

BTIG Cryptoasset Currents

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Cheqd's Network Spurring Adoption of Self-Sovereign Identity by Incentivizing Commercial Models; Atomic Form: From NFT Displays to "Apple TV for Web3"; Horizen Labs Working Toward EVM Compatibility

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WHAT YOU SHOULD KNOW: In our 25th edition of BTIG Cryptoasset Currents, we explore how Cheqd's blockchain-based network is using its native token and payment rails to incentivize the creation of data marketplaces aimed at spurring adoption of self-sovereign identity (SSI). We then put a spotlight on how Atomic Form (Private) is building upon its successful rollout of a non-fungible token (NFT) display solution by developing a software platform that combines an NFT search engine with an array of new ways for users to visualize, experience, and analyze their property.

We also revisit Horizen Labs (Private) as it prepares to execute on a 2022 roadmap that includes establishing the compatibility of the protocol with the Ethereum Virtual Machine (EVM), launching a tokenization platform, and introducing the Blaze SDK (software developer kit) that will allow developers to launch high-speed blockchains on the protocol's node network.

Cheqd's Network Leveraging Token and Payment Rails to Promote Adoption of SSI

- While self-sovereign identity has been generating an increasing amount of interest as more use cases for digital identification and verifiable credentials have emerged, it remains a niche concept. One project that has adopted an incentive-based approach to spur the mass adoption of SSI is Cheqd, a blockchain-based network built on the Cosmos ecosystem framework (see *Tokenomics for SSI*, published 09/20/21). The public, permissionless network, which launched its mainnet in November, enables SSI vendors to build data marketplaces while using its native token, CHEQ, for their payment rails.
- What is SSI and why does it matter? In short, SSI is a method of identity that centers the control of information around the user, safeguarding privacy by removing the need to store personal information on a central database while giving individuals greater control over what information they share.
- Cheqd's ultimate goal is to return ownership of data to individuals both to enhance their privacy and security and to position them to benefit from the value of their personal information. The utility and relevance of SSI and digital identity have become increasingly apparent as data leaks and hacks have exposed the vulnerability of individuals' data, while the increased attention on the huge profits that social media giants generate by monetizing such data has helped to make people more aware of the value of their personal information.
- We spoke with Fraser Edwards, who joined with Ankur Banerjee to found Cheqd last March, about the reasons why he believes the network will succeed in driving adoption of SSI and digital IDs when other efforts to do so have largely fallen short. Edwards and Banerjee, who met while working as analysts at Accenture (ACN, Not Rated) in London, had recognized the value of SSI and were curious as to why it had been slow to enter the mainstream.
- After some investigation, Edwards and Banerjee came to realize that accelerated adoption of SSI and digital ID would require the development of commercial models, and they further concluded that the creation of such models could be incentivized by a blockchain network featuring a token and payment rails. The duo believed that by not only encouraging organizations to create a digital ID, but also offering them a payment system through which they could charge users a fee for using it, such a network could gain traction and boost adoption of SSI.

