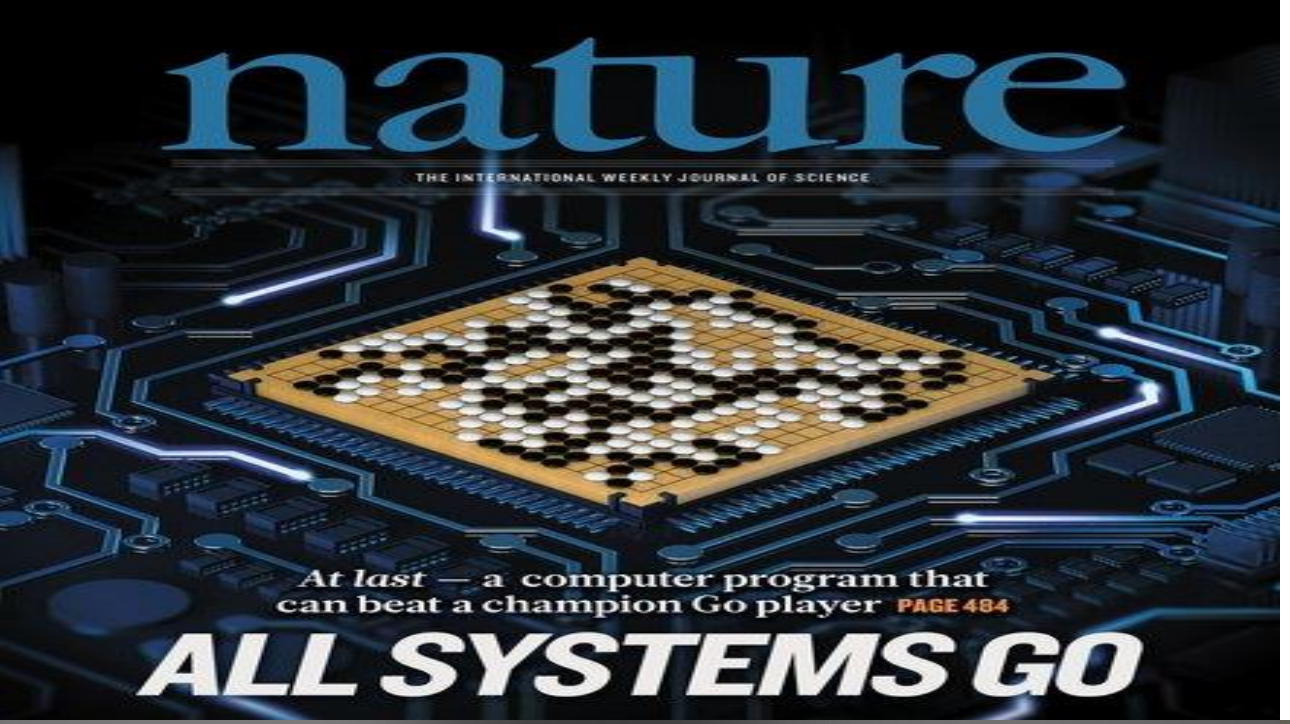
Towards Blockchain-native Economy

Sei Kato, Oct. 7, 2019



Bitcoin: A Peer-to-Peer Electronic Cash System

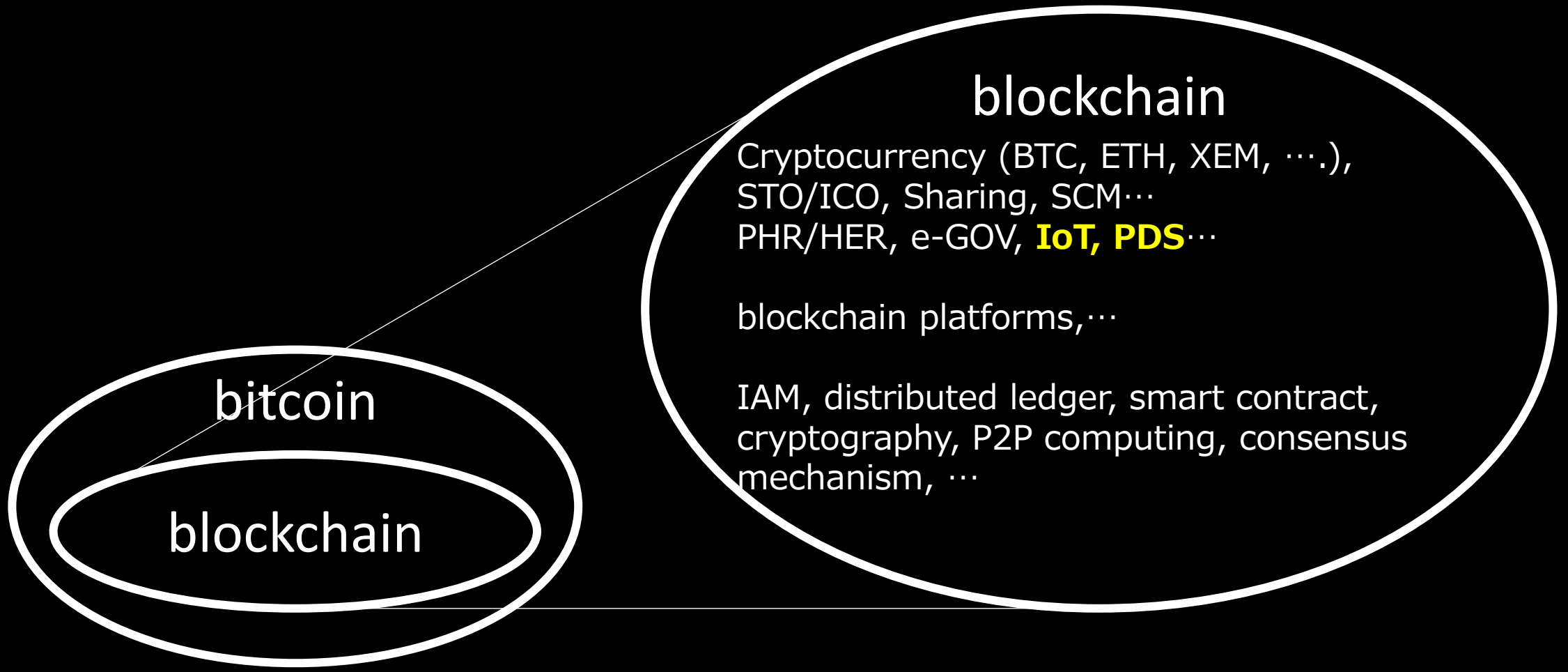
Satoshi Nakamoto
satoshin@gmx.com
www.bitcoin.org

Abstract. A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. The network itself requires minimal structure. Messages are broadcast on a best effort basis, and nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone.

The Fourth Industrial Revolution Moves On

Source: https://www.nature.com/nature/volumes/529/issues/7587, http://www.bitcoin.org/bitcoin.pdf, https://www.tri.global/, https://www.flickr.com/photos/ibm_research_zurich/

Now blockchain has become the core for the trustless systems



Let us recap
the current data-driven business

The growth of IoT systems and data consumption is fueled by a set of emerging data-driven business models

Category	Examples	Revenue Models
Augment Core Product Adding sensors, processors, and connectivity to existing core products.	• GECAS Engine Leasing • Google Nest	• Premium Pricing • Product as a Service
Data-Driven Solutions Directly or indirectly monetize IoT data, either by selling data outright or develop solutions on top.	• GE Predix • Siemens Mindsphere • Ayla Networks	• Data / Analytics Subscriptions • Managed Services • Customized Solutions
Ecosystem Orchestration Monetize the ecosystem from an orchestrator's role, by enabling ecosystem players to build & succeed through a platform.	• Airbus Skywise • Schneider Electric Exchange	• Ecosystems Services • Platform Licensing • Platform Revenue Sharing

