

# Blockchain Technology

*Demystifying a new and radical technology*

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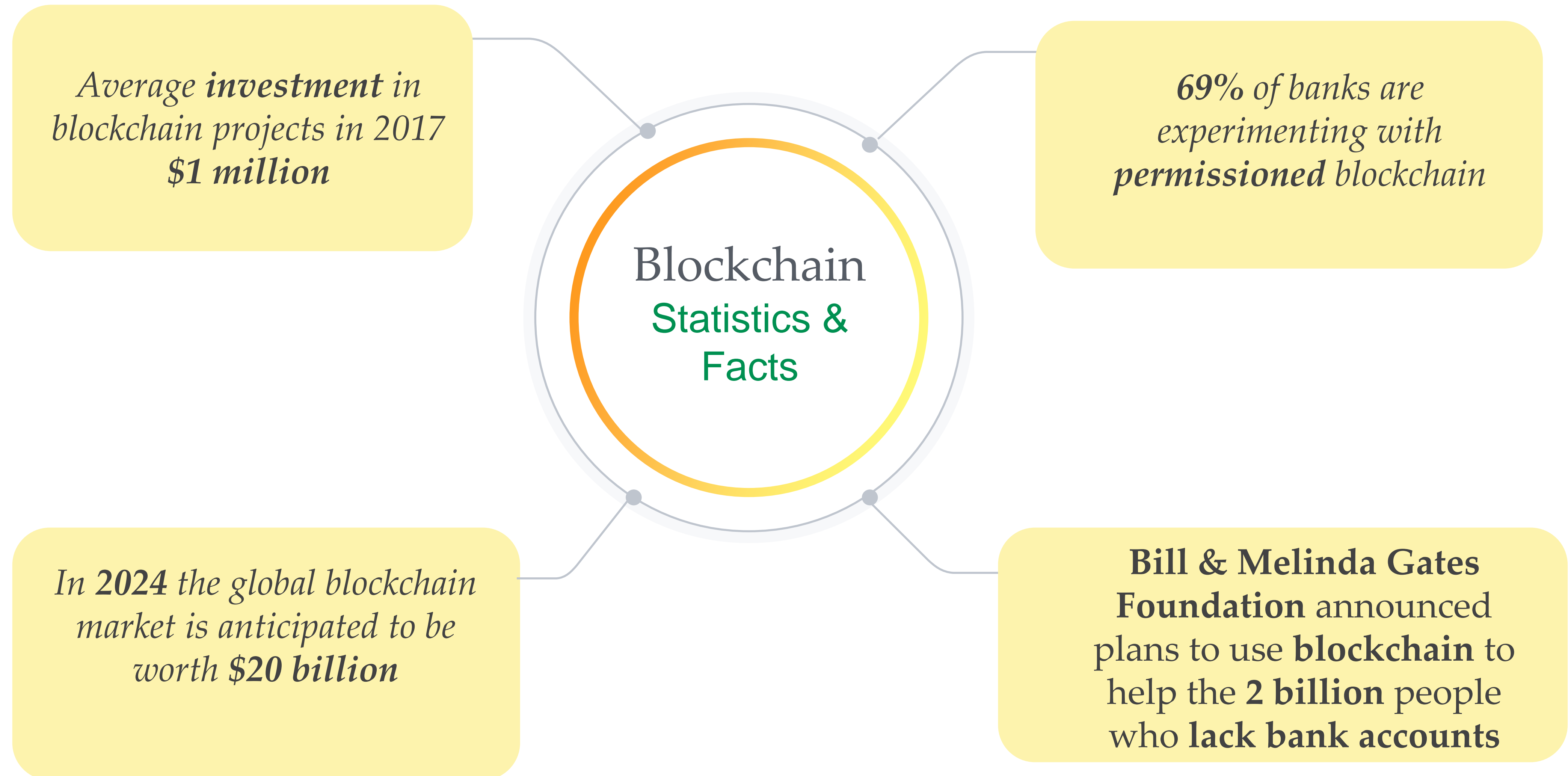
27<sup>th</sup> March 2018



