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What is tokenization?

Tokenization is the process of issuing a digital representation of an asset on a blockchain.

We're progressing toward the next era of the internet in fits and starts. Web3 is said to offer the potential of a new, decentralized internet, controlled by participants via blockchains rather than profit-motivated corporations. But progress hasn't been linear: one major setback has been the meltdown of the cryptocurrency market in 2022, triggered by multiple cryptocurrency failures and high-profile cases of fraud. Regulators are paying increased attention to Web3 players, and public curiosity is peaking.

But Web3 is about much more than crypto. Blockchain, smart contracts, and digital assets—the latter created via a process called tokenization—stand to change the way we exchange ideas, information, and money. For organizations and early adopters, there is significant value on the table.

Let's get specific: tokenization is the process of issuing a digital representation of an asset on a (typically private) blockchain. These assets can include physical assets like real estate or art, financial assets like equities or bonds, nontangible assets like intellectual property, or even identity and data. Tokenization can create several types of tokens. Stablecoins, a type of cryptocurrency pegged to real-world money designed to be fungible, or replicable, are one example. Another type of token is an NFT—a nonfungible token, or a token that can't be replicated—which is a digital proof of ownership people can buy and sell.

Tokenization is potentially a big deal. Industry experts have forecast up to $5 trillion in tokenized digital-securities trade volume by 2030.

There's been hype around digital-asset tokenization for years, since its introduction back in 2017. But despite the big predictions, it hasn't yet caught on in a meaningful way. We are seeing slow movement:

US-based fintech infrastructure firm Broadridge now facilitates more than $1 trillion monthly on its distributed ledger platform.

In this article, we'll drill down into how tokenization works and what it might mean for the future.

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What technologies support Web3?

Before we dig deeper into tokenization, let's get some basics defined. As we've seen, Web3 is a new type of internet, built primarily on three types of technology:

— *Blockchain*. A blockchain is a digitally distributed, decentralized ledger that exists across a computer network and facilitates the recording of transactions. As new data are added to a network, a new block is created and appended permanently to the chain. All nodes on the blockchain are then updated to reflect the change. This means the system is not subject to a single point of control or failure.

— *Smart contracts*. Smart contracts are software programs that are automatically executed when specified conditions are met, like terms agreed on by a buyer and seller. Smart contracts are established in code on a blockchain that can't be altered.

— *Digital assets and tokens*. These are items of value that only exist digitally. They can include cryptocurrencies, stablecoins, central bank digital currencies and NFTs. They can also include tokenized versions of assets, including real things like art or concert tickets.

As we'll see, these technologies come together to support a variety of breakthroughs related to tokenization.

What are the potential benefits of tokenization for financial services providers?

Some industry leaders believe tokenization stands to transform the structure of financial services and capital markets by letting asset holders reap the benefits of blockchain, including 24/7 operations and data availability. Blockchain also offers faster transaction settlement and a higher degree of automation (via embedded code that only gets activated if certain conditions are met).

While yet to be tested at scale, tokenization's potential benefits include the following:

— *Faster transaction settlement*, fueled by 24/7 availability. At present, most financial settlements occur two business days after the trade is executed (or T+2); in theory, this is to give each party time to get their documents and funds in order. The instant settlements made possible by tokenization could translate to significant savings for financial firms in high-interest-rate environments.

— *Operational cost savings*, delivered by 24/7 data availability and asset programmability. This is particularly useful for asset classes where servicing or issuing tends to be highly manual and hence error-prone, such as corporate bonds. Embedding operations such as interest calculation and coupon payment into the smart contract of the token would automate these functions and require less hands-on human effort.

— *Democratization of access*. By streamlining operationally intensive manual processes, servicing smaller investors can become an economically attractive proposition for financial service providers. However, before true democratization of access is realized, tokenized asset distribution will need to scale significantly.

— *Enhanced transparency* powered by smart contracts. Smart contracts are sets of instructions coded into tokens issued on a blockchain that can self-execute under specific conditions. One example could be a smart contract for carbon credits, where blockchain can provide an immutable and transparent record of credits, even as they're traded.

— *Cheaper and more nimble infrastructure*. Blockchains are open source, thus inherently cheaper and easier to iterate than traditional financial services infrastructure.

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How does an asset get tokenized?

There are four typical steps involved in asset tokenization:

— *Asset sourcing.* The first step of tokenization is figuring out how to tokenize the asset in question. Tokenizing a money market fund, for example, will be different from tokenizing a carbon credit. This process will require knowing whether the asset will be treated as a security or a commodity and which regulatory frameworks apply.

— *Digital asset issuance and custody.* If the digital asset has a physical counterpart, the latter must be moved to a secure facility that's neutral to both parties. Then, a token, a network, and compliance functions are selected—coming together to create a digital representation of the asset on a blockchain. Access to the digital asset is then stored pending distribution.

— *Distribution and trading.* The investor will need to set up a digital wallet to store the digital asset. Depending on the asset, a secondary trading venue—an alternative to an official exchange that is more loosely regulated—may be created for the asset.

— *Asset servicing and data reconciliation.* Once the asset has been distributed to the investor, it will require ongoing maintenance. This should include regulatory, tax, and accounting reporting; notice of corporate actions; and more.

Is the time finally right for tokenization to catch on?

Maybe. Financial services players are already beginning to tokenize cash. At present, approximately $120 billion of tokenized cash is now in circulation in the form of fully reserved stablecoins. As noted above, stablecoins are a type of cryptocurrency pegged to a physical currency (or commodity or other financial instrument) with the goal of maintaining value over time.

Financial services players may be starting to play with tokenizing—theirs is the biggest use case to date—but it's not yet happening on a scale that could be considered a tipping point.

That said, there are a few reasons that tokenizing might take off. For one thing, the higher interest rates of the current cycle—while cause for complaint for many—are improving the economics for some tokenization use cases, in particular those dealing with short-term liquidity. (When interest rates are high, the difference between a one-hour and 24-hour transaction can equal a lot of money.)

What's more, since tokenization debuted five years ago, many financial services companies have significantly grown their digital asset teams and capabilities. These teams are experimenting more and continually expanding their capabilities. As digital asset teams mature, we may see tokenization increasingly used in financial transactions.

Learn more about McKinsey's Financial Services Practice, and check out Web3-related job opportunities if you're interested in working at McKinsey.

Articles referenced:

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Get to know and directly engage with senior McKinsey experts on tokenization

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