

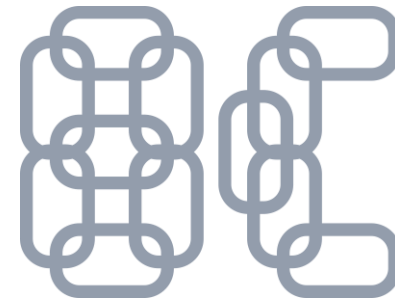


BUDAPEST
STOCK
EXCHANGE

ABOUT

BLOCKCHAIN

TECHNOLOGY



DANIEL KORMOCZI

Budapest Stock Exchange

IMPORTANT MESSAGES

"Blockchain technology continues to redefine not only how the exchange sector operates, but the global financial economy as a whole."

Bob Greifeld
CEO, Nasdaq



"Blockchain technology will not only change the way we do payments, it will change the whole trading and settlement topic."

Oliver Bussmann
CIO, UBS



"I'm reasonably confident that blockchain will change a great deal of financial practice and exchange."

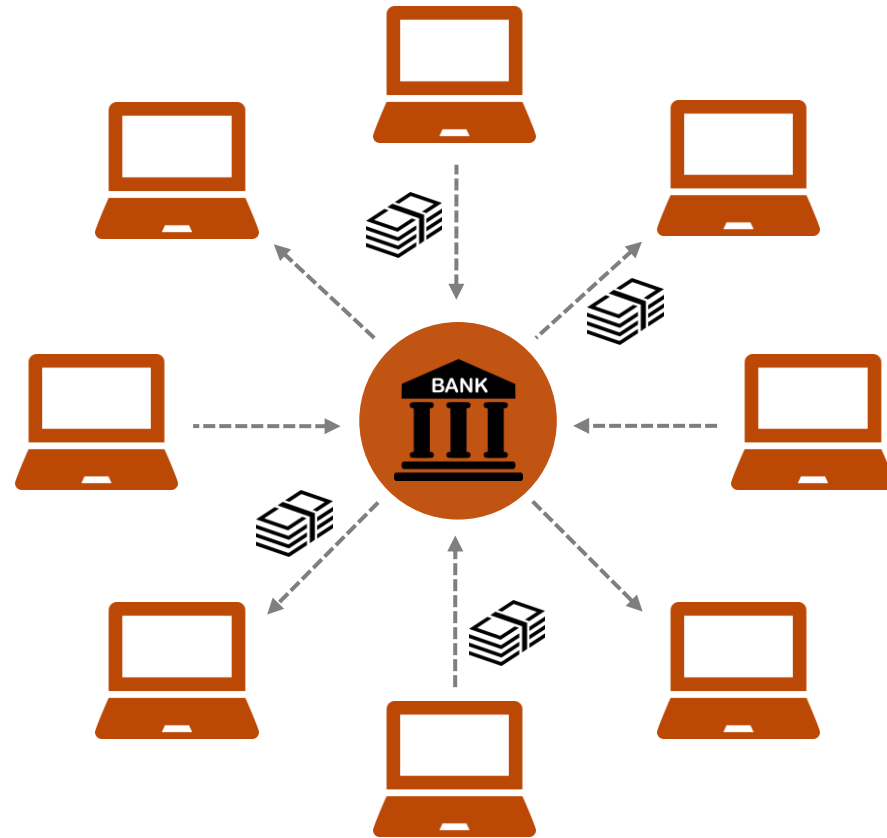
Larry Summers
Former US Treasury Secretary



"Blockchain is like any other technology. If it is cheaper, effective, works, and secure, then we are going to use it."

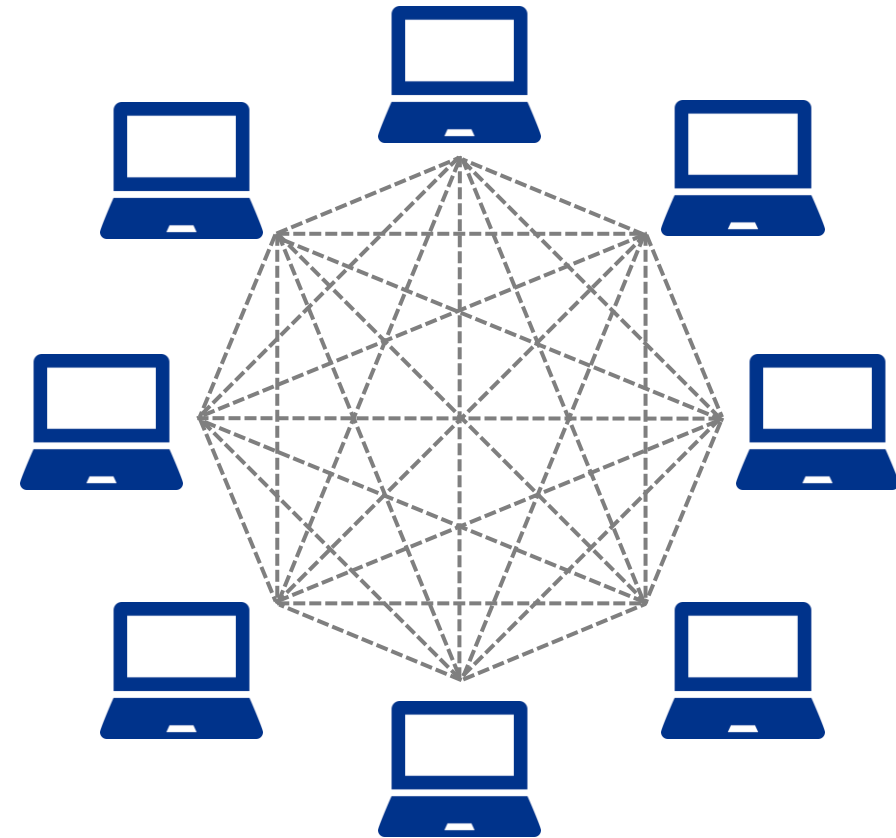
Jamie Dimon
CEO, JP Morgan

CURRENT TRANSACTION SYSTEMS



Current transaction systems require third-party intermediaries, central entity.