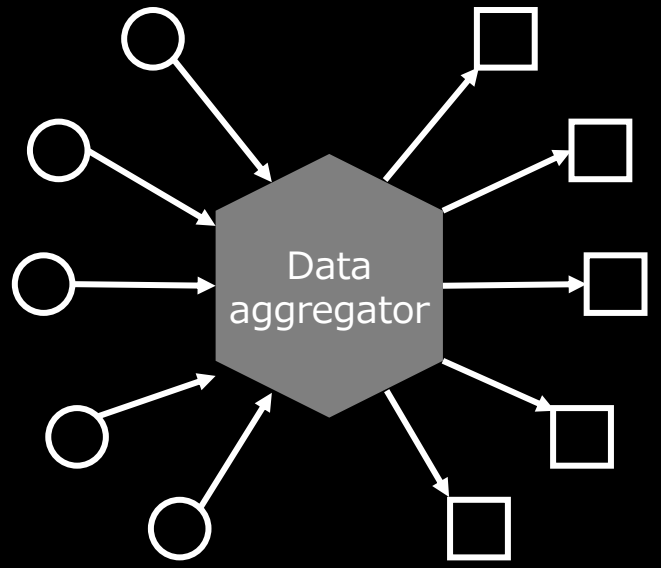
Source: Taraxa Analysis

One common feature in these models is that they all require the centralized control of critical resources

Centralized Data Aggregation

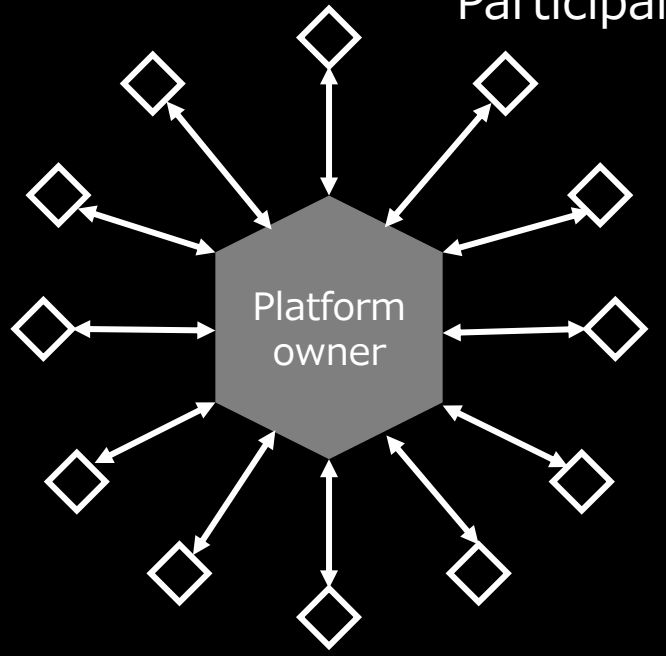
Data generators

Data consumers



Centralized Platform

Participants



Augment Core Product

Data-Driven Solutions

Ecosystem Orchestration

Source: Taraxa Analysis

The market is naturally addressing these concerns by experimenting with decentralized models across a variety of verticals