# Blockchain Technology

## *Agenda*

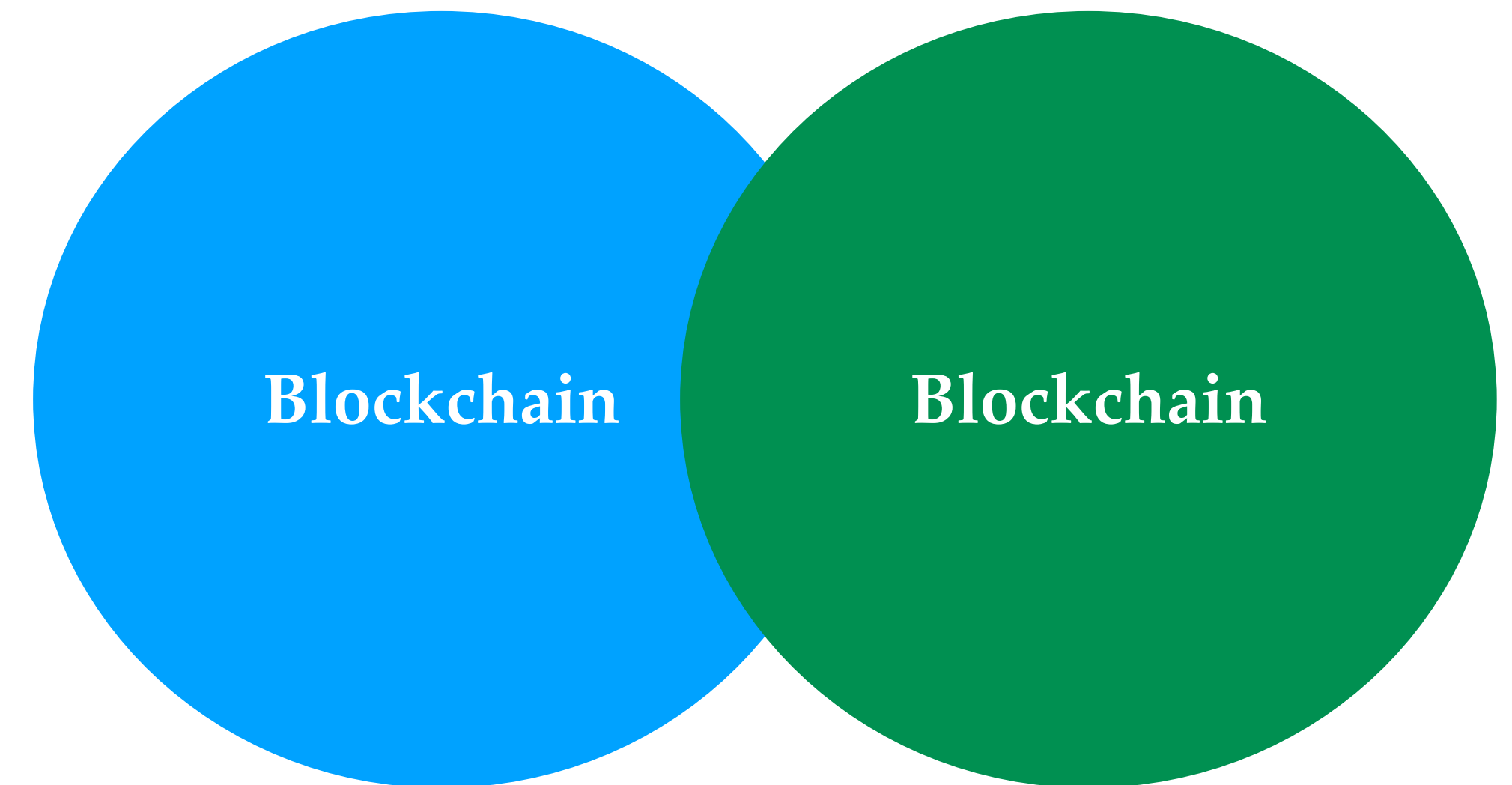
- *Important Statistics and facts*
- *What is Blockchain?*
- *How Blockchain works?*
- *Use-cases*
  - Cross-Borders Payments
  - Shipping industry / Supply Chain
- *Is Blockchain the solution for the shipping industry?*



# Blockchain

What it is not?

Blockchain is **NEITHER** Bitcoin **NOR** any other  
cryptocurrency



# Blockchain

## Who is behind?

- In 2009, Blockchain was initially introduced by Satoshi Nakamoto.

*“Bitcoin: A Peer-to-Peer Electronic Cash System”*



### 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.

#### 1. Introduction

Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weaknesses of the trust based model. Completely non-reversible transactions are not really possible, since financial institutions cannot avoid mediating disputes. The cost of mediation increases transaction costs, limiting the



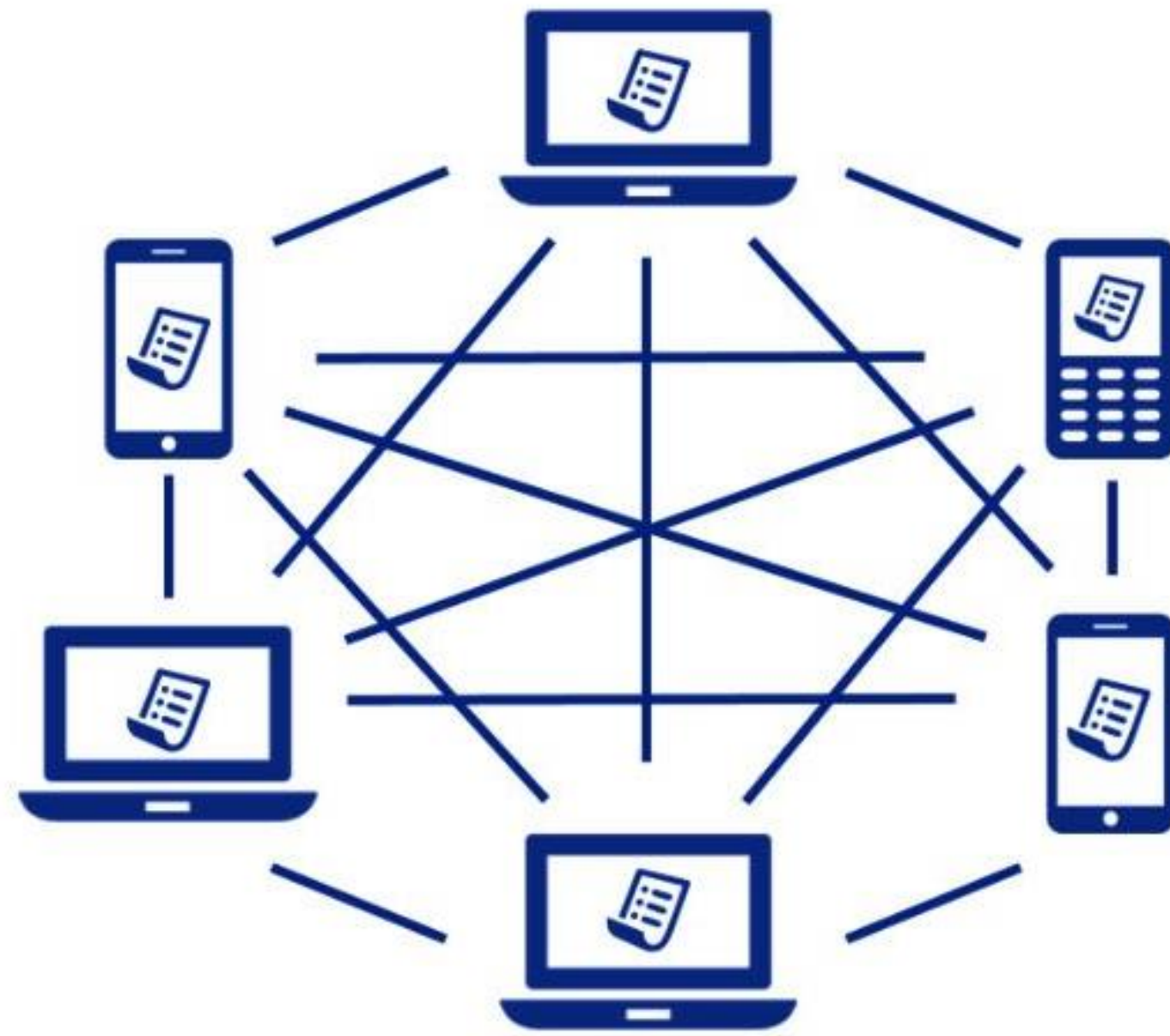
*“The Blockchain is an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value.”*