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- With that hypothesis underpinning their plans, Edwards and Banerjee set out to build the platform that would become Cheqd. After choosing the Cosmos blockchain ecosystem as the foundation on which the project would be established, and then building it out over four months, the founders and their small team launched the Cheqd testnet in private beta last July.
- Cheqd made that testnet public in August and then rolled out an updated version of it in October. Along the way, the project open-sourced its code and raised \$2.6mm to support the launch of the network. That funding, combined with the funds that Cheqd raised in March, brought its total funds raised to \$3.3mm and valued the project at \$42.6mm. Edwards said he knew of few projects that had been executed at such a rapid pace.
- Eight-and-a-half months after its founding, Cheqd on November 23 launched its mainnet network with over 20 SSI vendors already onboard, including DIDx (Private), Spherity (Private), and DanubeTech (Private), which had been its first three partners. With its payment systems and economic incentives in place, Cheqd set out to turbocharge the SSI market, which market research firm Juniper Research, Ltd. (Private) estimated would reach annual revenues of \$1.1bn by 2024, up from \$100mm at the end of 2020.
- Cheqd's software enabled individuals to have their own digital IDs that can be stored in their mobile phones to verify both their identity and information such as their qualifications, COVID-19 vaccine status, or credit history. Like a passport or driver's license, the digital ID is initially "signed" by a trusted authority and then accepted as proof of status without the need to check the individual's details on a central database.
- In addition to forging partnerships with SSI vendors and technology firms developing digital ID solutions, Cheqd is also seeking to partner with banks, universities, hospitals, and other organizations that issue credentials and would benefit from offering them in the digital ID format.
- One of the aspects of Cheqd's software that sets it apart from other blockchain-based identity solutions is that it does not write all of a user's information onto a distributed ledger, as solutions that take such an approach do not comply with the standards established by most regulators. Given that lack of compliance, the potential adoption of solutions that put users' data directly onto blockchains is likely to be limited. As an alternative, Cheqd keeps individuals' data off-chain while using an on-chain mechanism to incorporate it in their digital IDs and verifiable credentials.
- Edwards noted that recent market developments pointed to the increased adoption of SSI, supporting his view that the roll-out of Cheqd's payment rails had been perfectly timed. He noted that Block (f/k/a Square, SQ, Buy, \$320 PT) had hired prominent technologist Daniel Buchner to lead its decentralized identity efforts, while Stripe (Private) launched its own verification functionality in conjunction with its hiring of a new crypto team.
- Meanwhile, SSI firm Evernym, one of Cheqd's founding investors, was acquired last month by consumer cybersecurity giant Avast (LSE: AVST, Not Rated). Edwards noted that Avast software is currently installed on over 500mm devices, making the deal a potential game-changer in terms of SSI adoption.
- Edwards said one of the initiatives on Cheqd's roadmap for 2022 would be an exploration of how its SSI software could help to facilitate secure peer-to-peer (P2P) transactions. While it has become common practice for those sending crypto P2P payments to send test payments to check wallets, SSI would eliminate the need to do so by enabling users to prove who they are without revealing their identities publicly. He added that SSI could also play a role in facilitating regulatorily compliant decentralized finance (DeFi) lending.

After Atomic Form's NFT Hardware Displays Gain Traction, Start-Up Firm Sets Sights on Launching NFT Software Platform

- Atomic Form during the span of less than a year has evolved from an idea arising from a conversation between its two co-founders about how best to display the NFTs that one of them had bought into a firm that developed The Wave, a 27-inch display on which users could showcase and experience NFTs that were verifiably theirs. The Wave attracted the interest of renowned art auction house Christie's (Private), which used it as the backbone of the largest exhibition at Art Basel Miami 2021, and earlier this month it was lauded as the best of its kind during the Consumer Electronics Show (CES).
- Now, Atomic Form is preparing to expand the scope of its efforts beyond a best-in-class hardware display. At the center of that expansion is Atomic Form Hub, a software platform that will allow users to aggregate their NFTs from across all chains and marketplaces while creating new ways for NFT developers, artists, and collectors to search, visualize, experience, and analyze their property.
- Just as The Graph's indexing protocol queries blockchain networks to create subgraphs that make data accessible for users, Atomic Form Hub is designed to serve as the launchpad for the internet-of-property by enabling its users to access, categorize,

and organize NFTs from across the digital asset ecosystem. By making this data accessible, rich experiences – everything from novel visualizations in virtual reality to robust analytics of the relationships between users’ properties and those of other users – can be built on top of it.

