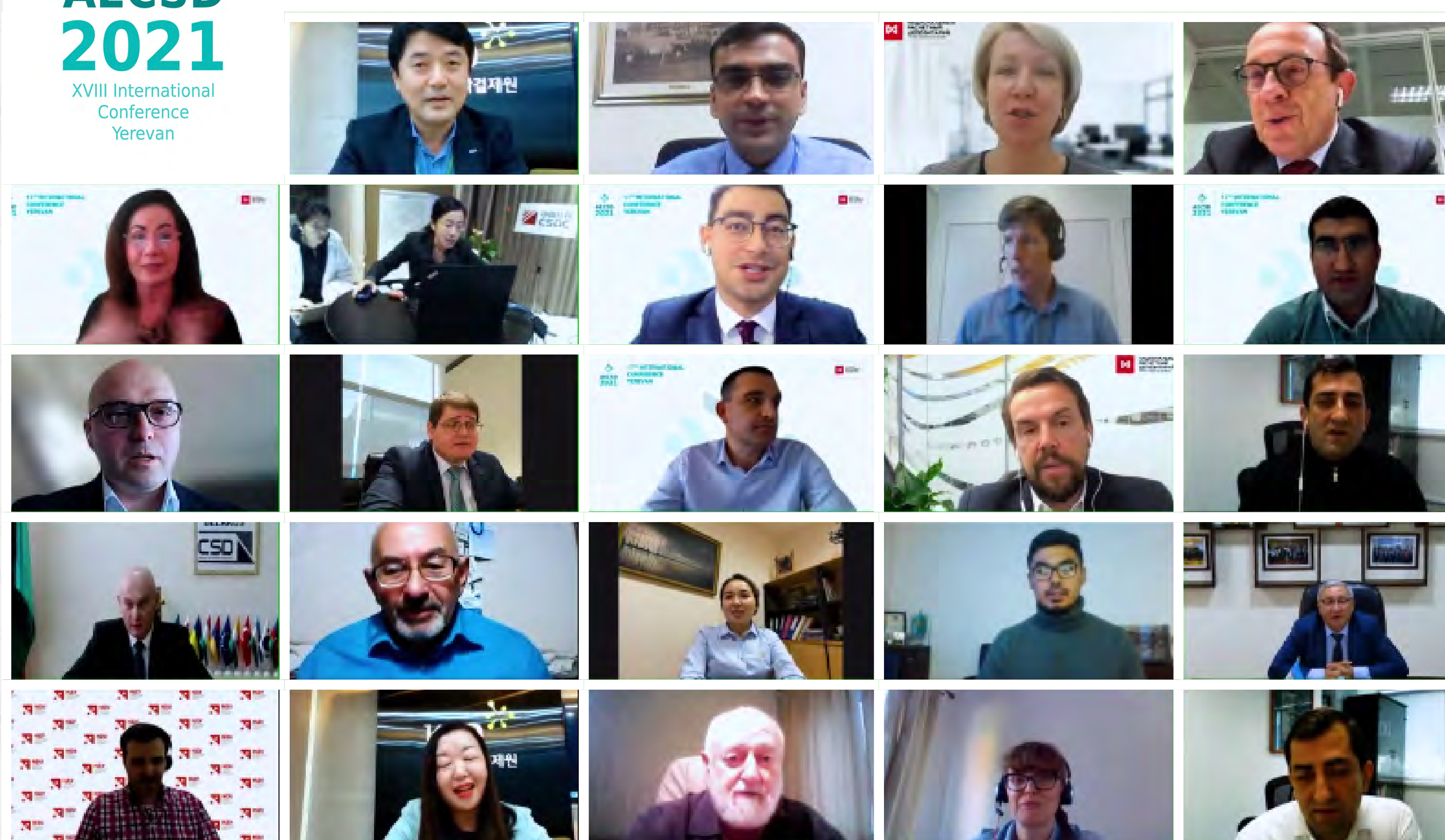


## What Future Lies Ahead of the CSD Industry?

Headline



On 27–28 October 2021, the XVII International Conference of the Association of Eurasian Central Securities Depositories (AECSD) “Re-forming Financial Markets” took place.



### Day 1

One of the most attention-getting discussions was entitled “Reforming the financial markets: diversifying the CSD business and entering new segments”. The modern central securities depositories (CSDs) are looking for opportunities to diversify their services and trying to understand how to communicate with regulators, retain key staff, and keep up with the technology trends.