*– Don Tapscott –*

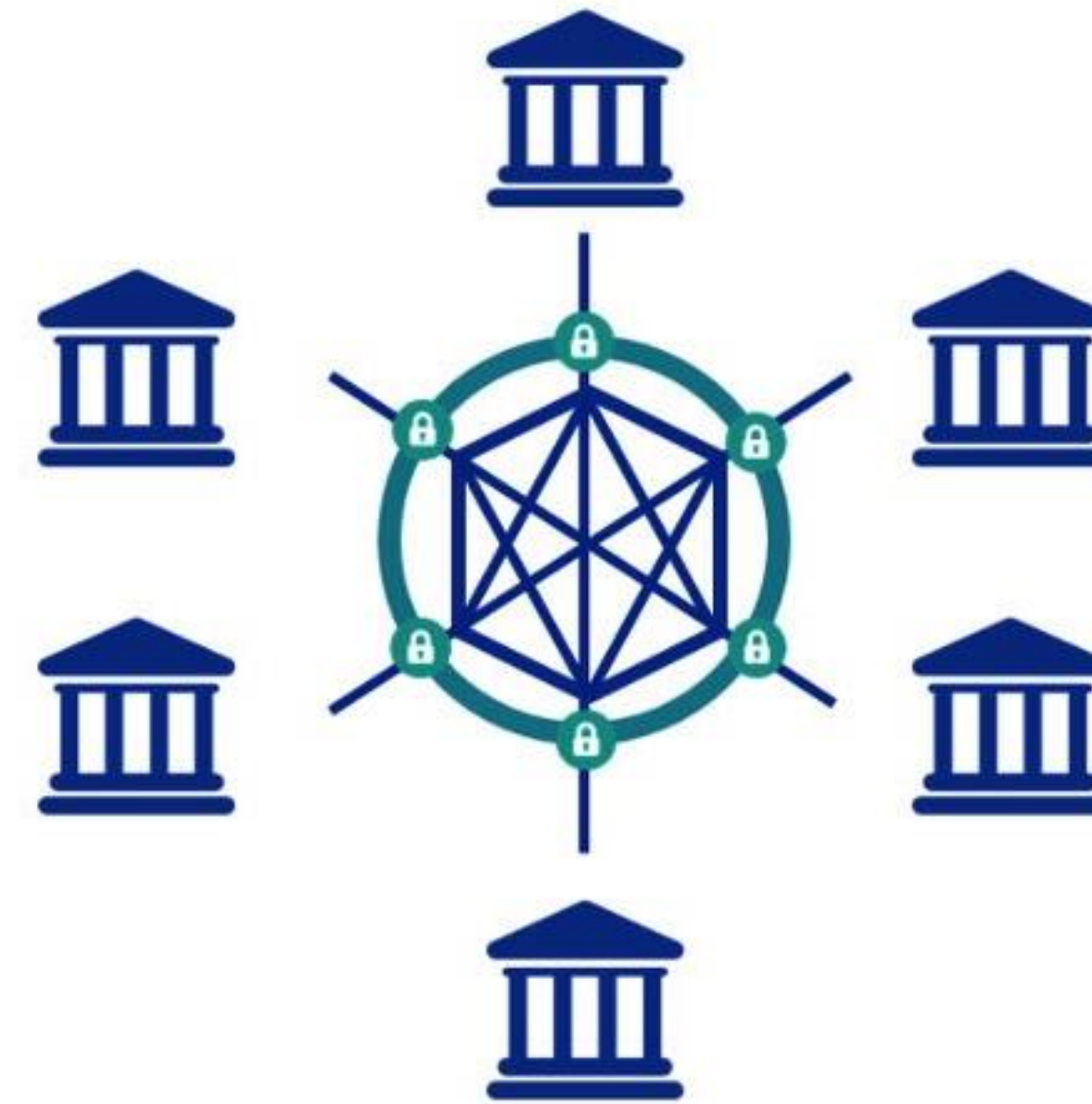


# Blockchain

## Public or Private



**Public Blockchain  
(permissionless)**



**Private Blockchain  
(permissioned)**

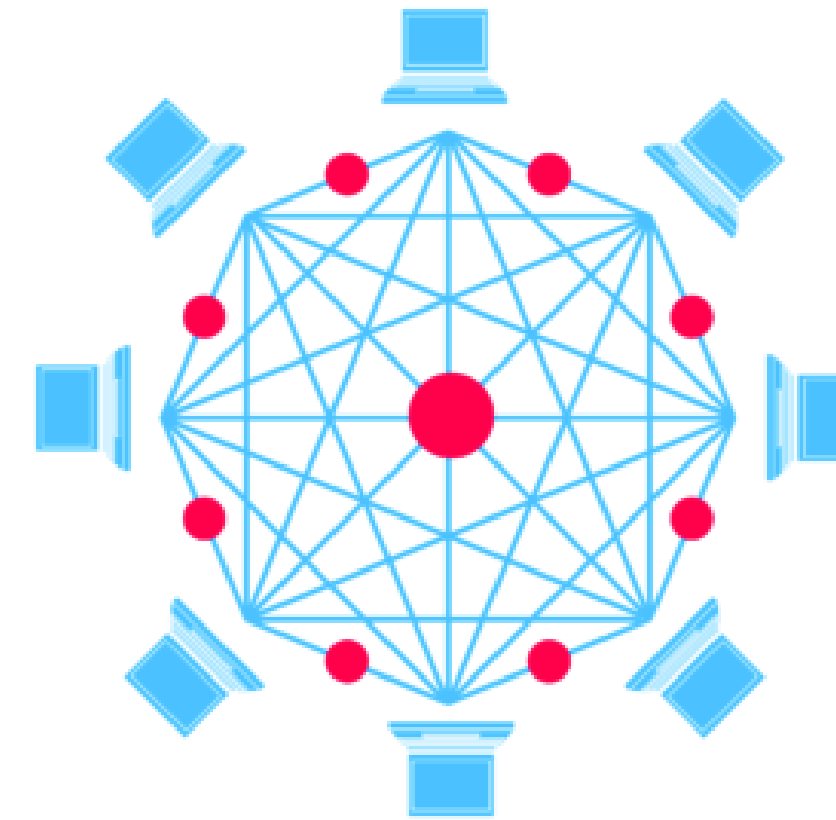
