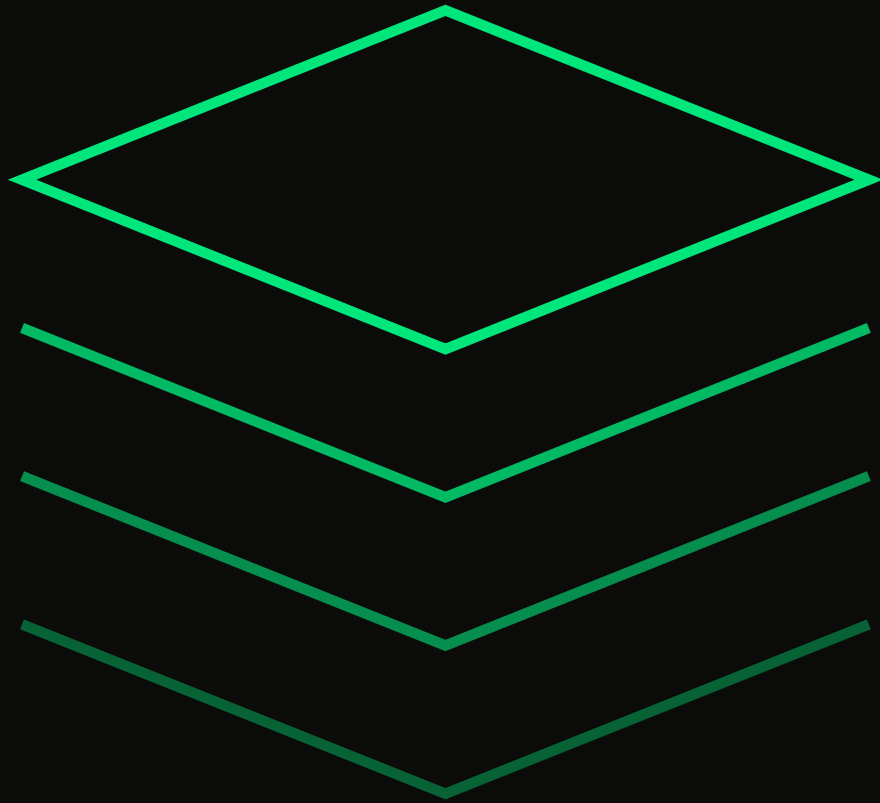




REPORT • CONVERGENCE ERA

2018

THE CONVERGENCE ECOSYSTEM

Convergence 2.0: Building the Decentralised Future

Blockchains are a new data infrastructure, not a niche market. Combined with tokens, they let AI, the Internet of Things and other technologies converge on open data rather than on a few corporate silos.

The paper updates Outlier Ventures' 2016 thesis on blockchain-enabled convergence. It argues that emerging technologies such as AI, the Internet of Things, robotics and virtual reality share one core problem: data is held by a small number of companies. That concentration brings fragility, censorship and market power. The authors propose an alternative in which data moves through open, decentralised layers and is coordinated by tokens rather than owned by platforms.

The model traces data from the moment it is collected by sensors and software. It is then authenticated and secured on ledgers, moved across chains and databases, traded in marketplaces, and finally processed by distributed computing, smart contracts and machine learning. Tokens and community governance sit across every layer. The paper expects many chains and many value systems to coexist, with projects competing on trust and values once technology itself becomes open and cheap to copy.

CONTEXT

The paper appeared in March 2018, just after the 2017 token sale boom had raised over four billion dollars and pushed crypto prices to a peak. Much of the industry's attention had turned to price and speculation. Outlier Ventures used the moment to restate a longer view: the real work was building scalable infrastructure, and tokens mattered as a way to coordinate open networks.

\$4bn+

Raised through token sales in 2017

180 ZB

Data created annually by 2025, up from 4.4 ZB

1%

Share of generated IoT data actually used (McKinsey)

Figures as stated in the original paper at the time of writing.

Five ideas that shaped the paper.

01 **Data centralisation is the problem**

AI and IoT will generate vast amounts of data. If a few firms own it, they gain lasting market power. Centralised stores are also easy to hack, censor or tamper with. Decentralised infrastructure is offered as the structural fix.

02 **Tokens as coordination tools**

Tokens are treated as the first digital-native way to coordinate people, bots and machines. They give open-source protocols a business model. The paper separates currencies, assets and decaying consumables, and expects tokens to be issued at every layer.

03 **Governance follows community values**

No single governance model is best. Bitcoin, Ethereum and Sovrin each reflect different beliefs. The paper expects many communities with different degrees of decentralisation and automation, including DAOs and, later, organisations run by AI.

04 **Interoperability for value and data**

Moving tokens between chains is not enough. If value flows freely but data stays locked away, today's monopolies simply reappear. Messaging, cross-chain exchange, off-chain data sharing and state channels are all needed.

05 **Markets for data and machines**

Once data is unlocked, it can be priced and traded. The paper foresees markets for IoT data, AI training data, personal data and digital assets, with individuals able to sell or withhold their own data.

The Convergence Ecosystem

A layered stack showing how data flows from collection to automated decisions, with tokens and community governance coordinating every stage.

DATA COLLECTION

Sensors, devices and software gather data from the physical and digital worlds.

AUTHENTICATE, VALIDATE & SECURE

Ledgers, consensus, identity and decentralised storage make data trustworthy and tamper-evident.

TRANSPORT

Messaging, value and data interoperability, and state channels move data between networks.

MARKETPLACES

IoT, AI, personal data and digital asset markets let data be priced and traded.

PROCESS, ANALYSE & AUTOMATE

Distributed computing, smart contracts and decentralised machine learning turn data into decisions.

COMMUNITIES & GOVERNANCE

Tokens and governance rules sit across all layers, coordinating incentives and decisions.

"Tokens are the first native coordination mechanism for the digital and now machine economy."

ORIGINAL, P.18

"But what we must avoid is a world in which value is interoperable, but the underlying data is not; leading to the same monopolistic market dynamic as we have today."

ORIGINAL, P.38

"Paradoxically, the fact that the Convergence Ecosystem is driven by increasingly automated technologies means that people and communities will come to matter more than ever."

ORIGINAL, P.57

The paper set out a habit that stayed with Outlier Ventures: reading separate technologies as one system joined by open data and tokens. Later work on the Open Metaverse, the Post Web and autonomous agents, and the AI, Atoms and Association thesis, extended that system view to new interfaces, to software agents and to the physical world.



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READ THE ORIGINAL

Original report (PDF)

outlierventures.io/wp-content/uploads/2018/03/The_Convergence_Ecosystem_Report_Outlier_Ventures_2018.pdf

Launch article

outlierventures.io/research/introducing-the-convergence-ecosystem/

ORIGINAL CREDITS

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