The panelists reached a consensus that CSDs are required to find opportunities to grow and to have an effective impact on the market, start providing services beyond their conventional area of business, and seek to understand expectations of their clients and regulators. It has become apparent that diversification is in high gear, directly affecting financial metrics and service levels.

“Cost management, market needs, and the regulator’s mission to ensure evolution of the domestic market are among the crucial drivers of diversification. We need to understand whether there are tasks at hand to ensure global integration, attract foreign investors, or provide more opportunities to local investors. Regulators and the infrastructure should maintain their competitiveness, including in front of FinTech businesses that are capable to put into question the existence of infrastructure in its current shape, and many CSDs, including NSD, have demonstrated their flexibility by expanding the range of their key services and offering new service types. Today, we are facing such challenges as an ESG agenda and emergence of new service segments, such as the pension industry”, said **Maria Krasnova, First Deputy Chairperson of NSD’s Executive Board.**

The distributed ledger technology also remains a challenge to CSDs. This has been confirmed by **Professor Monica Singer, ConsenSys South Africa Lead, Board member of SAICA and Accounting Blockchain Coalition**, in her presentation “Blockchain technology: How is the world of capital markets changing?”

“The world of finance is evolving drastically, including thanks to smart contracts. People want fast payments, without unnecessary intermediaries, and the new technology makes this possible. Thanks to it, it is possible to automate corporate actions, program an AML system, increase liquidity in the market, ensure flexibility in terms of dividend payment, and much more. Now, all of this is becoming possible. And that impresses! I do believe that distributed ledgers are a source of great opportunities for CSD, not a threat. It is only needed to start studying new processes, training staff, and experimenting. Try and you will see that the new world order will give you an opportunity to transform business”, said **Professor Singer**



Importantly, the trends towards digital transformation of the securities market are supported by SWIFT. That is perfectly in tune with the strategy pursued by the Society for Worldwide Interbank Financial Telecommunication.

**Matthieu de Heering, Director, Capital Markets Strategy, SWIFT:** “SWIFT’s current strategy for the securities market is aimed at supporting CSDs during the period of coexistence of traditional and tokenized assets. The move to a new asset type is a fact, but this will happen gradually, for all types of securities. We have to ensure a move, as seamless as possible, to the new approach for our clients. The entire securities industry is imbued with an idea of innovations and has a strategic focus on innovative projects, including on a new class of securities. That has long moved beyond labs: the future is happening here and now!”

### Day 2

The AECSD was launched 17 years ago, and it is time to assess what has been done during that period and what prospects await in the future. As part of the kick-off discussion of Day 2, the AECSD members and representatives of other regional CSD associations discussed ideas of how it is better to arrange the work of such an organization in the modern world.

Moderated by **Boris Cherkasskiy, Advisor to the Director General of INFINITUM Asset Services**, the speakers discussed how the AECSD should improve the ways it interacts, whether the AECSD structure needs to be reformed, and whether there is a need for a common securities depository and settlement space for the AECSD member countries and how such space should be shaped.

“The entire global securities depository and settlement system is ineffective. ICSDs and global custodians somewhat solve issues of cross-border settlement, but this comes at a price for investors. All our depositories have eventually learned to service their domestic markets, but once we face issues arising in cross-border transactions, the effectiveness drops sharply. The challenge is not unique to us; developed markets also face and seek to address it in different ways. The T2S system that helps CSDs to make cross-border transactions attracts great interest, but that move has not so far been supported elsewhere in the world. Shall we consider creating similar systems within the AECSD or in cooperation with the ACG? Will this make our markets more appealing? Do we need that?”, asked the moderator.



Another interesting topic discussed during Day 2 was harmonization of reforming the banking and securities markets in order to ensure financial stability. The topic was addressed by **Alexey Krasinsky, Deputy Director, Department of Financial Policy, Eurasian Economic Commission (EEC)**. He talked about the integration processes taking place in the Eurasian Economic Union (EAEU).