# Blockchain

A combination of three innovations

✓ Encryption

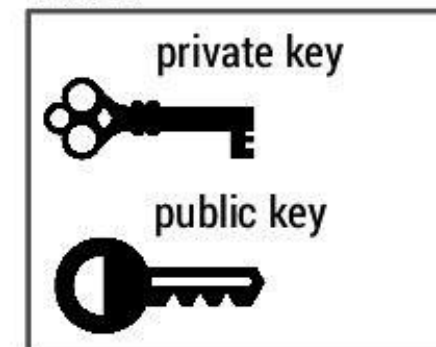
✓ Mutual consensus verification

✓ Smart Contract

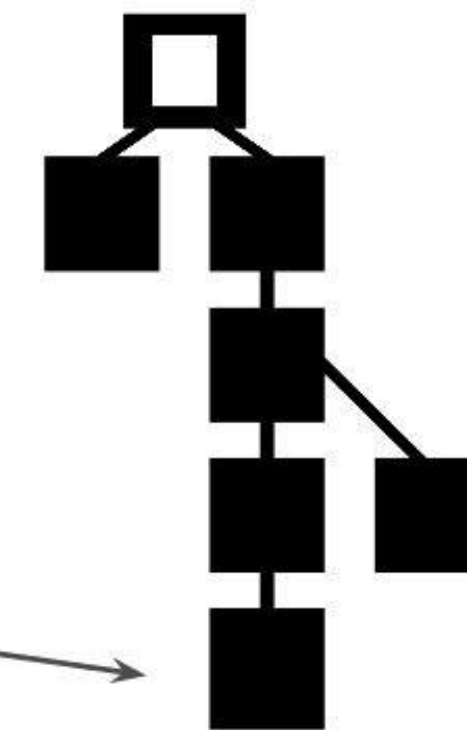


**Blockchain**

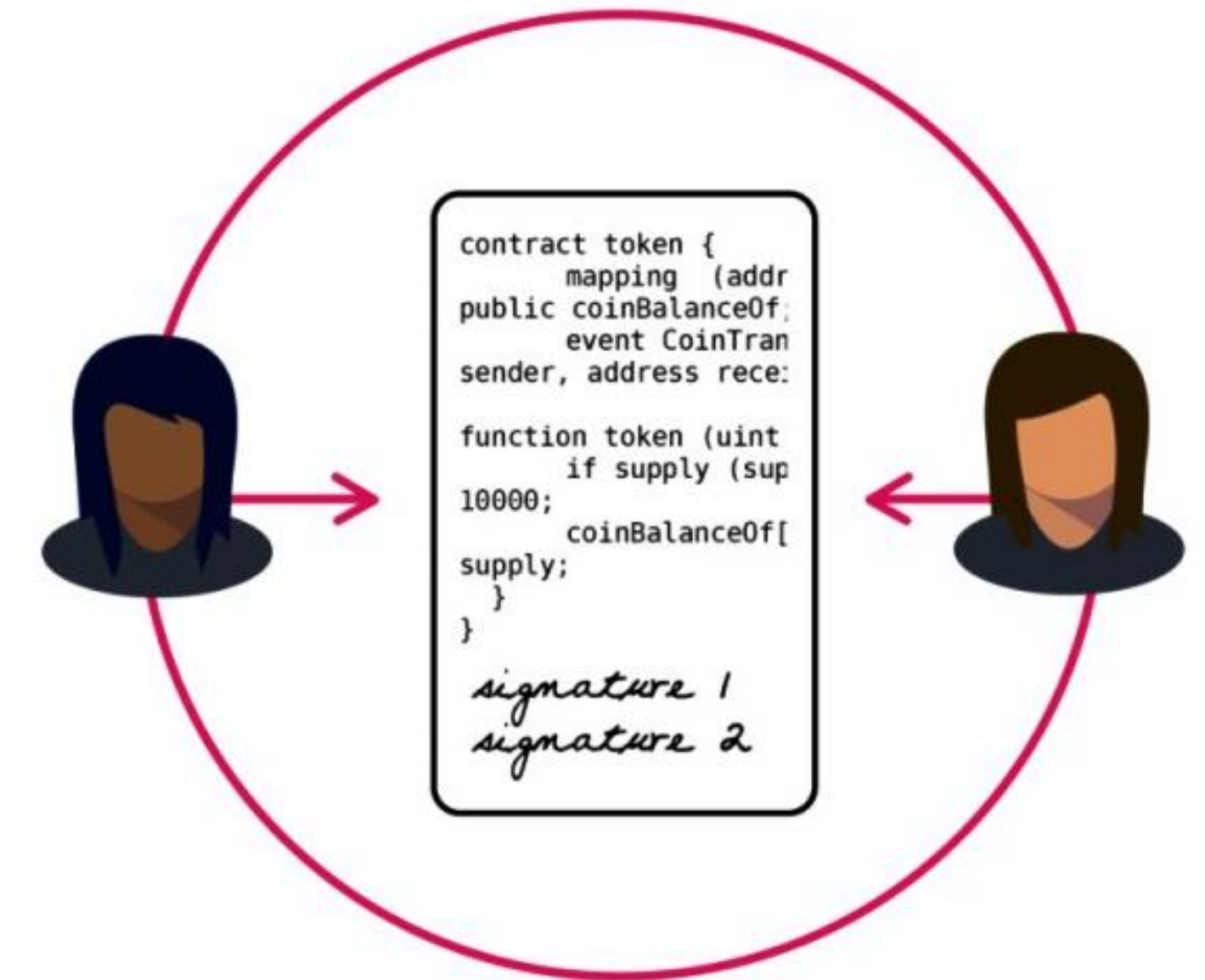