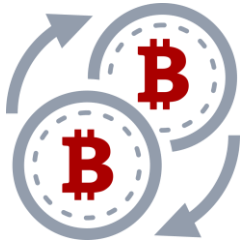
BLOCKCHAIN ENVIRONMENT



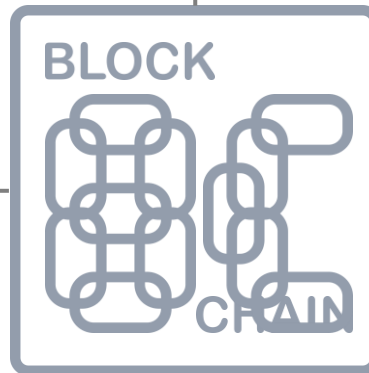
Blockchain environment connects all participants of the system.

BLOCKCHAIN – WHAT IT IS?

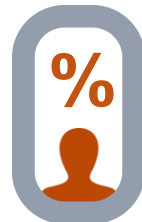
A block is the “specific” part of a blockchain which records some or all of a group of transactions, and when completed, goes into the blockchain as everlasting database.



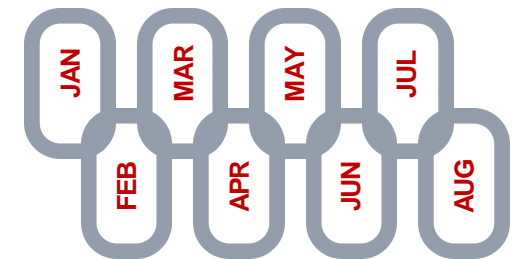
A Blockchain is a public ledger originally used for Bitcoin transactions that have ever been executed.



Blocks are linked to each other (like a chain) in linear, chronological order with every block containing a hash of the previous block. Using traditional banking as an analogy, the blockchain is like a complete history of financial transactions.

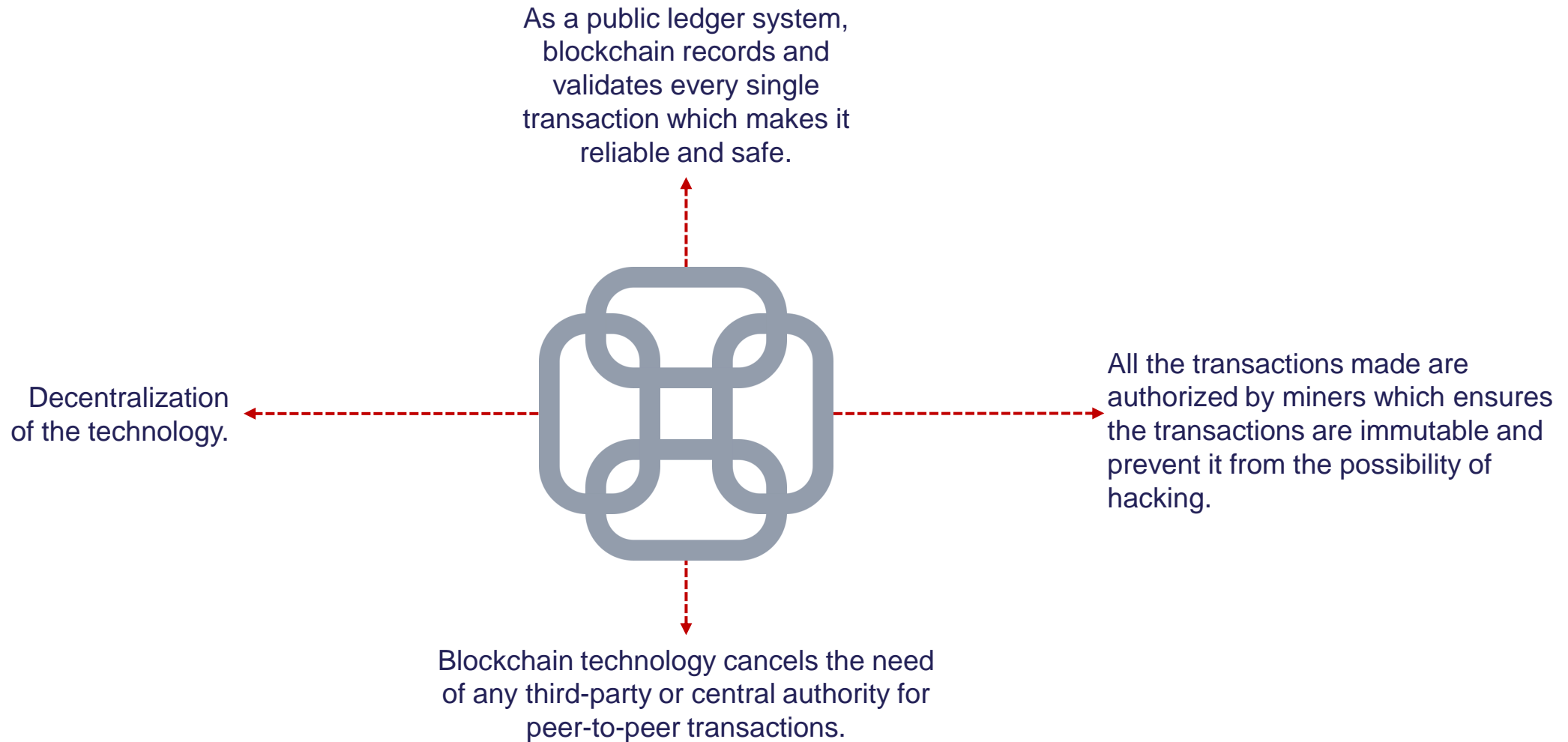


Blocks, are like individual bank statements.