“During the time that have passed since the signing of the EEC Treaty, and we have managed to put in place a well-established regulatory framework to achieve our objectives. Today, our main focus is on the financial market. Here, we have four tasks: harmonization of requirements to operations and supervision in the common financial market from the perspective of the regulatory policy with respect to market participants; recognition of licenses in the insurance market, securities market, and banking sector; unimpeded provision of services in the financial market without establishing an additional corporate intermediary; and ensuring effective administrative interaction between regulators”, said Mr. Krasinsky. “These are the principles that would help unlock the potential of the Union member countries, ensure investor protection, and maintain financial stability of the Union and its member countries.”

Naturally, the AECSD Conference could not overlook the hot topic of ESG (Environmental, Social and Corporate Governance) principles. A presentation on the topic was made by **Konstantin Saroyan, Secretary General, Federation of Euro-Asian Stock Exchanges (FEAS)**.

According to him, “with each passing year, funds have been investing more in companies that pursue an ESG strategy. Such an approach brings attention to the company and builds a brand -new reputation for it. With respect to stock exchanges and CSDs, this would be safe to say that they could play a double role in that policy. The first one is the internal function wherein they stick to that philosophy themselves. The second one is the external function wherein they play the role of regulator for their corporate clients. It is also important to realize that costs to implement ESG are really high and that work requires collective efforts. It does not make sense if only a single player is into it, but it makes sense if the entire world is involved.”



By tradition, the conference involved the Annual General Meeting of AECSD members attended by representatives of the AECSD members and observers. **Mr. Vahan Stepanyan, CEO of Central Depository of Armenia, was re-elected as AECSD Chairman.** In 2022, the International Conference of the Association of Eurasian Central Securities Depositories will take place in the Republic of Armenia, in a hybrid format.

**The Annual General Meeting of AECSD Members** is a traditional forum for the central securities depositories (CSDs) that are members of the AECSD to share their achievements and plans. In 2021, the AECSD members continued to expand the range of their services and to improve service quality.

For instance, the CSDs of Armenia, Ukraine, South Korea, Uzbekistan, and Tajikistan have presented new opportunities for clients' remote access. Improvement of cybersecurity and resilience of the settlement infrastructure remains one of the key trends. Significant changes in that area have taken place at the CSDs of Russia, South Korea, and Kyrgyzstan.

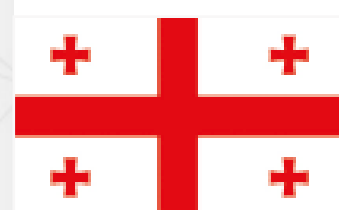
The work is also ongoing to maintain cooperation with governmental agencies and to improve the investment climate in the relevant countries. A notable progress in that field has been made by the CSDs of Kazakhstan, Uzbekistan, and Kyrgyzstan.



**Armenia's CSD** has implemented the CDA Mobile project that, among other things, allows shareholders to vote at general meetings via the dedicated app. The CSD is also working on having the Central Bank to transfer government bonds to an account with the CSD and on launching tri-party and collateral management services for clients.



**The CSD of the Republic of Belarus** joined the ISIN-to-LEI mapping initiative of the Association of National Numbering Agencies (ANNA) in 2021. In addition, the national legislation that governs investment funds has taken effect in Belarus and the Republican Unitary Enterprise "Republican Central Securities Depository" has made necessary adjustments to its processes. Moreover, Belarus has lifted the restrictions on trading in foreign securities in the domestic market, and RUE "Republican Central Securities Depository" has offered foreign counterparts (NSD) an opportunity to use SWIFT and arranged for client identification using ID cards instead of passports.



**Georgia's CSD** has continued to roll-out a new operating system together with the National Bank of Georgia (the depository for government securities). The scheme makes it possible to promptly exchange information, including information on corporate actions and repo trades. Last year, the largest state pension fund had been established in the country, which has made it necessary to attract foreign securities, including global depository receipts, into the Georgian jurisdiction.



**The CSD of Kyrgyzstan** has increased the volume of assets in its custody, partially thanks to its contribution to the growth of private investment funds. The CSD intends to roll-out a new IT system that would improve information security. An intensive law-making process is underway in the country to ensure migration to a common format of data interchange between all professional securities market participants, which will also affect the CSD's roles.



