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All About Blockchain

Marcus de Wilde

A Global Blockchain Solutions Development Firm

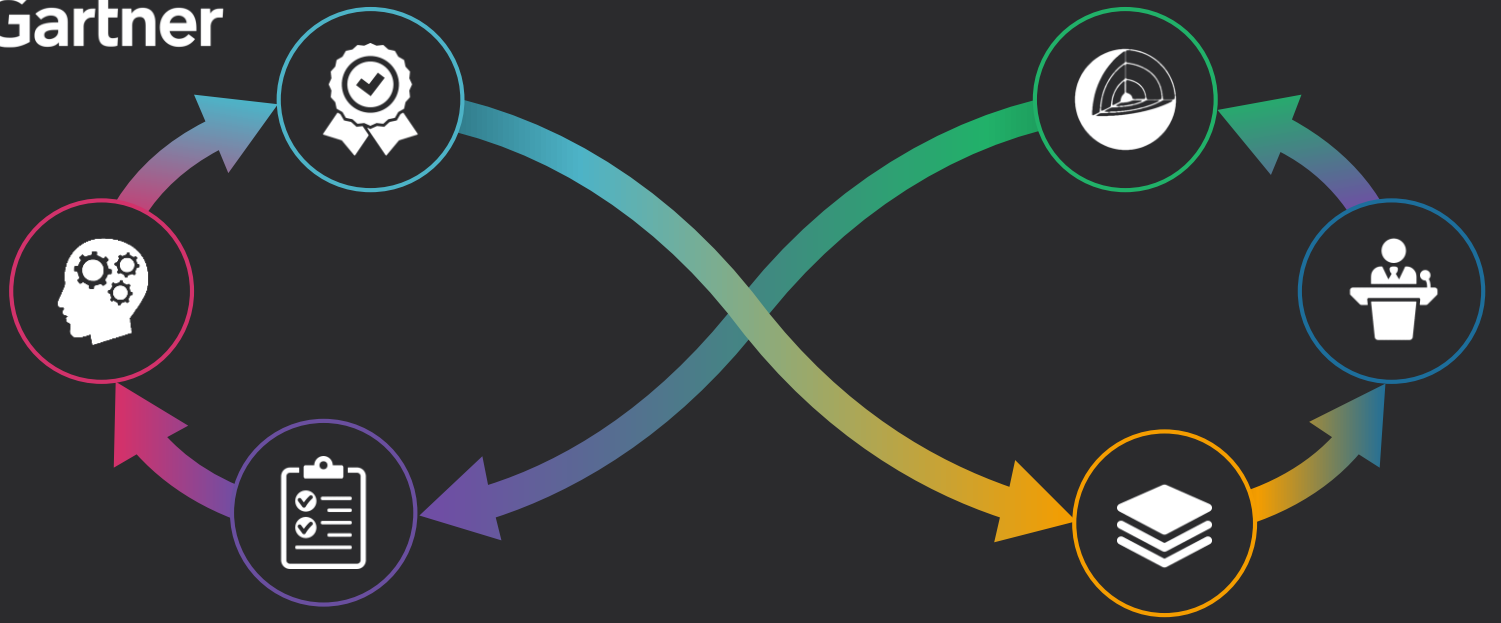
International Market Leader

Listed by Gartner as a Global Top 20 Blockchain Development and Consulting Firm 2017

Gartner

Application Development Framework

For security, privacy, and scalability with a platform agnostic layer that is built for enterprise



Blockchain Experts

Our team of over 30 blockchain developers have been building solutions for over two years

Thought Leaders

Consistently asked to speak at international events to share our blockchain expertise

Third-Party Audited

Our technology stack has been security audited and stress tested by third-parties

Full-Stack Capability

Deploying nodes and writing smart contracts up to front end development and graphic design