- We spoke with Garrette Furo, who last year launched Atomic Form with co-founder Isabelle Kitze, about how the platform is poised to introduce what is essentially a search engine for NFTs and thereby build upon its initial focus on helping collectors, developers, artists, and galleries to organize and display their crypto art.
- Furo, a former neuroscience researcher, transitioned to the financial services space and at one point was part of Wilshire Phoenix’s (Private) effort to list a Bitcoin exchange-traded fund (ETF) on a U.S. exchange. Having amassed a collection of NFTs created by some of his artist friends including ThankYouX, J.N. Silva, and Robert Alice, he was discussing with Kitze how to organize and display those artworks when the spark of inspiration that would lead to the founding of Atomic Form occurred.
- The first product developed by Atomic Form was The Wave, which was designed to mimic fine art frames. The display features hardware that connects directly to the blockchain to prove that all the NFTs shown are the actual works of their creators, and to verify that they are owned by the display’s users. Only the owner of an NFT can cast it on their Wave, and owners can attach their crypto wallets to the display’s hardware to lend their artworks over the blockchain to other display owners.
- The quality of Atomic Form’s renderings of artworks represented by NFTs quickly gained notice last year, with the firm chosen by Christie’s to provide the display and on-chain integration for NFT photographer Justin Aversano's exhibition of his "Twin Flames 83" in New York in early October. Furo said a highlight of that event was being told that "we didn't even think of it as an NFT display" (@atomicform, 10/06/2021) which he said was just about the best thing he could possibly hear about the quality of his firm’s work.
- Christie’s sought to deploy Atomic Form’s NFT display technology at much greater scale in early December when it played a key role in enabling "The Gateway, the largest exhibition at Art Basel Miami 2021, in which a financial office building was reimagined as an immersive maze. Every display facilitated by Atomic Form at the exhibition referenced the work’s contract address and token ID directly, thereby contextualizing the experience.
- The Gateway provided Atomic Form with both important exposure and validation of the potency of its display technology. "I watched people lean into the displays so close their noses almost touched the screens," Kitze tweeted. "It was kind of powerful."
- The profile of Atomic Form’s display technology was raised further earlier this month at CES when Wave was an honoree in the category of "Virtual & Augmented Reality." Furo noted that such recognition was rarely afforded at CES to a product offered by a start-up firm, much less one whose operating history could be measured in months.
- While The Wave marked a successful debut for Atomic Form, the scope of the firm’s ambitions is more fully represented by Atomic Form Hub. Furo described the hub as "Apple TV for Web3," as it aggregates content in a single, indexed display, an approach similar to that taken by Apple’s (AAPL, Not Rated) media service. Another service in the same context is Roku (ROKU, Not Rated), which also aggregates media and apps and has a market capitalization of ~\$22bn. While Roku created a hardware and software solution to convert a fragmented, multi-stream service market into a unified customer experience, Atomic Form Hub will include everything from a meta search function to a variety of ways for users to visualize, experience, and analyze their NFTs.
- The promise of Atomic Form’s platform attracted significant interest recently when the firm completed a successful seed funding round, with Korean electronics giant Samsung (KRX: 005930, Not Rated) among those investing in the round. Furo said the firm, which uses the tagline "Window to the Metaverse," had seen an influx of interest in its technology from a wide range of potential partners. Among these were movie studios interested in Atomic Form's ability to offer brilliant displays of NFT art while leveraging the blockchain to protect the associated intellectual property.
- Atomic Form will use the proceeds from its seed funding round to hire additional staff across the roles of engineering, design, product, and social media/community management. Furo said he and Kitze have several ideas regarding how they can leverage its technology to pursue NFT use cases, with the realization of those ideas to require the development of new tools for developers and artists as well as the creation of richer experiences for collectors and galleries.

Horizen Labs’ 2022 Roadmap Priorities: Ethereum Compatibility, Launch of Tokenization Platform, Introduction of Blaze SDK

- We have [previously explained how Horizen Labs is poised to scale its privacy-focused protocol’s network thanks to Zendoo](#), its zero-knowledge-enabled cross-chain platform that enables businesses and developers to custom-build their own private or

public blockchains with whatever combination of speed and decentralization best serves their needs. Now, with the project having released Zendo to mainnet last month, Horizen co-founder and Horizen Labs CEO Rob Viglione and his team have shifted their focus to executing on its 2022 roadmap (@horizenglobal, 01/07/2022).