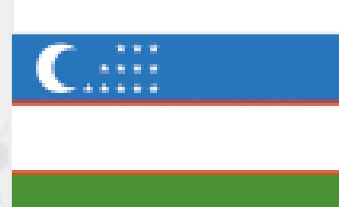
**Kazakhstan's CSD** has informed about the upgrade of the national debt securities' credit rating by the major credit rating agencies, the first upgrade in the last 14 years. To a great extent, that move has been driven by the joint efforts of the National Bank, the Ministry of Finance, and the Kazakhstan Stock Exchange (KASE) to develop the market of government securities. Moreover, the CSD has reduced the fees charged to market participants by 20% and simplified the payment process thanks to integration with The Integrated Securities Registrar of the Republic of Kazakhstan and tapping into new sources of income. The CSD intends to obtain the exclusive status of single paying agent for domestic bond issues so that to ensure greater transparency of the redemption process. Together with the regulator, the CSD of Kazakhstan has implemented an initiative to allow domestic brokers and securities holders to use omnibus accounts.



**Russia's CSD** has informed about the ongoing work to ensure its compliance with the Bank of Russia's new, stricter requirements to infrastructure security and to improve IT security literacy among its staff.

Together with Moscow Exchange, NSD continues development of the financial services marketplace, building infrastructure that would allow offering more products to marketplace users. For instance, the marketplace already offers loans and retail bonds (OFZ-n).

In addition, the work is under way aimed at digitalization and facilitating new clients' access to the financial market.



**Uzbekistan's CSD** has shared the national Government's plans to contribute to capital market evolution, as described in the Strategy 2021. The Strategy provides for the expansion of the CSD's role by concentrating all securities settlements within the CSD, introducing a foreign nominee holder concept, and making the CSD responsible for custody of both government and corporate securities. The CSD also proposes to start issuing LEIs and ISINs on its own. A significant progress has been made in the field of remote client relations and client identification.



In line with the national digitalization trend, **Ukraine's CSD** has released the first version of API and expects that direct clients of National Depository of Ukraine (NDU) will, as soon as the next year, be able to open indirect accounts with NDU for their own customers, throughout the securities holding chain.

In addition, NDU has made a number of improvements to ensure better compliance with the Principles for Financial Market Infrastructures (PFMI), implemented a system designed to enable bondholders to vote in the event of default of the bond issuer, and is exploring the CSD's potential role in administering digital assets and long-term consequences of the application of ESG approaches.



**The CSD of Tajikistan** has strengthened digitalization of its services and is considering an expansion of the range of services, including by offering banking services. Changes are anticipated in the corporate securities register system, which will involve delegation of the role to maintain such registers to the CSD.



**The CSD of South Korea** has informed about the launch of a new data center in Busan to strengthen the CSD's IT systems. The data center will improve data security and speed up the process of disaster recovery of data.

The CSD has also launched an asset-backed securities system (ABS) that provides domestic investors with wider access to information on securities. One of the major projects is transition to a risk-free rate that will be calculated by the CSD.