Wallet



Transaction



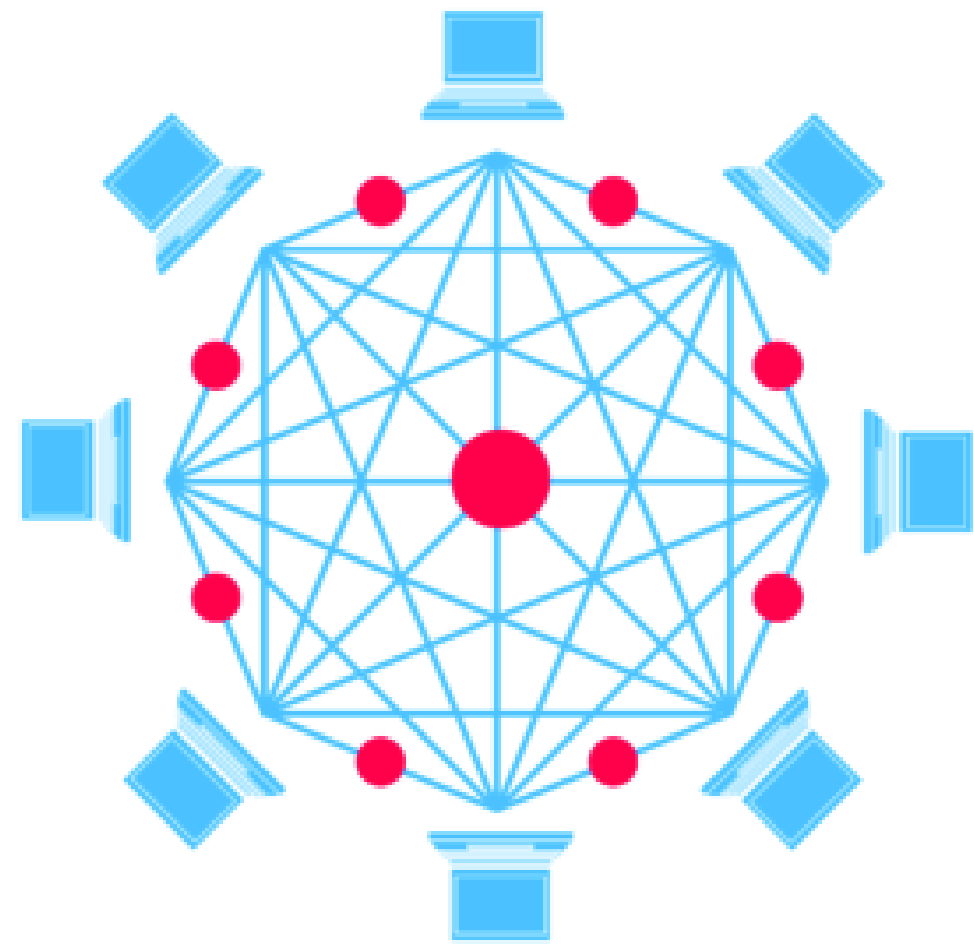
Icons by Olivier Guin from The Noun Project





# Blockchain

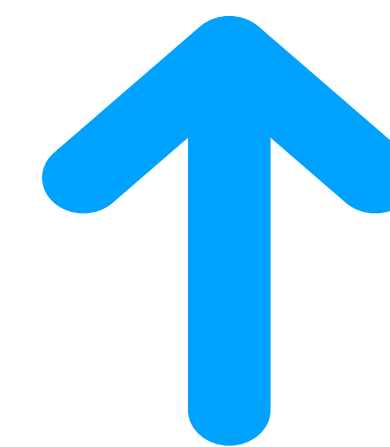
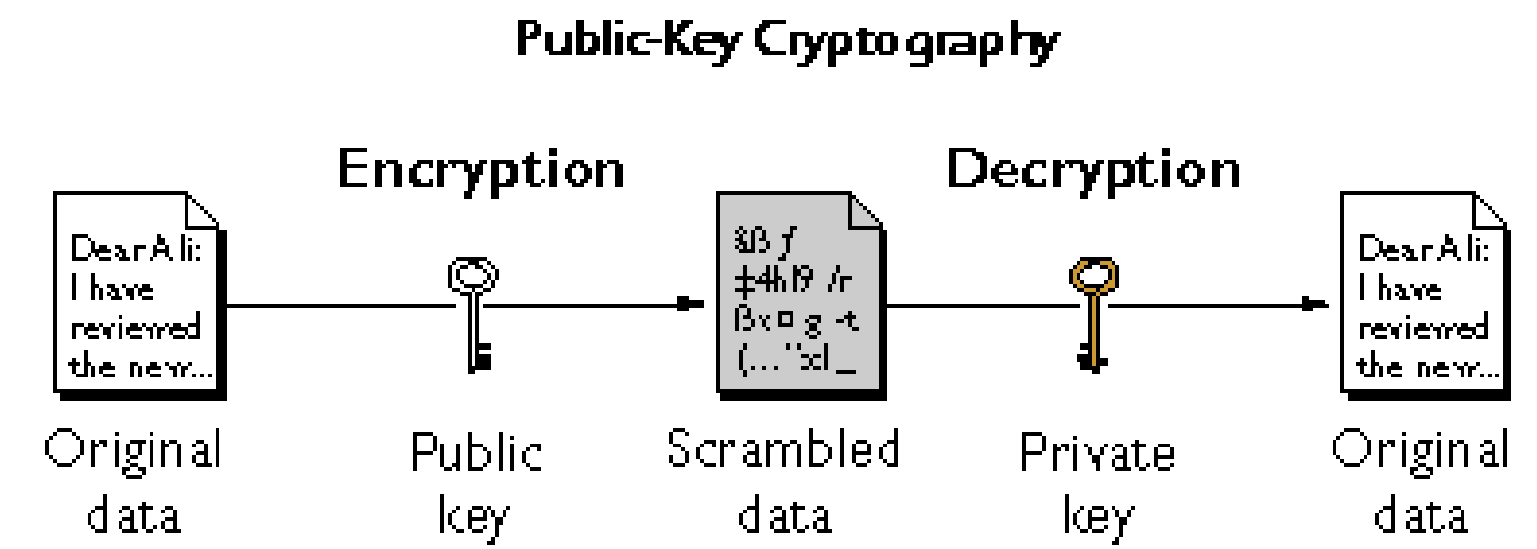
## Benefits



