



The tokenization of assets is disrupting the financial industry. Are you ready?

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From art to buildings, the way we invest in assets could be about to fundamentally change with the arrival of tokenization. The act of tokenizing assets threatens to disrupt many industries, in particular the financial industry, and those who are not prepared risk being left behind.



What is tokenization?

The tokenization of assets refers to the process of issuing a blockchain token (specifically, a security token) that digitally represents a real tradable asset—in many ways similar to the traditional process of securitization, with a modern twist. These security tokens are created through a type of initial coin offering (ICO) sometimes referred to as a security token offering (STO) to distinguish it from other types of ICOs, which can produce different tokens such as equity, utility, or payment tokens. An STO can be used to create a digital representation—a security token—of an asset, meaning that a security token could represent a share in a company, ownership of a piece of real estate, or participation in an investment fund. These security tokens can then be traded on a secondary market.

Benefits

A new “token economy” offers the potential for a more efficient and fair financial world by greatly reducing the friction involved in the creation, buying, and selling of securities. We see four key advantages that tokenization provides for both investors and sellers:

- **Greater liquidity**

By tokenizing assets—especially private securities or typically illiquid assets such as fine art—these tokens can be then be traded on a secondary market of the issuer’s choice. This access to a broader base of traders increases the liquidity, benefiting investors who consequently have more freedom and sellers because the tokens benefit from the “liquidity premium,” thereby capturing greater value from the underlying asset.

- **Faster and cheaper transactions**

Because the transaction of tokens is completed with smart contracts (software algorithms integrated into a blockchain with trigger actions based on pre-defined parameters), certain parts of the exchange process are automated. This automation can reduce the administrative burden involved in buying and selling, with fewer intermediaries needed, leading to not only faster deal execution, but also lower transaction fees.

- **More transparency**

A security token is capable of having the token-holder’s rights and legal responsibilities embedded directly onto the token, along with an immutable record of ownership. These characteristics promise to add transparency to transactions, allowing you to know with whom you are dealing, what your and their rights are, and who has previously owned this token.

- **More accessible**

Importantly, tokenization could open up investment in assets to a much wider audience thanks to reduced minimum investment amounts and periods. Tokens are highly divisible, meaning investors can purchase tokens that represent incredibly small percentages of the underlying assets. If each order is cheaper and easier to process, it will open the way for a significant reduction of minimum investment amounts. Moreover, the higher liquidity of security tokens could also reduce minimum investment periods since investors can exchange their tokens on the secondary markets, which are theoretically global and 24/7 (subject to regulatory limits). ➤

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These advantages most clearly apply to asset classes that are typically considered illiquid and can benefit from improved transparency, efficiencies, and lower minimum investments. Two areas are particularly interesting when considering the possibilities of tokenization: real estate and fine art. Rather than requiring very large investments, or tying up your money for extended periods with your investment split across a number of other assets in the fund, tokenization could permit you to invest €50 in the piece of art or specific building in which you are interested, and then easily sell the token at your discretion. This ability to freely choose where you invest will open up a new era of much greater personalization and customization in investment—an area that is increasingly relevant as investors now look beyond just returns and pay much closer attention to where their investments are made. There are already a number of companies helping to build the infrastructure to support the growth of the token economy. Companies like Tokeny, a platform to issue and manage security tokens, as well as digital marketplaces like tZERO and privatemarket.io, are just a few of many that are driving the concept of tokenization.

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Challenges

Some obstacles need to be overcome, however, if tokenization and the broader token economy are to take off. A big problem revolves around regulatory alignment, especially considering the fact that blockchain-based platforms are de facto decentralized. Security regulations are typically technology agnostic, meaning that security tokens, depending on their exact features, can fall under the full scope of relevant security regulations, which can vary significantly from jurisdiction to jurisdiction. This is true not just for the creation and initial sale of the tokens, but also for trading them on secondary markets. Consequently, many of the advantages of tokenization are undermined if regulations prevent the free and international exchange of security tokens. What is needed are compliant methods of creating and exchanging tokens in a domestic and, ideally, international scope. International regulatory alignment is an unlikely milestone in the near future, but adding clarity to the regulatory environment for security tokens and facilitating compliant involvement in the token economy is a possible and necessary path forward if the opportunities are to be realized.

