

EBOOK

The future of blockchain and tokenization

A new model for
traditional markets

Blockchain and tokenization are coming into their own

Among the digital financial innovations of the past thirty years, blockchain technology arguably has the potential to make the greatest impact. Even though it hasn't been subject to the hype or controversy of cryptocurrencies like Bitcoin or Ethereum, blockchain provides the backbone for both and can enable companies, users, and markets to interact more securely, more efficiently, and more transparently. In fact, blockchain technology has evolved immensely in the last five to six years; having been battle-tested at scale, it's successfully supporting a wide range of real-world use cases and applications.

Along with modern hardware and cloud technological advances in security and operations, [blockchain technology is distinct from cryptocurrencies](#) and fills a separate and powerful role. In addition, blockchain technology has reached a point where it can be deployed without deep expertise. When combined with Azure confidential computing and Intel® Software Guard Extensions (Intel® SGX), this technology can provide a higher tier of security for digitized asset ownership in data at rest, in transit, and in use in cloud-computing environments.

In the past few years, [these advancements have enabled more widespread use of blockchain-based tokenization of traditional assets](#)—such as bonds, carbon credits, real estate, loyalty and rewards, and even accounts receivable. While the blockchain may have attracted fewer headlines and less hype or controversy than cryptocurrency, **we'll see how it offers potential for building new revenue models and creating more secure, liquid, and transparent markets.**



What is tokenization?

Tokenization is the process of marrying real-world assets with the blockchain—creating on-chain versions of the ownership and ownership rights of those assets as tokens that can be held and traded by institutions and retail customers. Tokenization doesn't involve digitizing the assets themselves, but their ownership. By using the blockchain to establish, record, manage, and transfer ownership, tokenization brings a number of benefits to financial market assets, including:

- ▲ Greater liquidity and pricing transparency for illiquid assets.
- ▲ Increased settlement efficiencies in terms of both cost and time.
- ▲ New distribution models and wider inclusion within financial markets.

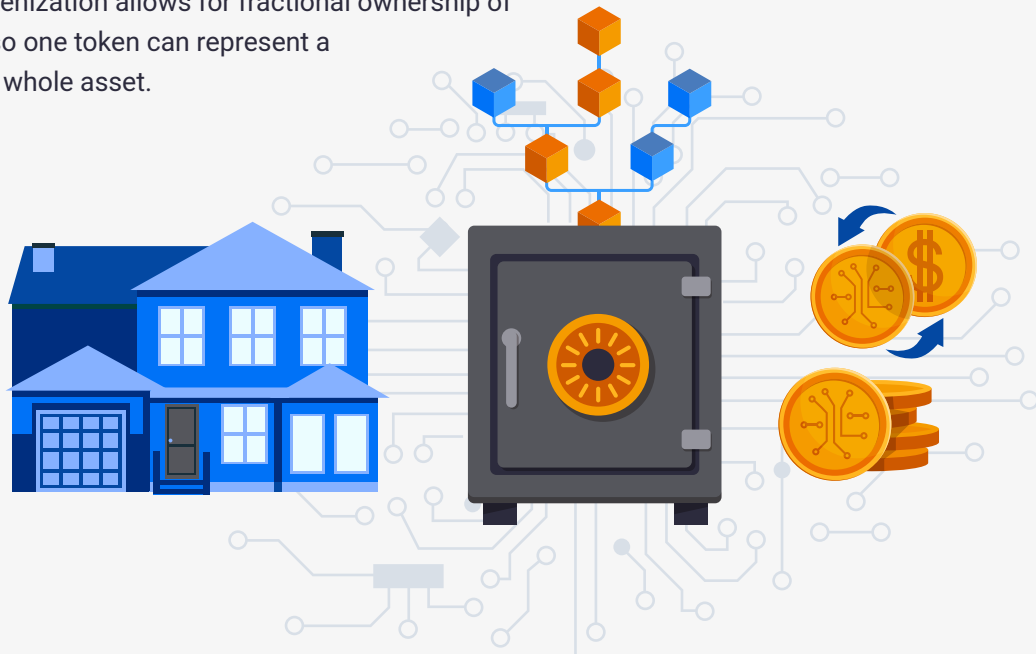
As the tokenized asset market expands, it will enable these assets to be used in new ways, such as serving as collateral within the direct lending and decentralized finance (DeFi) markets.

Let's explore how tokenization works in greater depth



How tokenization of traditional financial products works

Tokenization combines digitization, securitization, and blockchain technology. It converts the ownership and ownership rights of an asset—such as a stock, bond, or piece of real estate—into a digital token, a representation that’s recorded on the blockchain and potentially freely tradable in the open market. But that doesn’t necessarily mean the entire asset must be represented by a single token. Tokenization allows for fractional ownership of assets as well, so one token can represent a small part of the whole asset.



This opens markets to a larger base of investors, driving down average transaction sizes and increasing the number of transactions for higher-velocity markets, more liquidity, and larger volumes. To do this, [tokenization relies on smart contracts](#). Smart contracts can automatically verify and execute transactions, reducing the need for intermediaries and increasing efficiency.

Tokenization extends these efficiencies into custody and settlement with the ability to secure, verify, and settle the asset using a smart contract. With that, the capabilities for token governance include handling corporate actions, ensuring legal and regulatory requirements over the transaction, and allowing data to be incorporated into smart contracts.