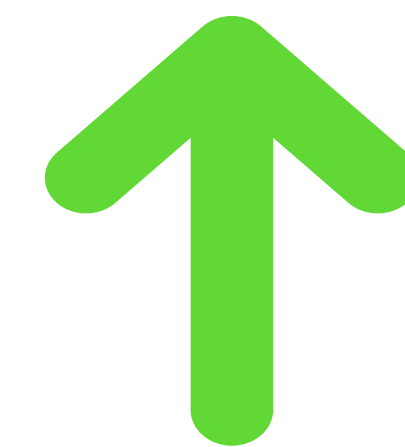
✓ Security

✓ Efficiency

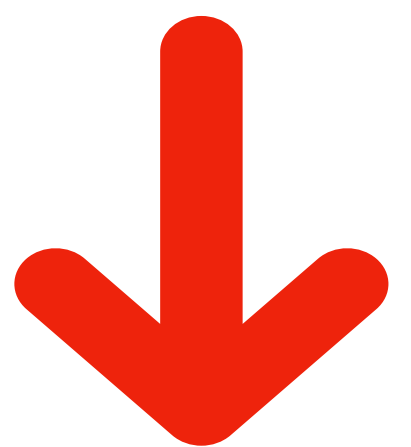
✓ Transparency



Speed



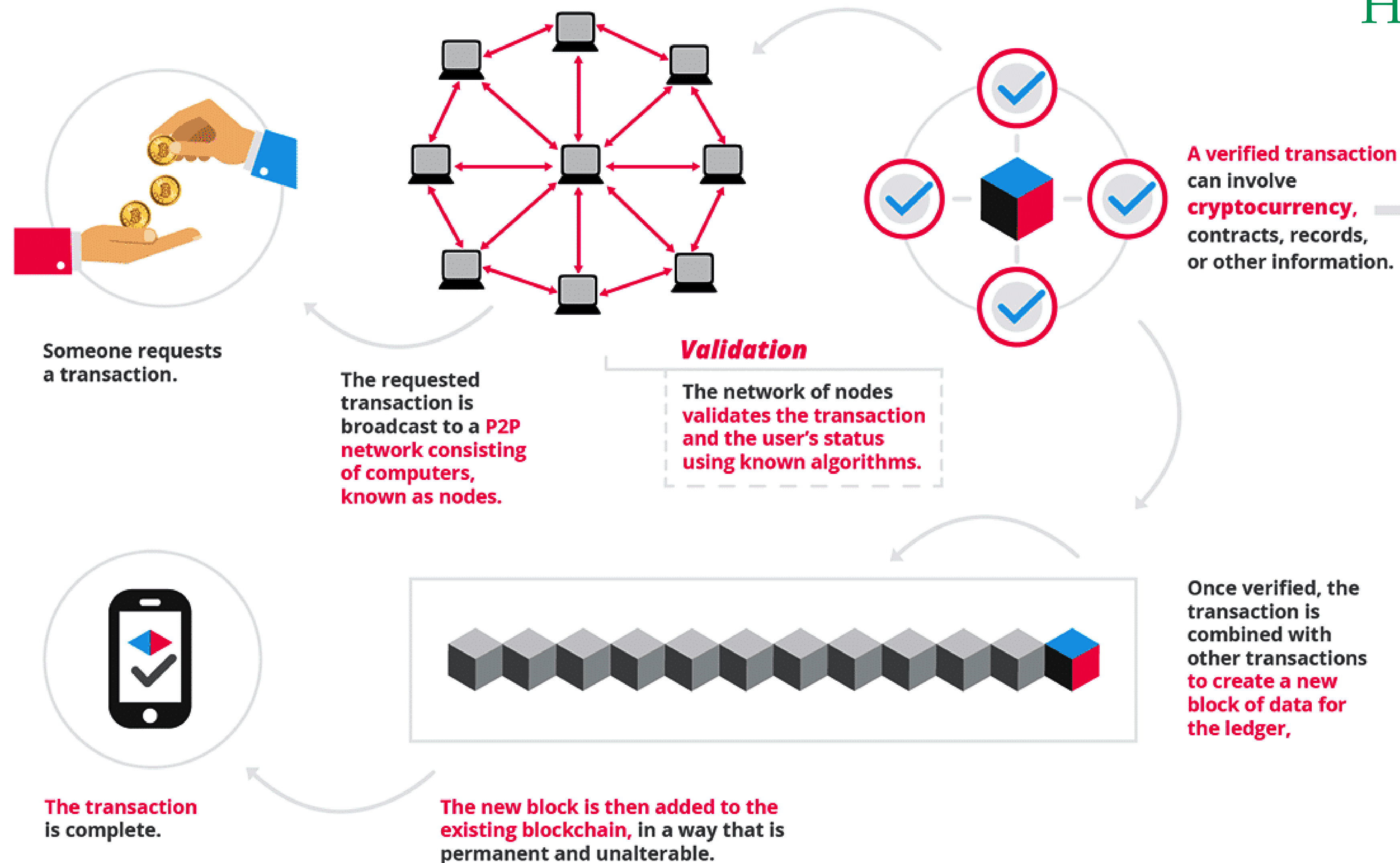
Quality



Cost

# Blockchain

## How it works?

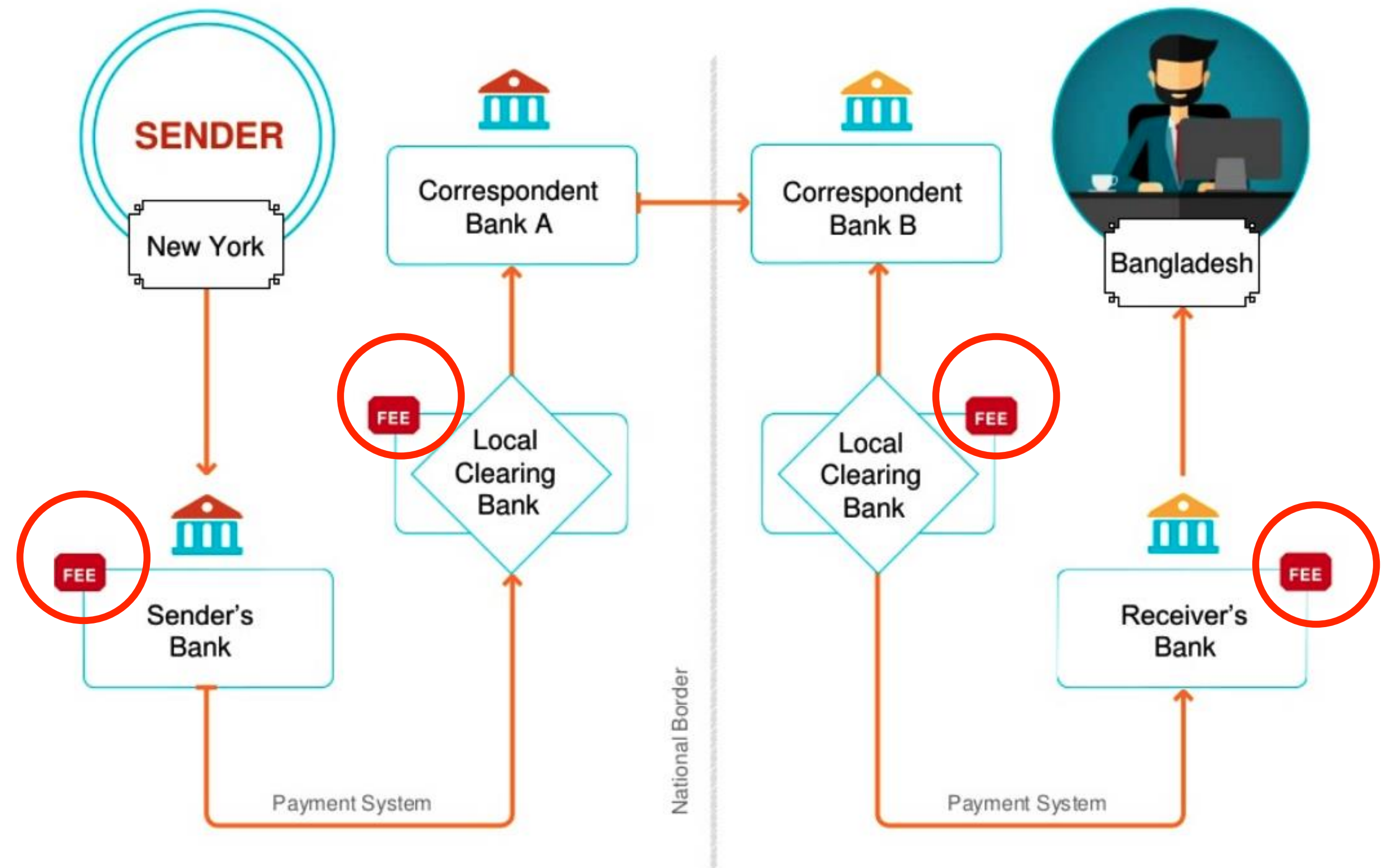


# Blockchain Use-Case

## Cross Border Payments

### As-Is

- Existence of **middlemen**
- **Remittance** cost from 5% to 20%
- Open to **money laundering**
- A payment is **time-consuming**
- Banks are under acute pressure from **customers, regulators and competitors.**