- We spoke with Viglione and Horizen Labs President and General Counsel Dean Steinbeck about that roadmap, which they said represented an “inflection point” for the project in terms of its scope and the extent of its capabilities. Horizen’s path forward in 2022 is focused primarily on three key initiatives: (1) establishing the compatibility of the protocol with the Ethereum Virtual Machine (EVM) and thereby providing developers on its network with the ability to work with smart contracts and build DeFi applications, (2) launching a tokenization platform that will eventually facilitate the issuance of both fungible tokens and NFTs, and (3) introducing Blaze SDK, a software development kit that enables developers to launch high-speed blockchains on the protocol’s node network.
- While each of the initiatives on Horizen’s roadmap have the potential to make a meaningful impact on the protocol’s growth, Viglione made it clear that EVM compatibility was particularly important. He said it is critical that Horizen immediately establishes compatibility with the offerings within the digital asset industry that have gained the largest followings, including DeFi and NFTs, and especially those emerging from the Ethereum ecosystem. Viglione explained that EVM compatibility would allow Horizen to port over to its network everything that has been developed outside its ecosystem, instantly expanding the range of products that its developers could build and that its community could use or own.
- Viglione said Horizen’s near-term focus was on building a tokenization platform. The protocol would have the ability to issue tokens on its mainnet starting in 1Q22 through a platform that will be essentially a new blockchain specific to that function. He said the platform’s ability to issue a full range of tokens would be developed over time, as each token added would require the configuration of software specific to it.
- Meanwhile, the Blaze SDK offers another lever through which Horizen will be able to grow its network. The toolkit is equipped with zero-knowledge technology that enables users to execute verifiable transactions without relying on third-party validators or revealing underlying data. As a result, Blaze-created blockchains are highly secure as well as fast: they offer throughput of up to 1,000 transactions per second per blockchain.
- With Zendo’s platform able to support up to 10,000 blockchains running in parallel, Horizen’s addition of Blaze provides developers with the tools and capacity to create large, secure networks designed to address the specific needs of their end users.
- Viglione pointed to a few use cases as particularly well served by Blaze-created blockchains given the combination of security, speed, and reliability they provide, including publicly verifiable supply chain networks and decentralized exchanges. At the same time, he flagged gaming platforms as offering a particularly good fit with Blaze blockchains given their ability to enable fast game experiences and the secure trading of in-game assets.
- While Blaze represents a big step forward for Horizen, Viglione noted that the project planned to release another SDK, dubbed Latus, later this year. He said Latus would offer “massive” throughput while achieving full decentralization.

BTIG Covered Companies Mentioned in this Report

Block, Inc. (SQ, Buy, \$320 PT; Closing Price: \$133.29; Analyst: Mark Palmer)

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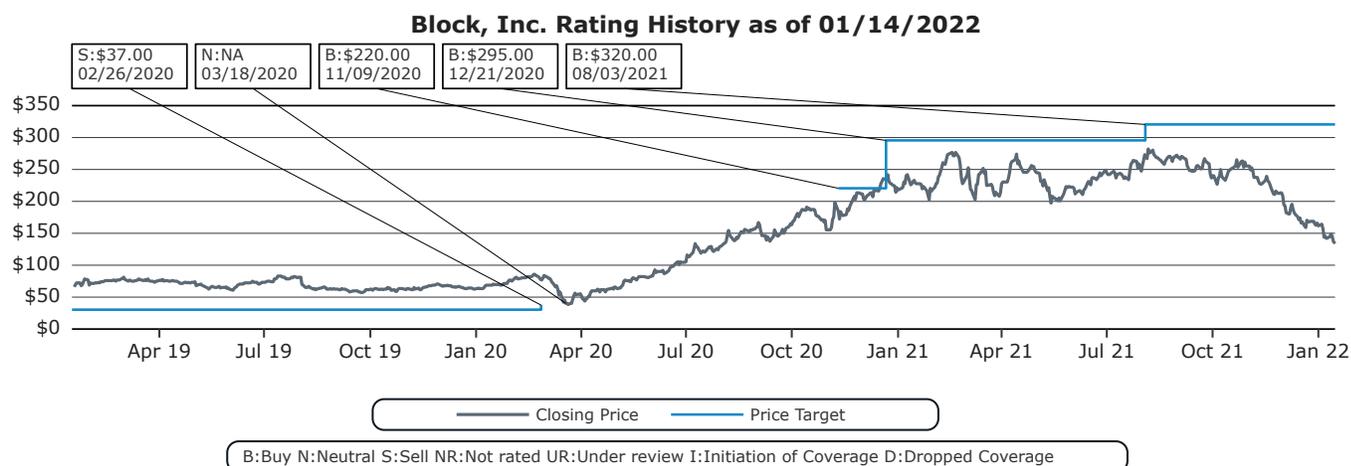
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Block, Inc. (SQ, Buy, \$320 PT)

Valuation: Our price target of \$320 for SQ is based on 20x the company's FY23E Cash App ex. Bitcoin revenue of \$3.5bn, 12x its FY23E Seller ecosystem revenue of \$7.1bn, and 1x its FY23E Bitcoin trading revenue of \$11.7bn.

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