## Tokenization: An Opportunity for CSDs to become Market

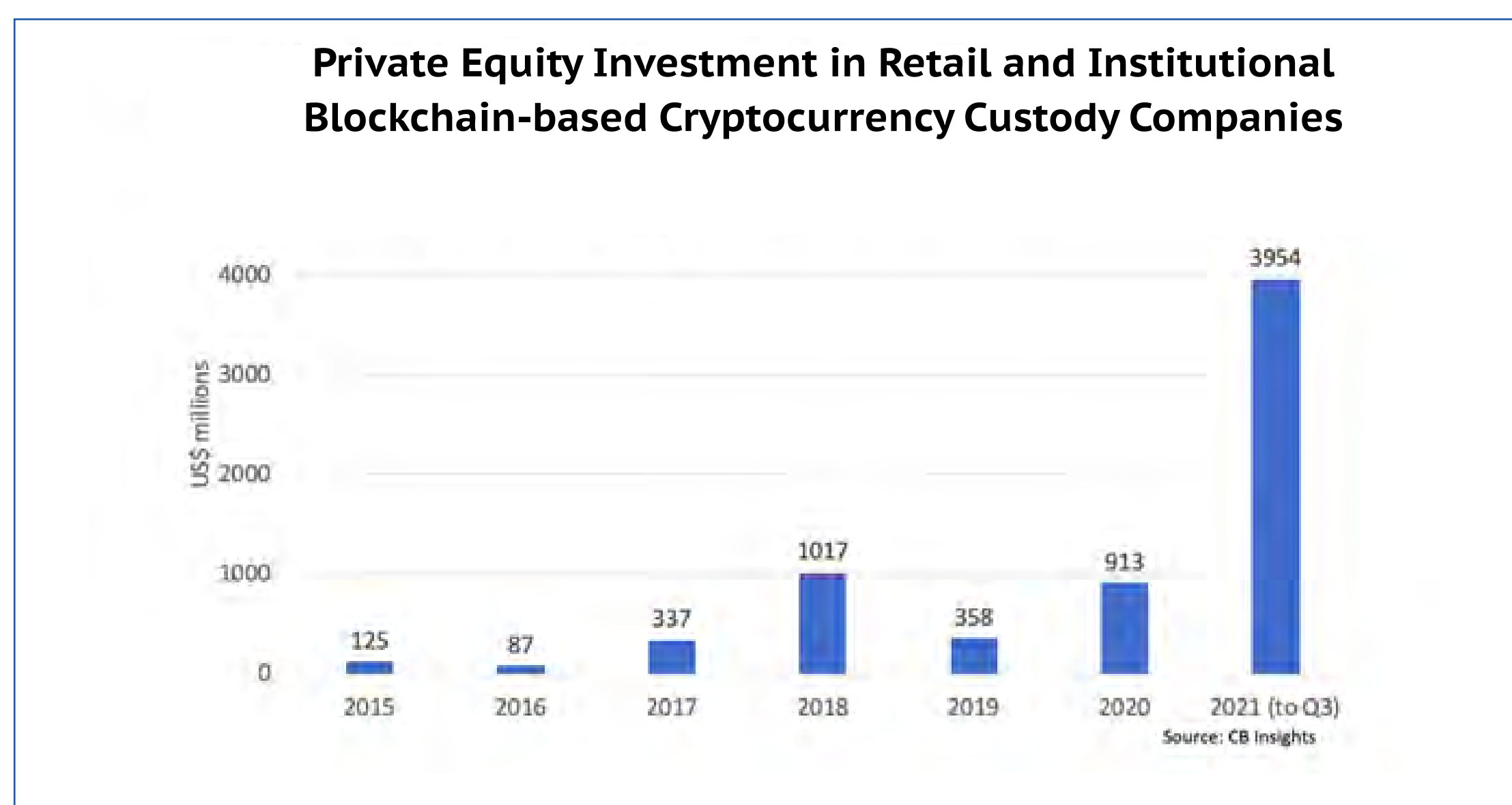


**Monica Singer**  
South Africa Lead  
for Consensys

Central Securities Depositories (CSDs) face an existential crisis in the face of the emergence of a new financial system powered by decentralized finance (DeFi).

All the functions – settlement, registration, custody, and asset servicing – performed by a CSD in a transaction can now be performed using blockchain technology. And the aspect of blockchain technology that underpins these functions is the digitalization of securities, or tokenization. To remain relevant in this new era of finance, CSDs need to adapt to tokenization of securities.

Additionally, the popularity of cryptocurrency custody can be gauged from the fact that **\$3.9B was invested in cryptocurrency custody** until the third quarter of 2021, according to research firm CB Insights. This figure was higher than the investment in cryptocurrency custody in the previous six years combined.



In this paper, we take a look at what tokenization is, its benefits, and how it threatens the function of CSDs.

### What is Tokenization?

Tokenization simply refers to the digitalization of securities. The ownership of the security is associated with a digital token on a distributed ledger, and the ownership can only be transferred with the transfer of the token, and vice-versa.

We have come a long way from securities being traded through the exchange of a physical certificate, to a process where the exchange happens directly through accounts at the CSD, custodian banks and other intermediaries. Tokenization is the next obvious step in the evolution of the way securities are cleared and settled.

Where we once placed our trust in the intermediaries, such as CSDs and custodian banks, to keep a record of the transaction, the trust function has now moved on to code. The transparent nature of the distributed ledger technology (DLT), which powers DeFi and tokenization, ensures that transactions can now be traded, cleared and settled directly between a buyer and seller.

This facilitation of peer-to-peer transactions, without an intermediary to facilitate the exchange, is the beauty of tokenization. The exchange is facilitated in real time, without any walled garden, in the internet of value without the use of legacy technology that relied on SWIFT messages.