Some companies are already helping to solve the compliance issue. Harbor, for example, aims at embedding compliance at the token level, thereby checking if a trade is compliant, taking into account who the buyer and seller are, and where

the trade occurs. If it is compliant, the trade can happen on any token exchange. More development in this area to facilitate the easier creation and sale of tokens is needed to move forward.

Additionally, regulations specific to tokens or, at the minimum, clear guidance from regulators would be welcome, since there is often uncertainty as to how a security token should be considered within the law. While it may seem counterintuitive to encourage regulation of a technology with decentralization and independence as some of its core characteristics, it is important to consider the risks of not providing a legal and safe framework in which the technology can thrive. A lack of scrutiny can allow scams and open the door to hacking—something particularly relevant for a relatively nascent technology. Scams and hacks not only harm investors and the broader economy, but enough of them could discourage investors and cripple the token economy completely.

There has been a considerably uneven approach so far to regulating and accepting tokenization, but there are signs that the traditional market infrastructure is adapting to the token economy. For example, both the US SEC and EU's ESMA have made comments, albeit generic, in this area. Meanwhile, Malta and Switzerland have made more progressive plans to accommodate new marketplaces for tokenized securities¹. Having a clear regulatory framework is of vital importance



for the safe development of the token economy. In the meantime, a set of common good practices and rules would be a good foundation.

Beyond regulations, as with any new technology or solution, some questions need addressing. How tokens will remain linked to the real asset that they represent is a point of concern. For example, imagine if you own tokens representing a small fraction of 100 gold bars at a bank, and five bars are stolen. What happens to your token and to the other token owners is crucially important, since the value of tokens becomes greatly undermined if they cannot be proven to be linked to real-world assets. Another point of consideration is the issue of governance. If ownership of an asset, such as a building, is split among thousands of people, there is little incentive for owners to bear the costs associated with that asset, such as maintenance and ensuring rent is collected. There are also concerns related to risks of hacking that any digital or online products have, as well as stability concerns with a hyper-liquid market. These are problems that will likely be overcome or minimized, but they require thought and possibly intermediaries of some sort.

Once those critical issues about the functioning of the token economy can be answered, and there is progress on the regulatory front, tokenization might become increasingly present across the financial industry. ➔

"As a technical enabler for STOs we see a rapidly growing demand from investment funds and established companies to tokenize their shares and increase liquidity for their investors."

Luc Falempin, CEO, Tokeny

¹ Crypto-Securities Regulation: ICOs, Token Sales and Cryptocurrencies under EU Financial Law—link", pp. 5-6; <https://techcrunch.com/2018/07/19/malta-paves-the-way-for-a-decentralized-stock-exchange/>; <https://www.six-group.com/en/home/media/releases/2018/20180706-six-digitalexchange.html>.



This movement will involve actors from all levels (governments, central banks, private companies, and even local communities), and will depend on their communal effort to move tokenization forward. If the abovementioned issues are addressed, as adoption increases and overhype—which undermines the true value of the token economy—dies down, the token economy might take off rapidly, with ripple effects throughout the financial services industry and broader economy.

What financial institutions will need to consider in order to take part in the token economy

The token economy represents a remarkable power shift from large, centralized trust agents to the individual. Cryptology replaces third-party intermediaries as the keeper of trust, with blockchain participants running complex algorithms to certify the integrity of the ledger of transactions. Financial institutions must determine how they are going to adapt to the token economy. We see major areas that financial institutions must consider if they wish to remain relevant in the token economy:

- **Business model**

Financial institutions will have to choose where to play in the value chain. For example, they might choose to advise issuers on how to structure their token, or could act as safe keeper of the tokenized asset (art, real estate property, luxury vintage car, etc.). They could also leverage their expertise as custodian banks or paying agents to create life cycle event transactions on the distributed ledger or, in a more advanced model, implement life cycle processing in smart contracts and deploy them on a public blockchain platform. At the other end of the value chain, they could offer services to maintain customer accounts in cryptocurrencies and tokens or prefer to act as central distributors facilitating access for their clients to transact on diverse tokenization platforms or token exchanges.

- **Platform integration**

Depending on the business model they choose to embrace, they will implement different operating models. One of the main components of those new operating models being the blockchain platform, they will have to choose which

platforms they will work or collaborate with. This will depend on the regulation they have to follow, the type of products or services they will offer to their clients, and other factors more related to the platform itself, such as its product strategy, and its potential as regards the type and size of the user community.

