

Nasdaq Blockchain Strategy

Moving Beyond the POC

Having launched the first all-electronic stock exchange in 1971, Nasdaq was built on a foundation of innovation and market disruption. This heritage continues to fuel our ambition. As a financial technology leader, we are committed to the further development of global markets through a broad exploration of innovative technologies – like cloud, machine intelligence and blockchain – that advances our clients' abilities to achieve ambitions.

Nasdaq believes there is great potential across the financial services industry to leverage blockchain, particularly in areas where tracking and transfers of possession of digitized assets on a peer-to-peer basis is relevant. As an immutable record of ownership, blockchain could create greater efficiency and transparency in position-keeping and reconciliation and on the settlement side, the technology could enable several services including managing payments and cash, transferring securities, facilitating collateral and tri-party arrangements, and securities lending. Additionally, we believe that distributed ledger technologies can already be used for more efficient sharing of information between central operators and participants to reduce reconciliation issues, including provisioning of a richer set of information compared to existing ISO standards used today. And, since blockchain is ideal for tracking and tracing, it could improve auditing and regulatory reporting both from a quality and efficiency standpoint.

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Blockchain-at-a-Glance:

- A distributed and shared transaction ledger
- Cryptographically secure
- Perfect for storing assets and ownership information
- Ideal for settlement of multiple assets in a single transaction
- No single point of trust
- History recorded in perpetuity, easy for stakeholders and regulators to verify

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Customers of Nasdaq's enterprise platform, the Nasdaq Financial Framework, can leverage blockchain in a variety of ways, with the technology natively integrated with core operations functionality and the ability to extend the functionality out to a variety of different business functional areas.

OTC SETTLEMENT

In August 2017, Nasdaq and SIX Swiss Exchange announced development of a joint prototype to integrate blockchain into the SIX bi-lateral market for managing structured products, with the goal of gaining efficiencies in post-trade processing.

For more information on Nasdaq's blockchain ambitions, please visit business.nasdaq.com or MarketTech@nasdaq.com

Nasdaq Use Cases

Private Shares Tracking and Issuance:

Challenge: Inefficiency in management and enhanced risk in transfer of private shares during liquidity events.

Solution: Nasdaq was the first exchange to experiment with blockchain within its own operations, running a pilot within the Nasdaq Private Market and enabling private companies to successfully execute and document a private securities issuance on the blockchain. Leveraging the technology, companies could see the seamless transfer of assets, removing the onus of paper and certificates.

Blockchain-based eVoting, Nasdaq eVoting:

Challenge: Complex proxy management, complicated by a lack of transparency and traceability in voting processes and results within general meeting and other company voting event procedures.

Solution: Based upon a successful eVoting pilot with Nasdaq Tallinn listed companies, shareholders, their proxies and custodians in early 2017, Nasdaq created Nasdaq eVoting. The blockchain-based voting and proxy assignment application enables companies, investors, market infrastructures and custodians to reduce cost and complexity in general meeting voting. Using blockchain, all constituencies can access all required general meeting or other voting event information through a web-based frontend, creating greater efficiencies and integrity were created in the Annual Meeting and shareholder voting process and resolving many of the data, access and security challenges present today.

Swedish Mutual Fund Market:

Challenge: Fragmented infrastructure which demands high levels of manual handling, resulting in poor efficiency standards, higher costs and higher operational risk.

Solution: Nasdaq, in collaboration with SEB, has developed a prototype for the issuance and settlement of mutual fund shares, based upon the blockchain technology. The project aims to bring transparency and efficiencies to the market, which is currently plagued with numerous intermediaries, systems and manual processing. The solution reduces complexity in recordkeeping and reconciliation, providing all parties access to same immutable record, and enhances order management, settlement and payments with STP benefits.

Nasdaq Ventures:

While Nasdaq has recognized many opportunities for blockchain projects internally, we continue to identify more opportunities through, Nasdaq Ventures. The program is a global venture investing platform focused on cultivating talent and technology advancement within financial services and spurring innovation that ensures Nasdaq's technology and services are at the forefront of the industry. Blockchain continues to be a focus for the group and applications are encouraged within this space.