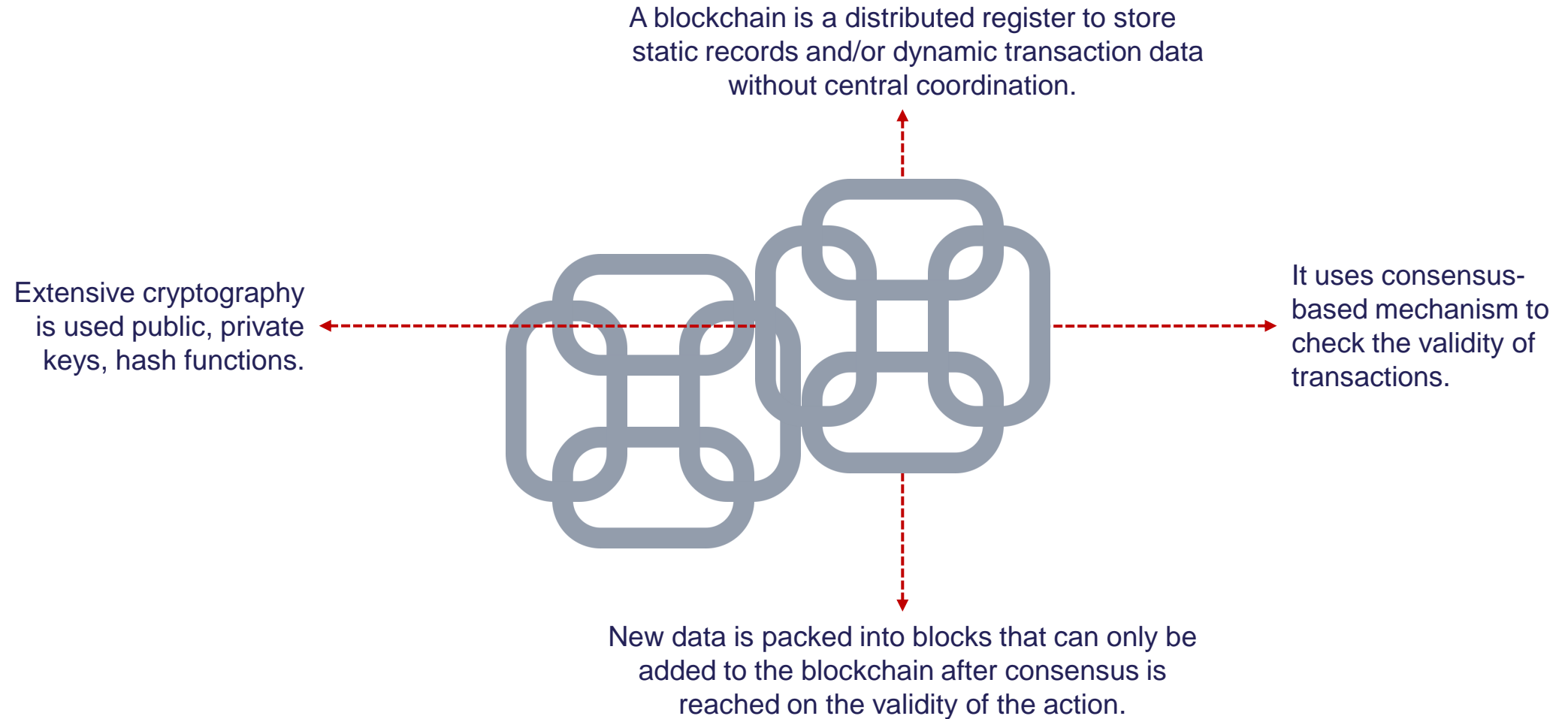


CHARACTERISTICS

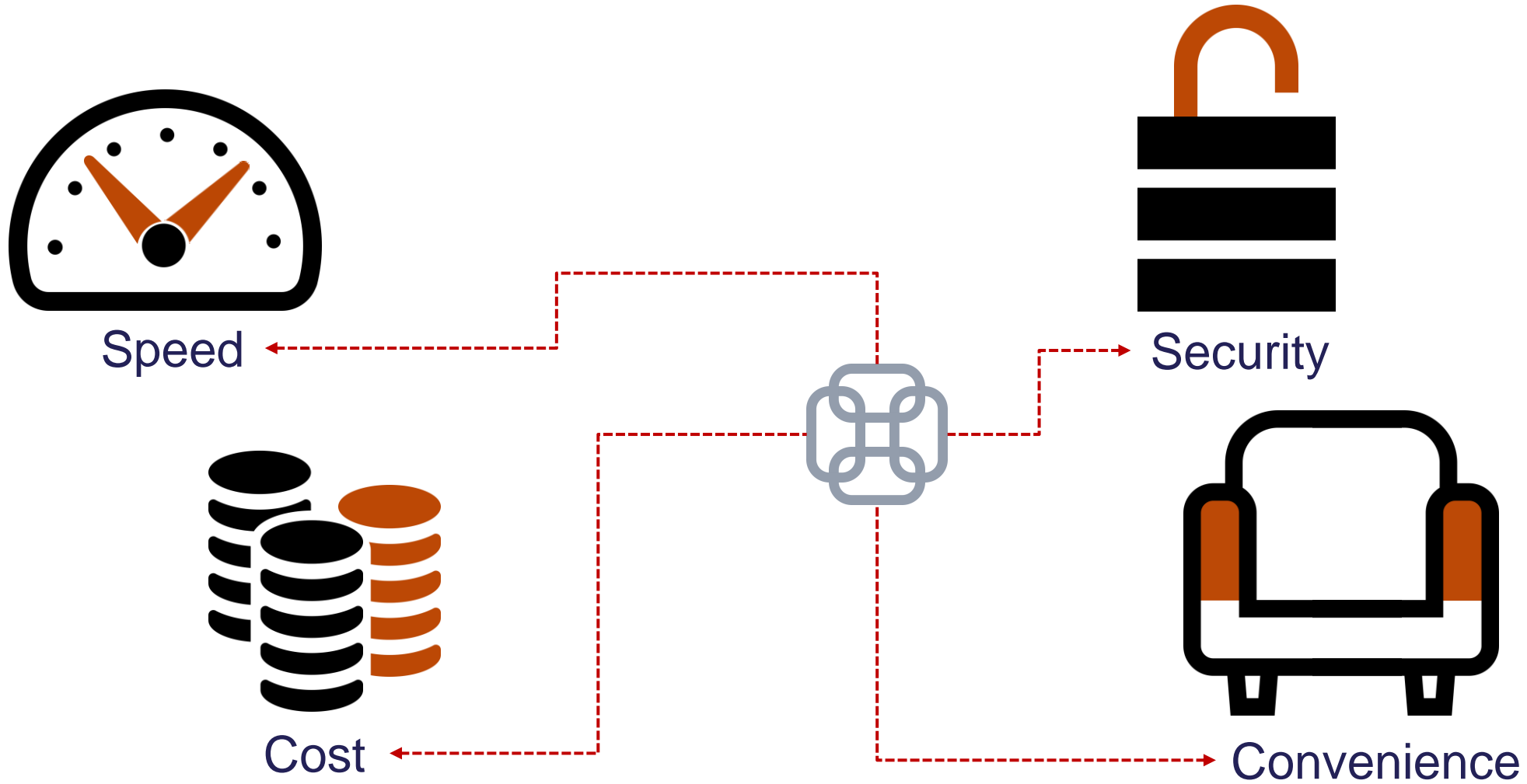




CHARACTERISTICS

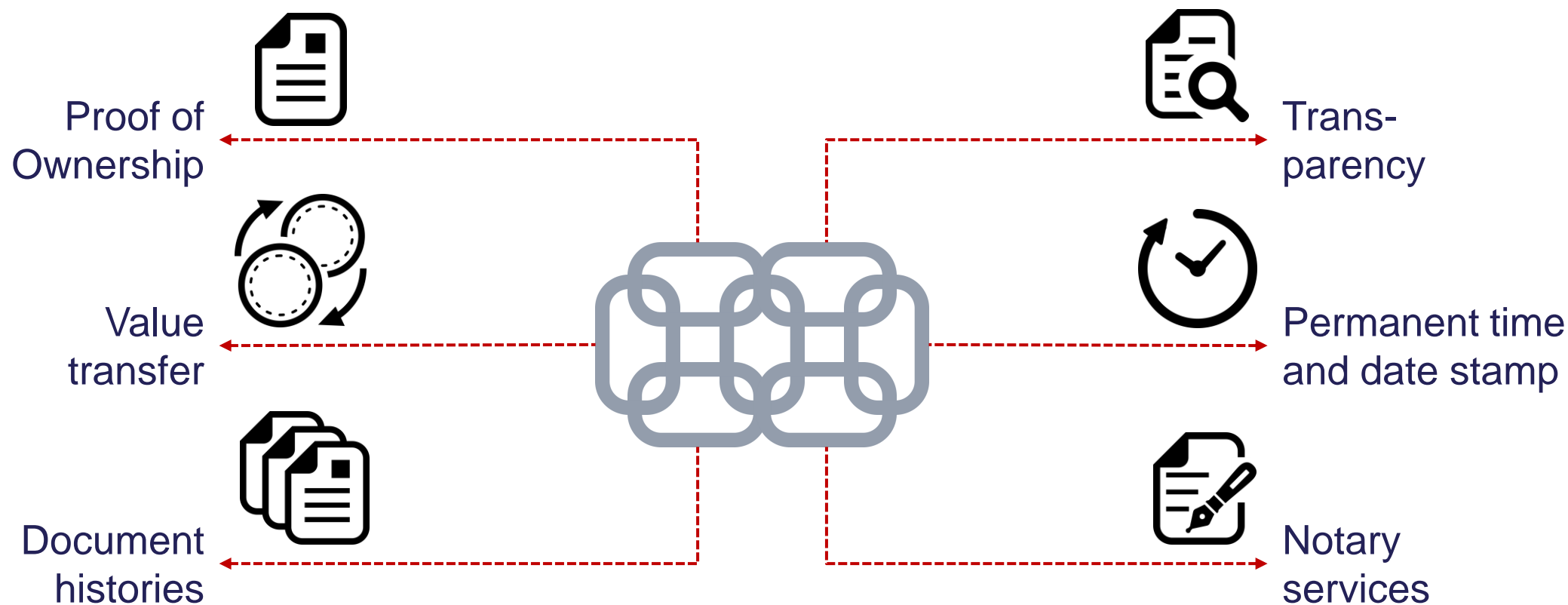


AS A CONSEQUENCE BLOCKCHAIN ENHANCES

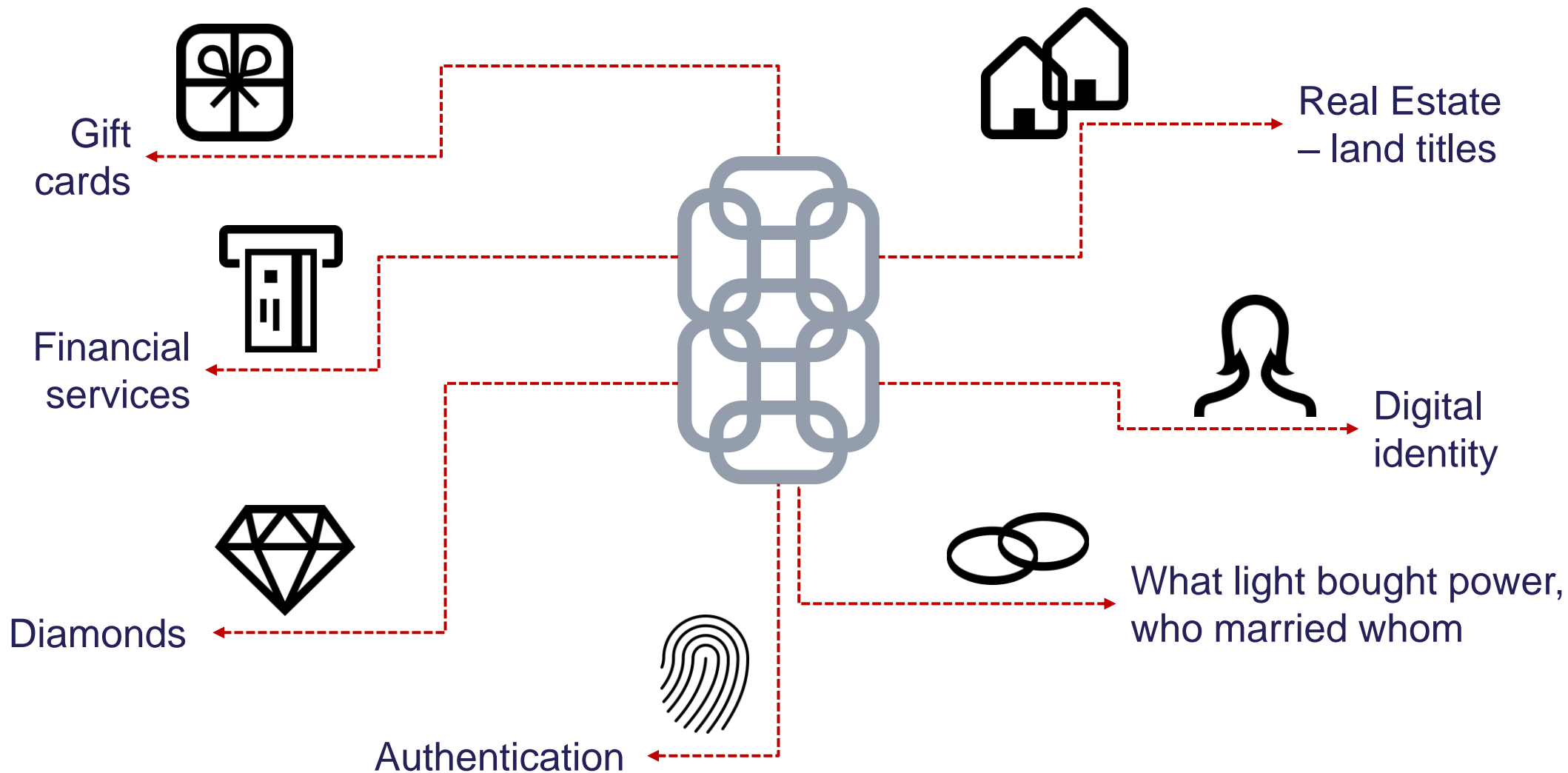


HOW CAN THE WORLD USE BLOCKCHAIN?

AND HOW CAN OUR ECONOMY USE IT?



BLOCKCHAIN USE CASES IN OTHER INDUSTRIES