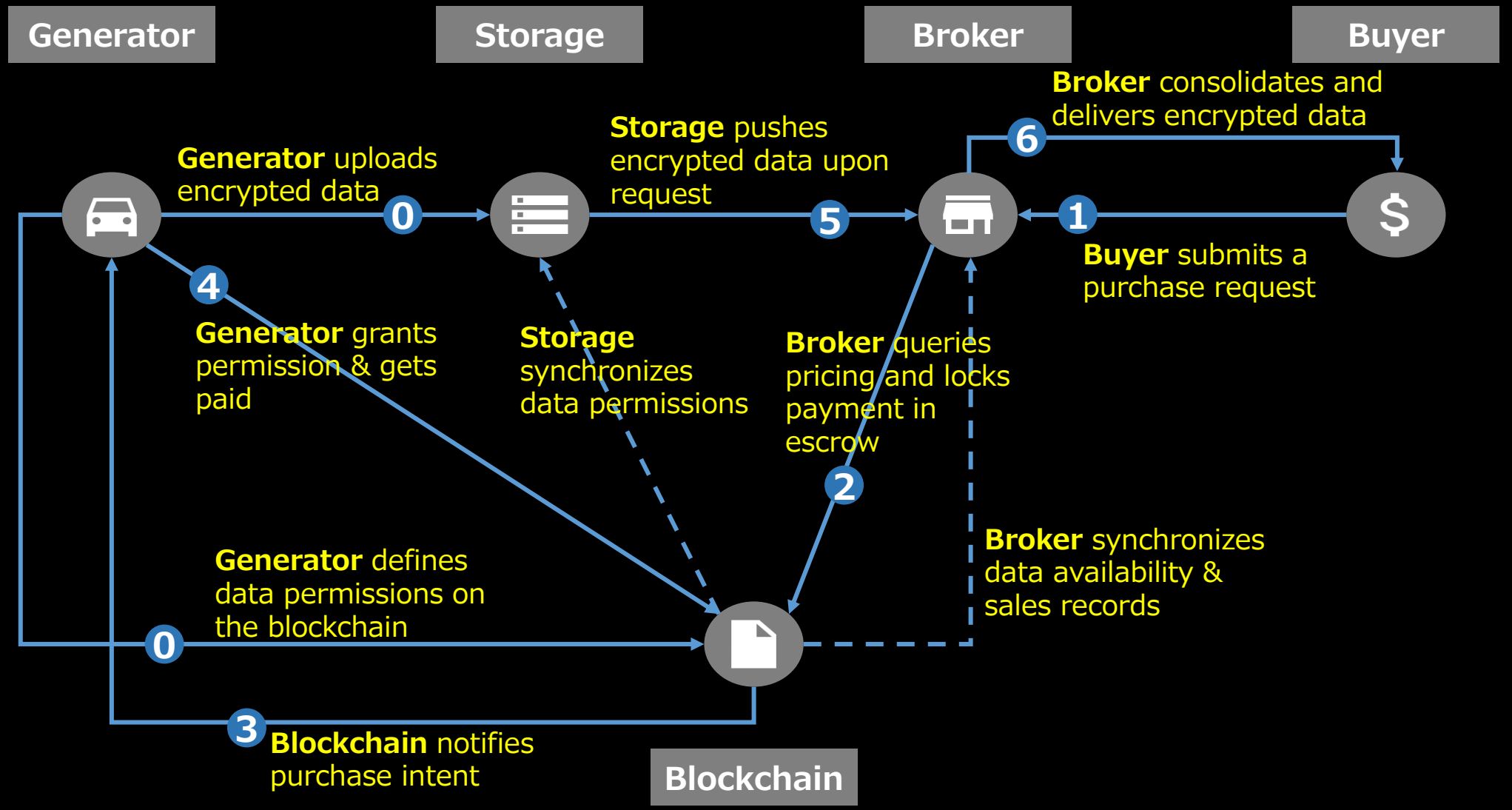
Energy	Distributed energy DApp platform	Distributed energy market	Distributed energy exchange
Media	Distributed blog & rewards platform	Distributed gaming video platform	Distributed video encoding network
Healthcare	Distributed DNA data platform	Distributed patient data for pharma.	Distributed insurance claims data exchange.
Real Estate	Distributed real estate listing & registry	Distributed short-term rentals platform.	Distributed real estate escrow & purchase.

Source: Taraxa Analysis

What about the automotive industry?