Securing digital assets in the cloud

Fireblocks removes the complexity of digital assets while keeping the security. Azure confidential computing offers a hardware-based security solution designed to help protect data in use via unique application-isolation technology. By helping protect selected code and data from inspection or modification, Fireblocks keeps sensitive operations inside enclaves designed to protect data confidentiality. This enables multiparty data analytics while keeping data private among participants even when data is in use. Azure confidential computing encrypts data in memory using hardware-based trusted execution environments and only processes it once the cloud environment has been verified. This helps prevent data access by cloud providers, administrators, and other users.

In tandem with Azure confidential computing and Intel SGX, no matter your digital asset use case, you only need a single integration that provides you with:

- ▲ **The scalability and flexibility** of an all-in-one platform for any digital asset business that removes operational complexities.
- ▲ **Robust, simplified tokenization** with turnkey minting, burning, distribution, and storage capabilities.
- ▲ **An easy-to-use platform** that requires no blockchain experience or knowledge.
- ▲ **An enterprise-grade solution for hot, warm, and cold storage** to secure digital assets.
- ▲ **Four layers of security, starting with a zero-trust architecture** supported by Microsoft Azure and Intel SGX with no single point of compromise.

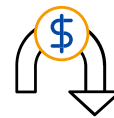
Built with security at the core

Fireblocks is compliant with multiple third-party security certifications and audits, including:

- ▲ Security ISO/IEC 27001
- ▲ Cloud ISO/IEC 27017
- ▲ Privacy ISO/IEC 27018
- ▲ CCSS Level 3 Certification
- ▲ NCC/ComSec
- ▲ SOC-2 compliant

Tokenization in action

We are only at the beginning of blockchain's emergence, but we've already seen successful tokenization pilots and production-level programs in a variety of different areas of traditional finance.



DEBT

[ABN Amro](#)

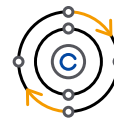
Becomes the first bank in Europe to register a digital bond on the public blockchain



GOVERNMENT BONDS

[Tel Aviv Stock Exchange](#)

Launches Israeli government bonds on a blockchain



CARBON EXCHANGE

[Bayer](#)

Leverages a blockchain to manage carbon emissions trading



FUND SHARES

[KKR](#)

Offers a blockchain-based digital investment format



ACCOUNTS RECEIVABLE

Preparing to launch tokenization: A self-assessment

You're already familiar with the asset classes you deal with. Tokenization adds the proven benefits of blockchain technology. As you consider tokenization, here are some initial questions to assess your position and path forward.

1 What assets are you looking to tokenize?

- ▲ Stocks
- ▲ Bonds
- ▲ Fund shares
- ▲ Real estate
- ▲ Cash (stablecoins)
- ▲ Carbon credits

2 Why are you looking to tokenize assets?

- ▲ To bring liquidity to private market assets?
- ▲ To create new models for fundraising?
- ▲ To find cheaper distribution costs?

3 Which internal and external stakeholders do you need to engage to get your projects into production?

- ▲ Operational teams
- ▲ Technology
- ▲ Security
- ▲ Compliance
- ▲ Product managers
- ▲ Customers
- ▲ Marketing and communications

4 What new operational workflows will need to be formed for tokenized assets?

- ▲ Asset and transfer access
- ▲ Smart contract access
- ▲ Compliance
- ▲ Risk management
- ▲ Security

5 How will you translate the business logic into smart contract logic?

6 What type of technology platform are you going to use for the issuance, management, and custody of the tokens once minted? What protocol will you utilize to mint the tokens?

7 How will you distribute tokens, and how will token flows and permissions be managed?

8 What is the regulatory landscape like in your region? Are there legal implications to minting and issuing these tokens?

9 Which value chain or network participants need to be involved in your tokenization project? And are new or other participants needed based on regulatory rules, expertise, or capabilities?

Fireblocks can help you answer all these questions and establish your next steps.

Better together: The three pillars of enhanced blockchain operation and security

FIREBLOCKS

- ▲ **Removes complexity** from digital asset management, operations, and security with a single platform.
- ▲ **Manages the full tokenization lifecycle** for minting, burning, and token transfer on the world's most secure and robust tokenization engine.
- ▲ **Proven secure and effective** with over \$3 trillion USD in assets transferred so far.
- ▲ **Trusted by 1,700 customers worldwide** from the largest global banks, fintechs, and enterprises.

MICROSOFT AZURE

- ▲ **Built on a secure foundation** with multilayered security across datacenters, infrastructure, and operations.
- ▲ **Committed to protection** with over \$1 billion USD invested in security research and development.
- ▲ **Ready with an army of 3,500+ security experts** who monitor and safeguard customer data.
- ▲ **Protects data at rest, in transit, and in use with Azure confidential computing.** Data is secure even when being processed in the cloud using hardware-based trusted execution environments (TEEs) and processes.

INTEL SGX

- ▲ **Provides the hardware foundation** for confidential computing, offering hardware-based memory encryption that isolates specific application code and data in memory.
- ▲ **Delivers the smallest trust boundary** of any confidential computing technology in the datacenter.
- ▲ **Most researched, updated, and deployed** confidential computing technology in datacenters on the market today.
- ▲ **Drives power and sustainability** on 4th Gen Intel® Xeon® Scalable processors.

Change your blockchain expectations

Financial markets and consumers are demanding faster, more secure, transparent, and cost-effective means of ownership for all kinds of assets. Fireblocks has proven itself to be a digital asset platform that meets the changing demands of the modern marketplace, the customer base, and the regulatory environment.

Find out how your organization can easily integrate blockchain technology into its existing infrastructure. Contact Fireblocks to see what tokenization and the blockchain can do for you and your customers.

[Find Out More →](#)