PUBLIC VS PRIVATE BLOCKCHAIN

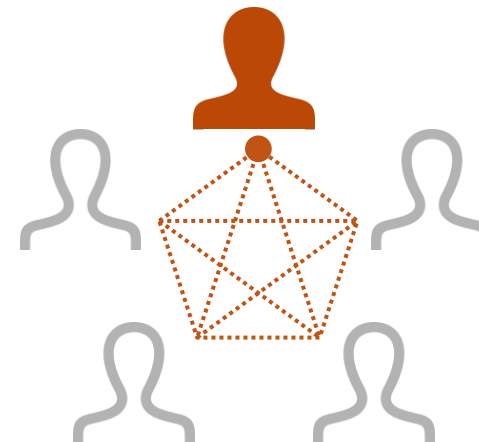
PUBLIC/OPEN BLOCKCHAIN



Anyone on the platform would be able to read or write to the platform, provided they are able to show proof of work.

E.g: Ethereum, a provider of a decentralized platform and programming language helps running smart contracts and allows developers to publish distributed applications
peer to peer | asymetry dissapears | no powerful third party „banks, credit card companies in case of payment”.

PRIVATE BLOCKCHAIN

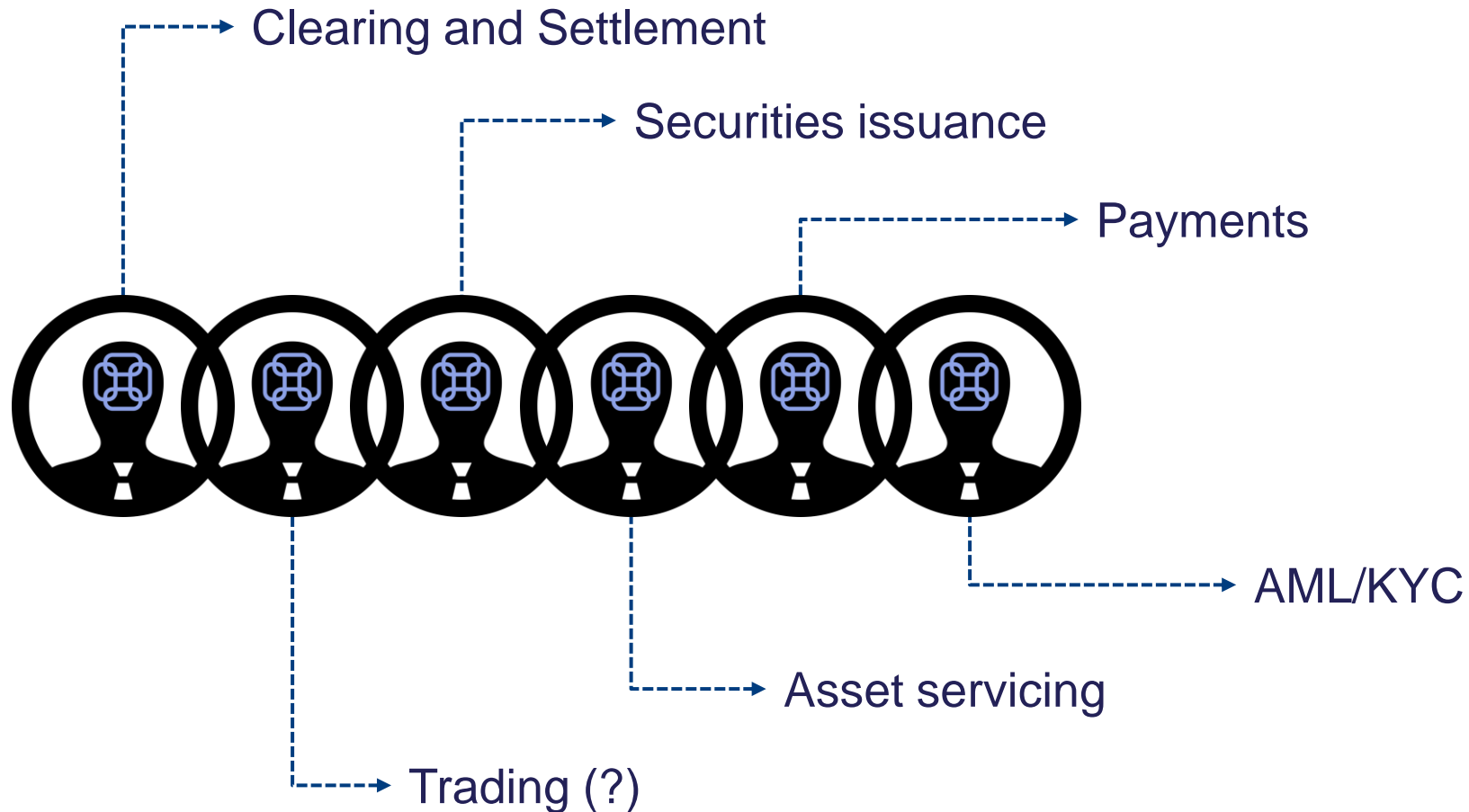


Allows only the owner to have the rights on any changes. The owner(s) have the power to change the rules, revert transactions, etc.