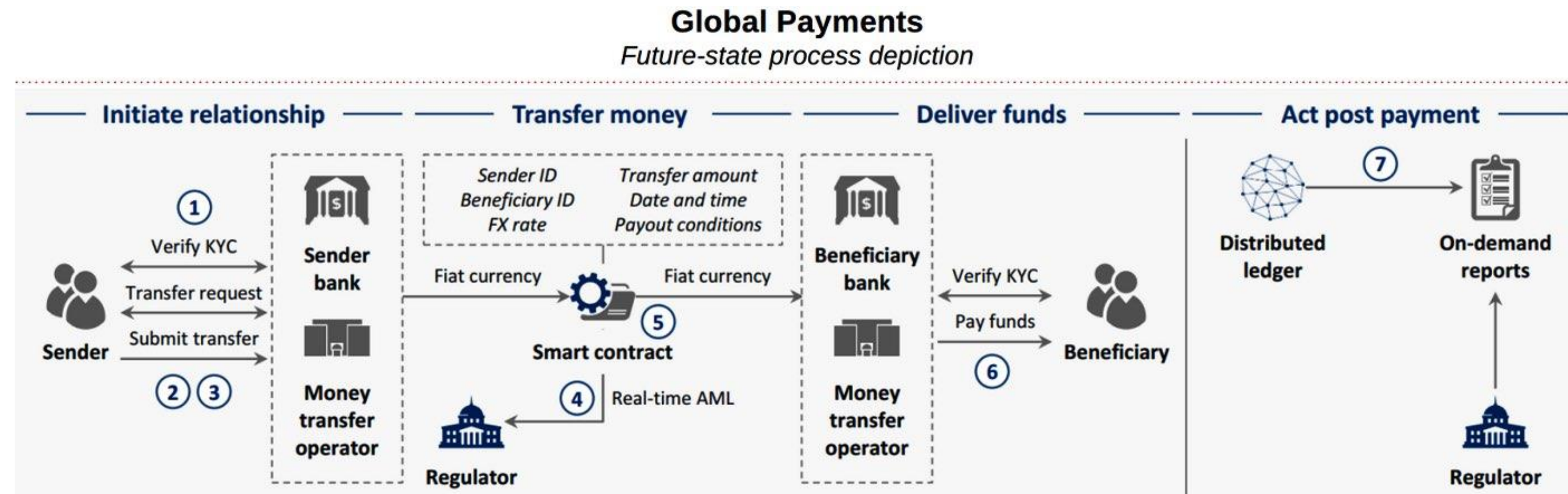


# Blockchain Use-Case

## Cross Border Payments

To-Be

- No intermediaries
- Greater speed and efficiency
- \*Remittance cost between 2% and 3%
- Real-time KYC/AML checks
- \*\*Banks could save \$8-12 billion annually





# Blockchain Use-case

## The Container Shipping Industry

### As-Is

- **90% of goods in global trade** are transported by ships.
- **\*150 Million** yearly losses due to theft
- The **cost** of end consumer **increases** by **20%** because of these losses.
- **\*\*Size: 4 times more** shipping containers by 2030
- **Big number** of participants
- Shipping industry still heavily relies on **paper documents**



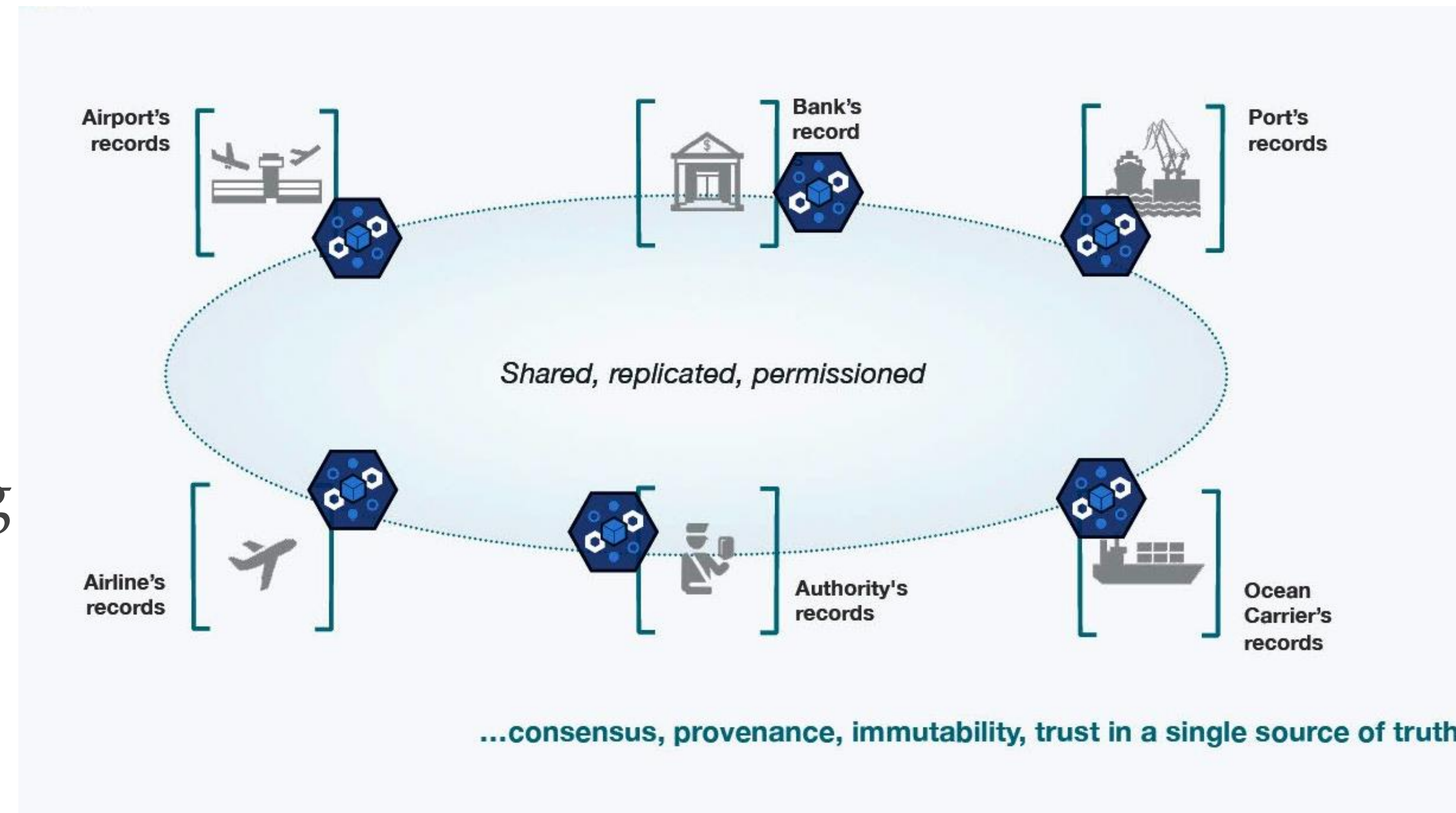


# Blockchain Use-case

## The Container Shipping Industry

### To-Be

- Reduce administration cost
- Minimise security breaches
- Increase visibility throughout the shipping process
- Increase global trade by 15%



# Blockchain

## Is this the solution for you?

- ✓ Are multiple parties sharing data?
- ✓ Do multiple parties need to update data?
- ✓ Are middlemen / intermediaries adding cost and complexity?
- ✓ Are interactions time sensitive?
- ✓ Do transactions by different participants depend on each other?







Source: [Dilbert.com](http://Dilbert.com)

# Thank you

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