"You cannot build the future of finance on legacy infrastructure," says Monica Singer, the South Africa lead at Consensys. We all remember the era of CD-ROMs for music, taxi services for transportation, VHS tapes for movies. They all gave way to newer technologies that built the Spotify, the Uber, and the Netflix of today. This is what Ethereum, the platform powering DeFi, is doing today for finance.

To say that tokenization of securities is the future of clearing and settlement would be an understatement. Tokenized securities are already giving traditional finance a run for its money. In March 2021, the daily volume of cryptocurrencies traded in South Korea **briefly surpassed** the daily transaction volume on the country's stock exchange.

Tokenized platforms are **set to be equivalent in size** to conventional securities exchanges in the coming five-ten years, the Future of Finance wrote citing a major financial market infrastructure.

### How is Tokenization Threatening CSDs?

CSDs perform four main functions in a transaction – issuance, settlement, registration, custody, and asset servicing. Each of these functions is at risk of being disrupted by tokenization.

Let's take issuance, for example. Instead of issuing securities in a traditional stock exchange using the current plumbing that depends on intermediaries like CSDs, companies can issue tokens to a digital wallet. Trades are then settled by an exchange of securities tokens against payments tokens, instead of being settled against a fiat currency issued by a central bank that uses the Real Time Gross Settlement system to perform the payments.

With the advent of Central Bank Digital Currencies (CBDC), atomic real-time settlement between securities tokens and CBDCs will be possible which will speed up the implementation of securities that are either tokenized natively or where the current financial instruments that are held in the dematerialised register are created as tokenized securities.

The digital wallets can be self-custody by the investor or the custody can be outsourced to a custodian. There are many new custodians in the market that are regulated in their jurisdiction already offering these services to cryptocurrency investors. It would be a natural progression for their services to expand into the custody of the private keys of securities tokens and tokenized securities.

### What are the Benefits of Tokenization?

One of the key advantages of tokenization is rapid settlement of trades since exchanges for tokenized securities are open 24/7. Tokenized securities also allow for fractional ownership, which can easily replace the antiquated mutual funds business.

This is not all. There are many other benefits of tokenization, and we explore some of those below:

#### Increased Liquidity

Tokenized exchanges attract higher liquidity because they allow investors to tap liquidity from previously untapped resources from the world over. One great example of this is Liquidshare, a fintech founded by eight major European financial institutions that Consensys helped set up. Liquidshare created security tokens for private companies that did not have the efficiencies of listed stock exchanges.

Such previously untapped sources of liquidity are available without walled gardens, restriction on working hours, public holidays or weekends, or dependency on the payment of fiat currencies only available at set times through intermediary banks.

#### Increased geographical access

Tokenization allows investors to access liquidity in geographies outside of their domicile. Currently, any investor needs to have an account with a broker or custodian banks in the country where they want to trade shares on that country's stock exchange. This increases the cost of investments for a foreign retail investor. Additionally, the processes of settling trades through a custodian are slow and complex.

Since the tokenization of financial securities removes the need for an intermediary, any person with an internet connection can buy and sell tokenized securities, no matter where they are located.

#### Reduced Operational Costs

Smart contracts are a key feature of the Ethereum blockchain service, and they ensure that the terms of a transaction are programmed into the code of the transaction. Smart contracts for tokenized exchanges ensure that all the responsibilities of a CSD are programmed into the trade, facilitating the execution of corporate actions such as payment of dividends to shareholders, or payment of interest to bondholders. This reduces the operational costs of servicing these transactions.

#### Automated Compliance

An open-source ledger, one of the key features of blockchain, ensures that everyone can see the same version of the ledger in real time. The ledger is immutable, and transparent, which allows the issuer to see in real time who is transacting in their securities.

The ability to track transactions in real time has always been one of the requirements by issuers in legacy financial markets and very few in the traditional financial markets have been able to offer this functionality. The CSDs that do not have "name on register" functionality, and rely on nominee accounts in particular do not have this facility. This leads to reduced transparency in traditional financial markets.

Since the ledger, where tokenized transactions are recorded, is open-source, issuers as well as auditors see the same version of the ledger. This allows the audit of the ledger to be conducted in real time, which increases the ability of regulators to ensure the integrity of the transactions.