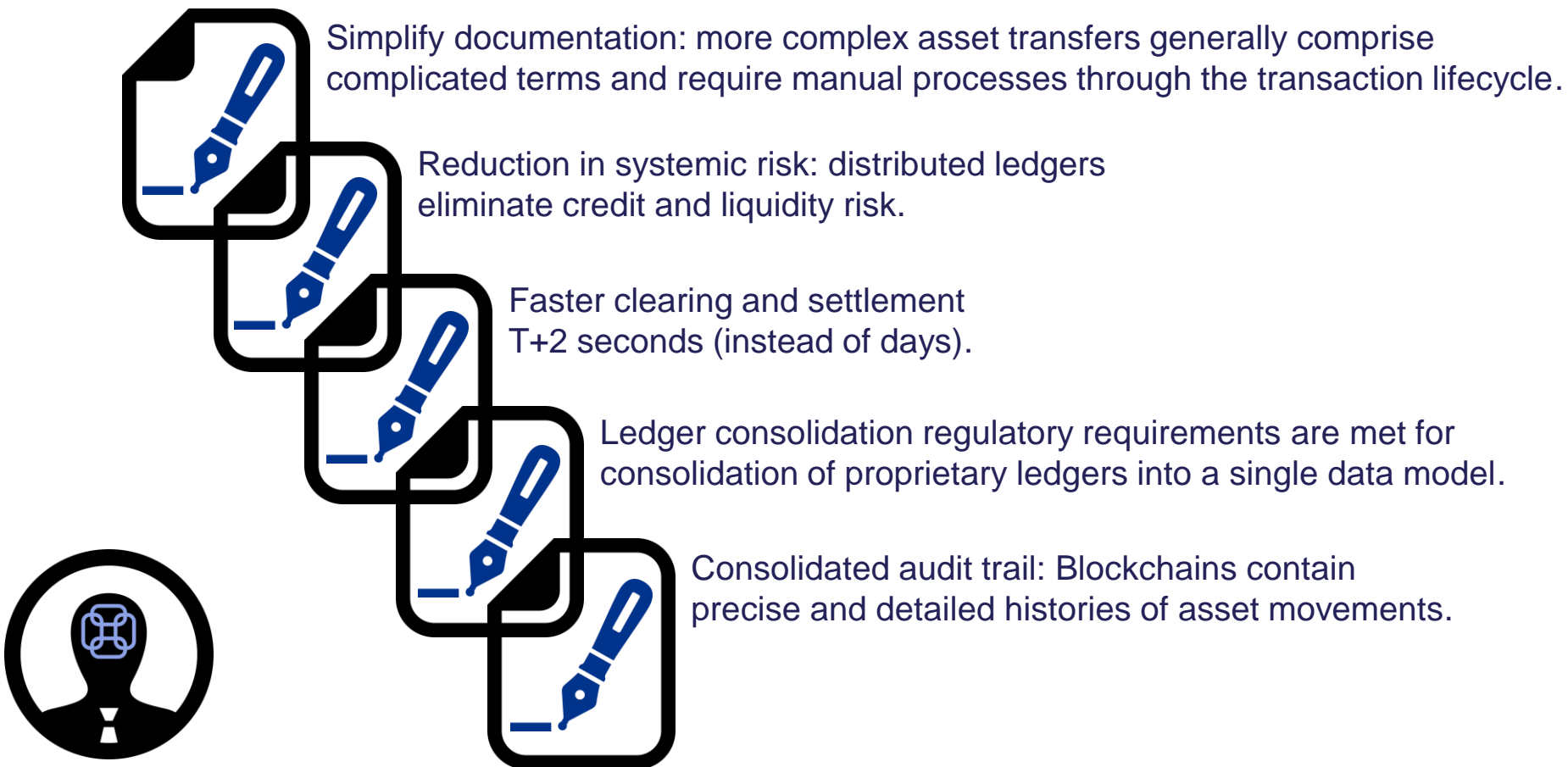
A concept with huge interest from FIs and large companies. It could find use cases to **build proprietary systems | reduce the costs | increase their efficiency**



WHERE BLOCKCHAIN CAN DELIVER AMONG FINANCIAL MARKETS COMMUNITY?



SO FAR IT'S A POST-TRADE STORY

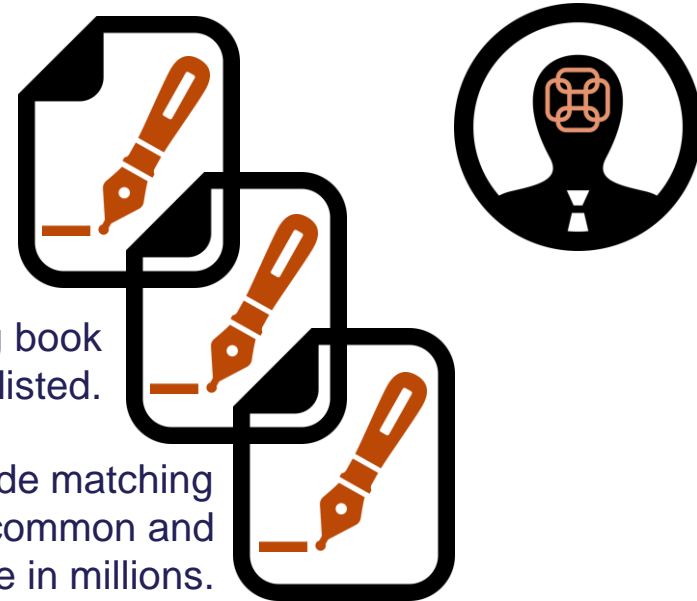


SO FAR IT'S A POST-TRADE STORY

Anonymity – blockchain knows what people own.