- ✓ **Automotive data exchange**
- ✓ **MaaS x Blockchain**
- ✓ **SCM**
- ✓ **Traceability**
- ✓ **…**

Distributed automotive data exchange market use case



Source: Taraxa Analysis

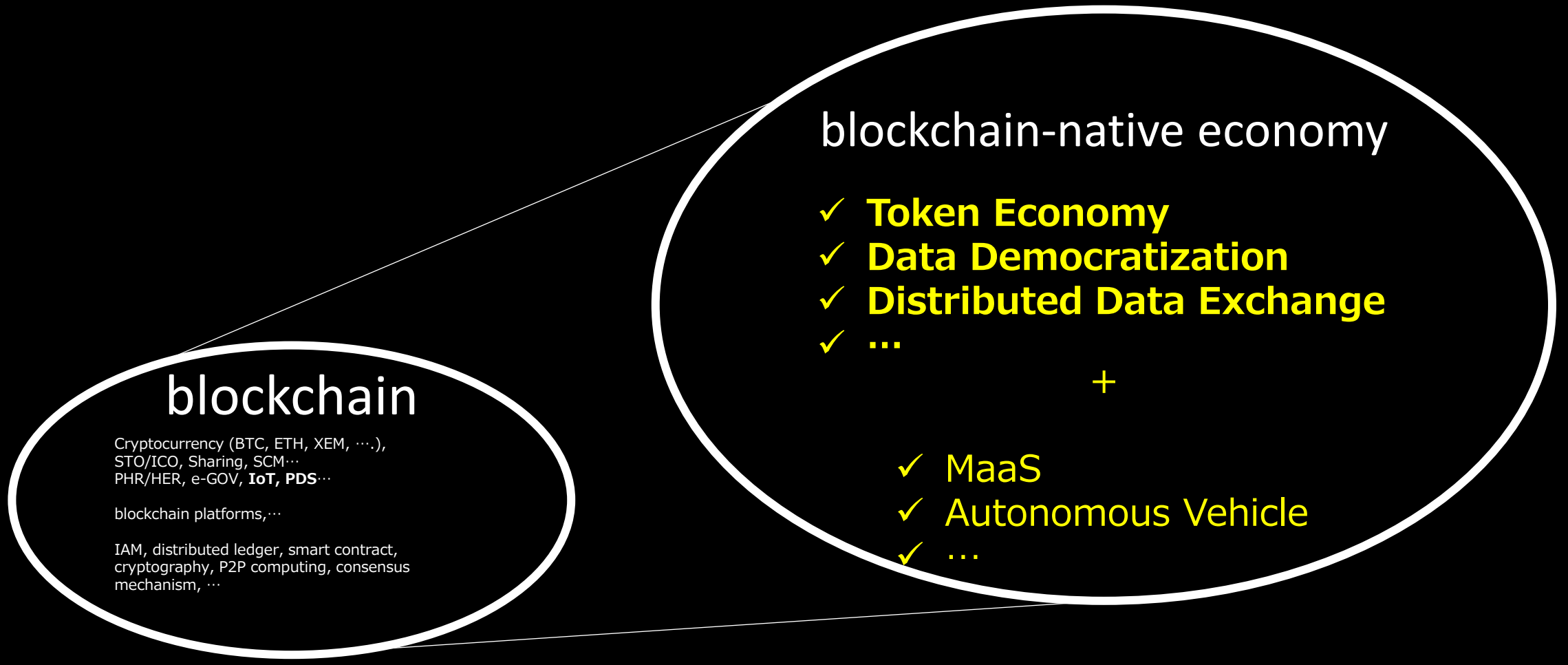
(Reference) Who would be the owner of our data?

Theorem (Coarse 1960)

If trade in an externality is possible and there are sufficiently low transaction costs, bargaining will lead to a Pareto efficient outcome regardless of the initial allocation of property. In practice, obstacles to bargaining or poorly defined property rights can prevent Coasean bargaining.

Coase, Ronald H. (1960), "The Nature of the Firm". Economica. 4 (16): 386–405.

Let us build a new economy towards “Society 5.0”



2019

Vision

Thank you