#### Financial Inclusion

Issuing tokenized securities leads to lower direct costs, both to the issuer and the investor. This leads to financial inclusion as the barrier to entry to investments is lower in crypto markets when compared with traditional financial markets.

#### Interoperability

Ethereum standards make the exchange of value over the internet as simple and easy, as the exchange of information. This concept is known as the internet of value. As the internet of value is public and permissionless, the interoperability between many new asset classes will become a reality. We call this the money lego and the composability achieved through the open source nature of the DeFi protocols. This is impossible in the legacy financial markets being another reason why changes will become inevitable.

#### New Asset Classes

Tokenization is bringing new asset classes such as art, real estate, collectables, and new forms of money into the market. This gives CSDs an opportunity to offer investors custody services of all these new asset classes.

### How is Consensys Helping to Build the Future of Finance?

DeFi is the basis for a new financial system using mainly Ethereum as the internet of value in Web 3.0. As we discussed above, the DeFi economy places trust in code, rather than on an intermediary. Consensys is helping to build this new financial system.

One of the main instruments that allows investors and market makers to participate in the DeFi economy are digital wallets. Digital wallets are a software that allows investors to hold their cryptocurrency assets, and use those assets to interact with various DeFi protocols for lending, borrowing, investment, and spending purposes.

Consensys offers two wallets to investors: MetaMask is a self-custody wallet for individuals, whereas MetaMask Institutional enables crypto investors and market makers to act on behalf of investors in the DeFi ecosystem.

The wallets are downloadable for free and anyone can use them to access the hundreds of protocols available to trade, get loans, buy insurance, make payments, trade tokens of any type without asking permission, or relying on an intermediary.

Consensys is also working with many asset managers around the world who want to benefit from securities tokens (securities issued in tokenized form) and tokenized securities (securities that are digital but are now converted into tokens) using Codefi Assets and Codefi payments technology.

### How can CSDs be the Leaders of Change?

The paradigm shift in the financial markets, from legacy systems to the new DeFi ecosystem, presents CSDs with a great opportunity to be the leaders of this change.

The bridge between the legacy financial system and the DeFi ecosystem is waiting to be built. The rising demand for high quality assets to be used as collateral in various DeFi protocols points to this trend. Some legacy financial institutions are capitalizing on this opportunity. Take for example, Societe Generale, one of the largest banks in France. The bank proposed to borrow 20M Dai, a stablecoin crypto, on MakerDAO by issuing a bond. This innovative proof of concept is one example as to how the two worlds will eventually co exist.

CSDs have the ability to disrupt their current business model, by for example being an actor that holds a node, or supervise the nodes being kept by the actors that participate in the shared version of the truth being the Register of investors in a DLT protocol.

This time, the changes in the way that securities are traded are exponential. It took over 10 years for the transition from physical share certificates to dematerialised share certificates. CSDs did not have any competition as they are natural monopolies. This allowed them to take all the time they needed to change and to keep up with any technological changes that were needed as a result of dematerialisation of securities.

In the current reality, CSDs have many competitors that are waiting for no one and are creating this parallel financial market infrastructure using the internet of value.

Many CSDs are relying on the fact that the current legislation protects their monopoly. However, many European countries are taking the lead in bringing in new regulations to ease the path to tokenization. Countries including France, Luxembourg and Switzerland have been introducing "holistic frameworks or Blockchain Acts covering DLT activity in markets". A recent OECD report noted Germany's draft Electronics Securities Act as a good example of "tailor-made regulation for tokenised assets".

CSDs around the world have shown the ability to work together to collaborate and coordinate in the move from physical certificates to dematerialised. Now, CSDs can use these associations to debate and move the regulatory needle towards innovation.

CSDs have the biggest opportunity to develop an international industry standard for a regulated financial market infrastructure using DLT and open-source technology, where interoperability and economies of scale in the internet of value is possible. This will position CSDs to compete with all the new service providers that will most certainly expand from cryptocurrency exchanges to offering all sorts of tokens on their platforms.

Another reason for CSDs to collaborate to ensure a wider adoption of tokenization is increased demand from issuers and investors for the functionality that tokenization brings. When asked about the role utilities play in transforming the securities service industry, Nadine Chakar, head of digital at State Street, says, "Only if they transform themselves....If they do enable our transformation, we will wholeheartedly embrace them, but we can't let them slow us down either."



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