Blockchain technology does not yet offer price discovery trading book function where buyers , sellers and their quantities are listed.

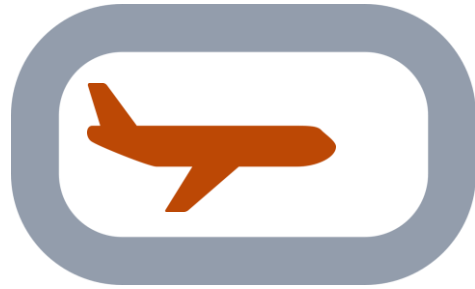
Not yet adequate to support electronic trade matching for securities where nano seconds are common and daily transaction numbers are in millions.





SMART CONTRACTS

Smart contracts are small programs running on a blockchain and triggering certain actions when preagreed conditions are met.



E.g.: Insurance payout initiated based on flight cancellations/delays (via so called “oracles” for using external sources usable for smart contracts in the blockchain).

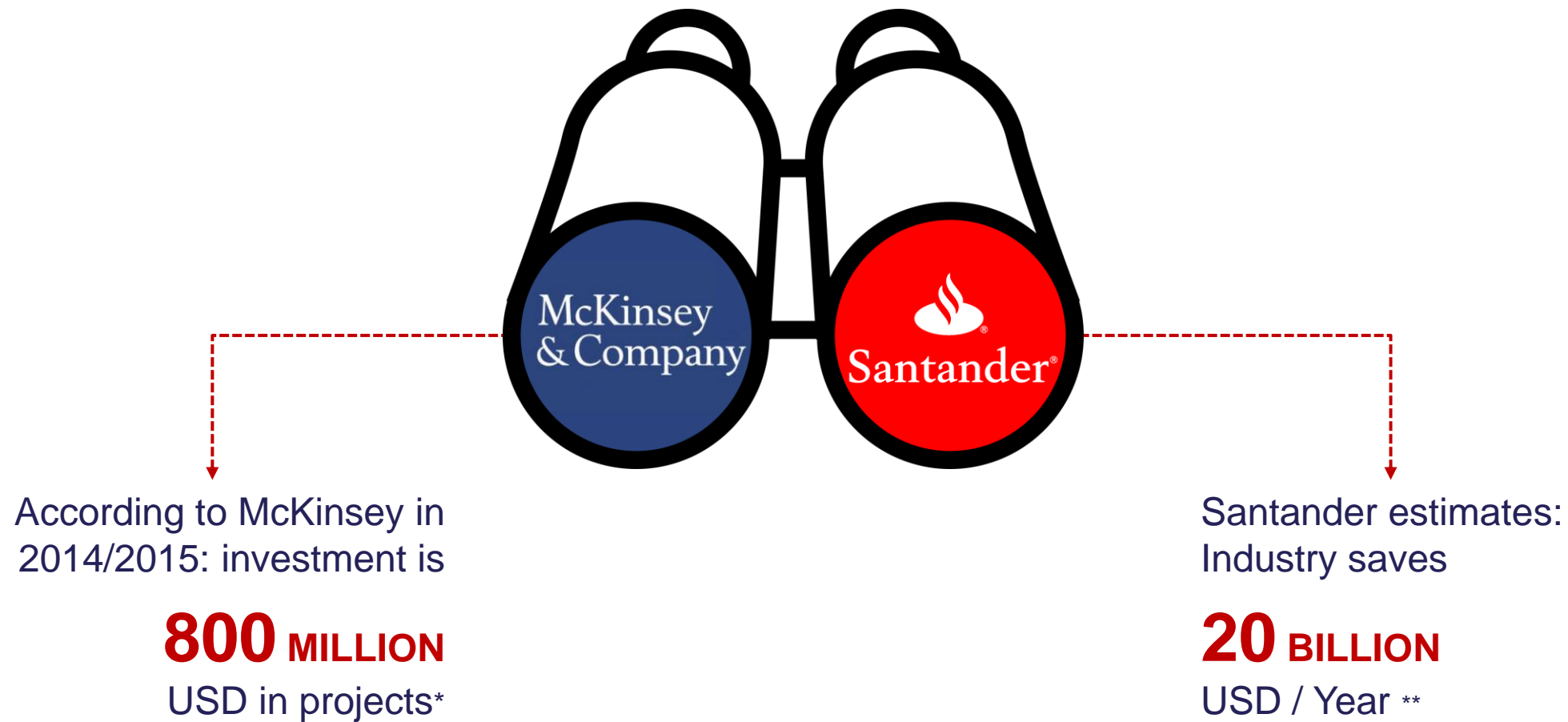


Smart contracts are agreements where the terms are agreed and recorded in a computer language instead of legal language.

Built on blockchain as an application layer.

Still far from actual
deployment use cases.

HEAVY INVESTMENT IN BLOCKCHAIN INITIATIVES



EXAMPLES OF BLOCKCHAIN EXPERIMENTS

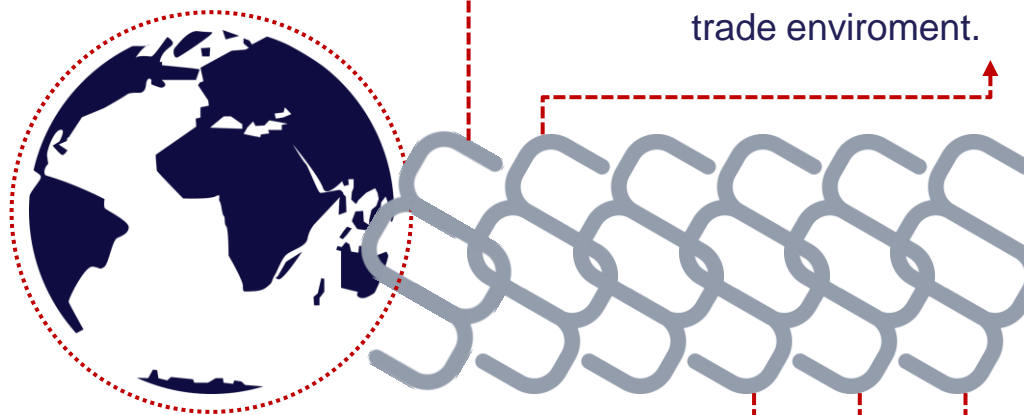
WHERE IS OUR INDUSTRY TODAY?