Institutions need to consider an infrastructure that will provide both technical and economic solutions to their business model while also taking into account the effect it will have on downstream systems. Added to this, if the new platform cannot integrate with legacy systems, institutions may face a partial re-platforming of their information system.

- **Cybersecurity**

With digital payments reaching US\$721 billion in 2017, and the growing popularity of bitcoin and other cryptocurrencies, tokens are increasingly becoming targeted by cybercriminals. While the distributed ledgers themselves implement a high degree of cybersecurity measures at their core thanks to cryptology and consensus among



multiple nodes, the whole ecosystem does have some possible weak points at its edges that need to be properly secured. One of them lies in the management of the wallets and private keys that control them; it could also be man-in-the-middle attack or advanced social engineering to steal private keys. Not only shall the financial institutions consider implementing proper security measures to secure the whole value chain when they run or interact with blockchain platforms, but they might also consider proposing a new kind of service to their customers, for instance, to securely store their wallets and keys. With this in mind, institutions need to carefully plan for cybersecurity at different levels from network and infrastructure, through systems, to applications, and consider the opportunity of differentiation through advanced cybersecurity prevention.

• Compliance

MiFID, Anti-money laundering (AML), know your customer (KYC), and other regulations are at the center of any financial institution's obligations when it comes to client service. In the token economy in which business interactions are more direct, expeditious and irreversible, operational measures to comply with regulations will have to be adapted, potentially becoming more upstream, factorized, and standardized. Institutions should not reinvent the wheel, but collaborate with new actors such as tech startups, KYC utilities, or blockchain analytics software vendors to implement new operational measures and demonstrate to the regulators that they remain compliant while operating in the digital space.

We can imagine that, in the near future, KYC processes would likely be realized once by a specialized KYC utility, encoded in a self-sovereign digital identity, and used by customers each time they enter into a relationship with a new financial institution. Provided that they have

consent from the customer, financial institutions will transfer the reference to this identity down the value chain so that other institutions know with whom they are dealing, such as a crypto-exchange transferring the identity to a bank. This will speed up the on-boarding process, reduce the overall cost of KYC compliance and, at the same time, enable more direct and rapid interactions that are fundamental to the token economy.

Another area that will be affected is taxation. Financial institutions that are responsible for processing some tax will have to adapt their information systems and processes to compute and deduct certain tax schemes, such as withholding tax. Part of that processing might be encoded in a smart contract and automated, and as long as the tax authorities do not accept payment of tax in cryptocurrencies, financial institutions will remain in the taxation ecosystems.

Industry Practicality Current industry capability and viability implications are a key hurdle in the adoption process. For example, within asset servicing, if a fund is tokenized, will all the underlying assets need to be tokenized and a smart contract created for the daily NAV production so as to have a near-live token price for the fund unit? The emerging landscape of this regulatory thinking is developing at a faster pace in emerging markets, like Singapore, rather than traditional Western economies.

• Jurisdiction

With legislative and regulatory frameworks differing from jurisdiction to jurisdiction, financial institutions must ensure tokens remain compliant both in the issuer's as well as in the investor's multiple jurisdictions (e.g., a Canadian seller and Japanese buyer). They should implement measures to prevent investment by customers from jurisdictions with which a token they offer

or give access to is not compliant. This is especially true for institutions that have a global scale.

We expect that with the spread of tokenization there will be new actors, new roles, and new services. A decentralized financial system does not guarantee one without financial institutions, and prepared and forward-thinking institutions will be those that are most able to embrace the token economy. Traditional players will have the opportunity to meet the new demands of a token economy, be it a provision of platforms for storing tokens, or acting as trusted intermediaries for when the blockchain alone is not enough. Those that do not rise to the challenge will struggle in the face of fierce competition for an exciting new, tokenized world.

Conclusion

- Tokenization allows the creation of a new financial system—one that is more democratic, more efficient, and more vast than anything we have seen.
- Tokenization is already a reality. New players are rapidly building their own infrastructure, while the traditional market infrastructures are also showing signs of paving the way for mainstream adoption.
- Obstacles stand in the way of widespread adoption, principally in the form of regulation. But these obstacles can be overcome with the support of actors from all levels.
- Only institutions that engage with the technology, plan for the future, and adapt to the realities will thrive ●