COOPERATION WITH THE REGULATORS

Regulators could take “wait-and-encourage” approach to Blockchain similar to their practice taken to the Internet.

Policymakers globally need to prepare in ahead for tomorrow’s securities markets and their post-trade environment.



Something even the smaller entities and countries can do while large institutions are running proof of concepts.

Consultation on Distributed Ledger Technology by ESMA.

UK regulator (FCA) created „sandbox” environment.

OBSTACLES AHEAD

SPEED

CAPACITY

REGULATORS

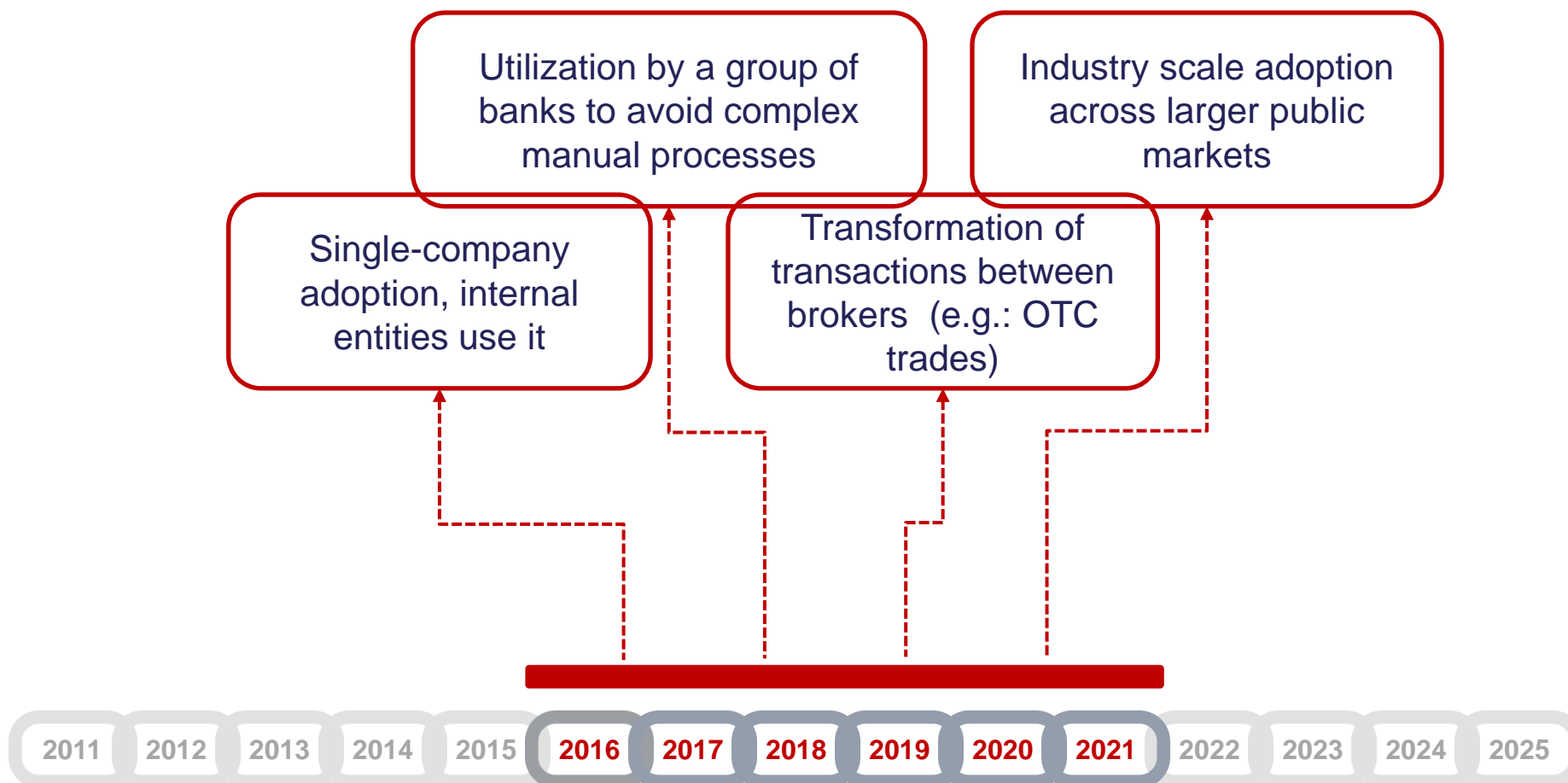
**ADJUSTMENT
OF THE
INDUSTRY**

REVERSIBILITY

GOVERNANCE

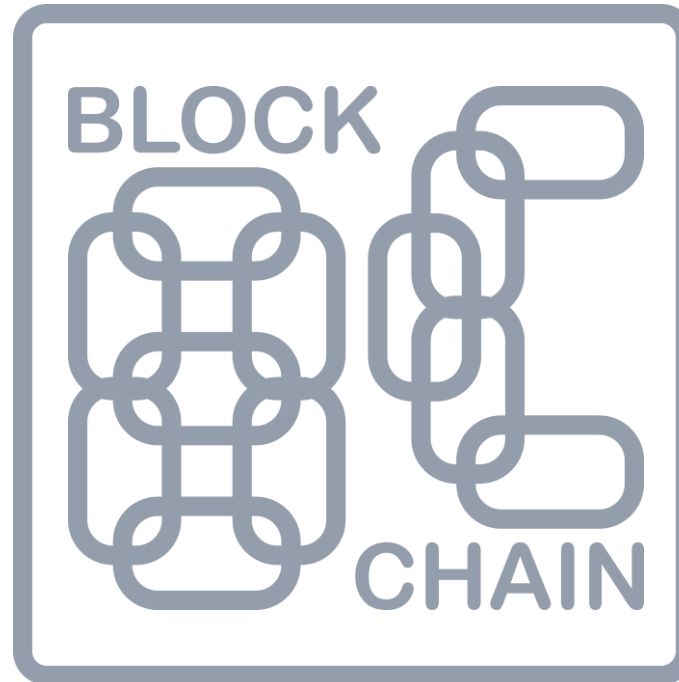


EVOLUTION OF BLOCKCHAIN





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