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Clients & Solutions

Energy
Energy Trading Platform
Commodities Provenance

Banking
Blockchain Bank
Core Banking Solution

Trade Finance
Repo Financing Platform
Invoice Financing Solution

Supply Chain
Supply Chain Management
Physical Goods Provenance

Identity Management
E-Commerce Payments
KYC Data Sharing

Aviation
Distributed Drone Registry
Flight Data

Human Resources
Work Experience Verification
Authorised Signatory Registry

Automotive
Car Financing
Customer Identity Management

Telecoms
Group Treasury Accounting Token
Customer Data Management

BABB

Bank of America

BARCLAYS

KLM

SITA

XⁿTREE

vodafone

SUPER MONEY

CYGNETISE

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Lloyd's Register

Big 4 Consultancy

SATOSHI SYSTEMS

TALLYSTICKS

nuggets

Bancolombia

appii

Mining

Disintermediation

Cryptocurrencies

Encryption

Immutable

Cryptography

Trust

Dark Web

Distributed

Bitcoin

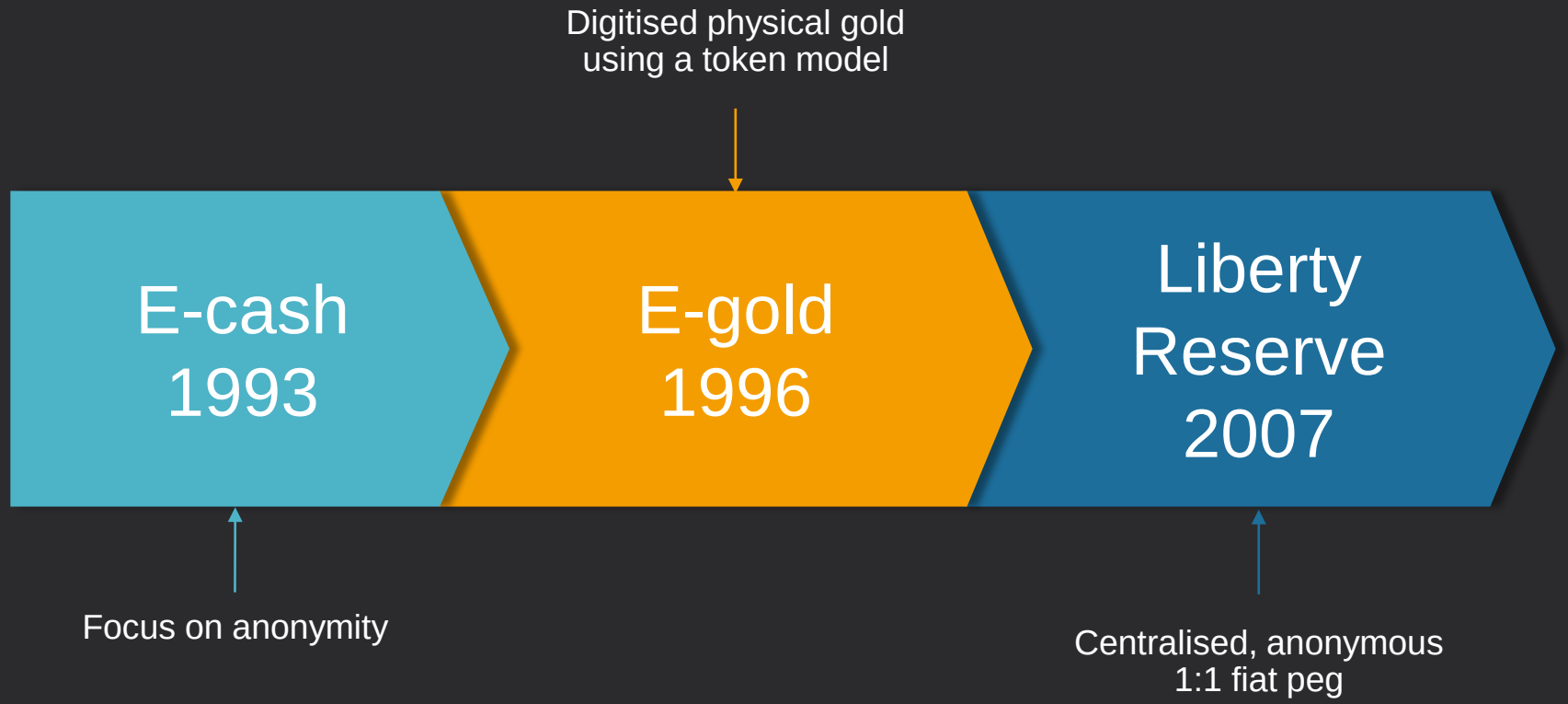
Decentralised

Secure

Ledger

Consensus

The problem with digital cash



The solution

Bitcoin open source implementation of P2P currency

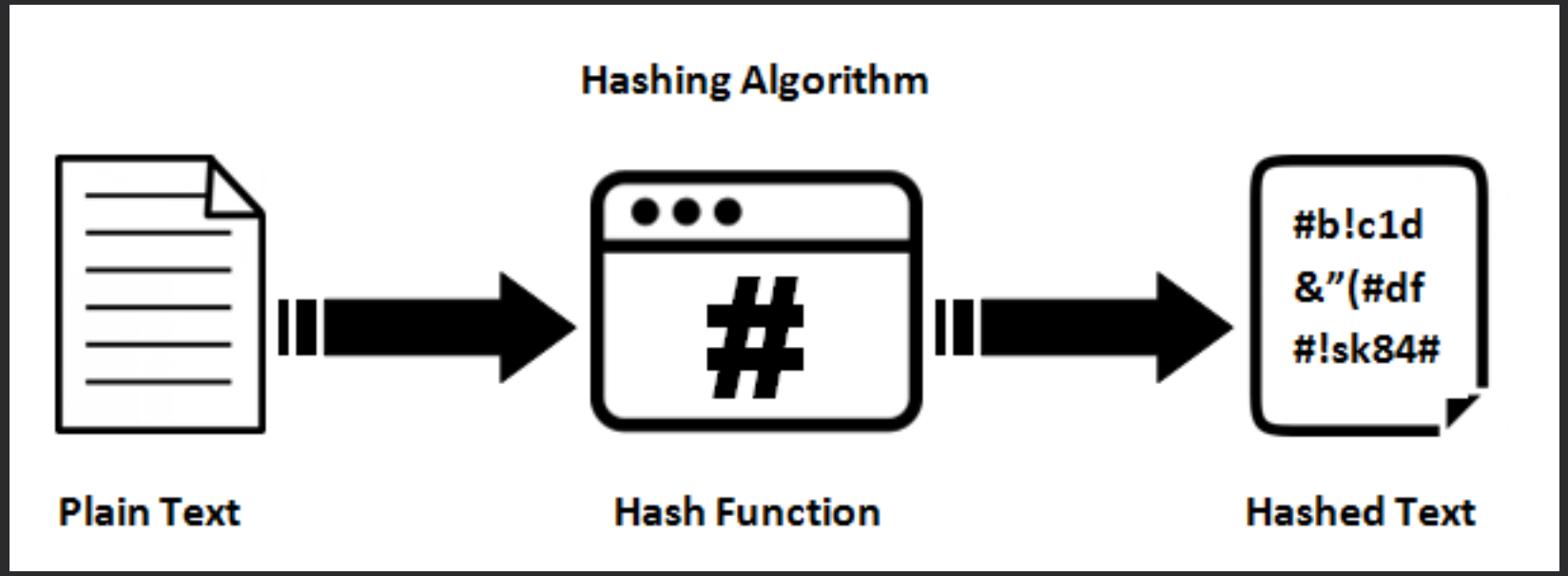
Posted by Satoshi Nakamoto on February 11, 2009 at 22:27

View Discussions

I've developed a new open source P2P e-cash system called Bitcoin. It's completely decentralized, with no central server or trusted parties, because everything is based on crypto proof instead of trust. Give it a try, or take a look at the screenshots and design paper:

Download Bitcoin v0.1 at http://www.bitcoin.org

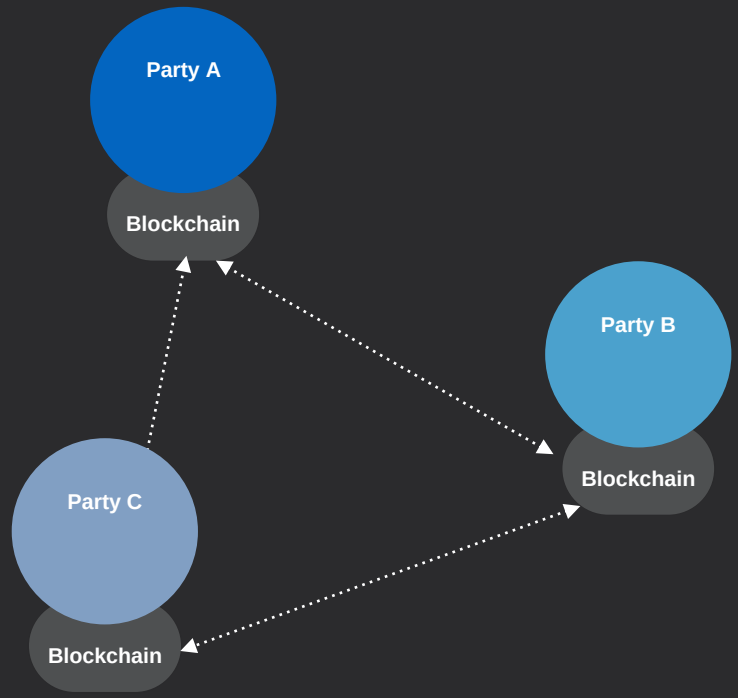
Hashing


Hashing Algorithm
#b!c1d
&”(#df
#!sk84#
Plain Text
Hash Function
Hashed Text

(Public) Blockchain Properties

Distributed

- Everything is Everywhere
- No Central Control
- Redundancy



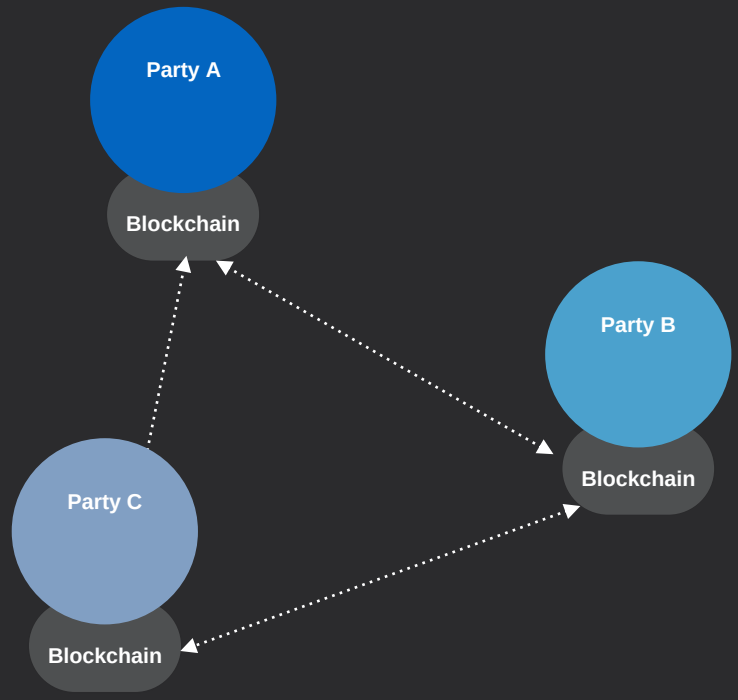
(Public) Blockchain Properties

Distributed

- Everything is Everywhere
- No Central Control
- Redundancy

Immutable

- Tamperproof
- Secure



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(Public) Blockchain Properties

Distributed

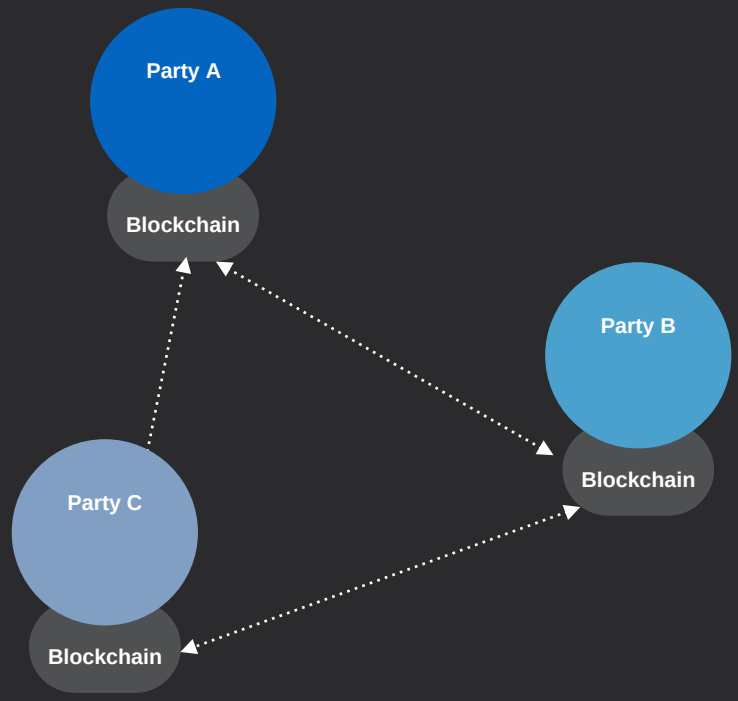
- Everything is Everywhere
- No Central Control
- Redundancy

Immutable

- Tamperproof
- Secure

Visible

- All transactions visible to all parties
- Pseudo-Anonymous
- Open Source



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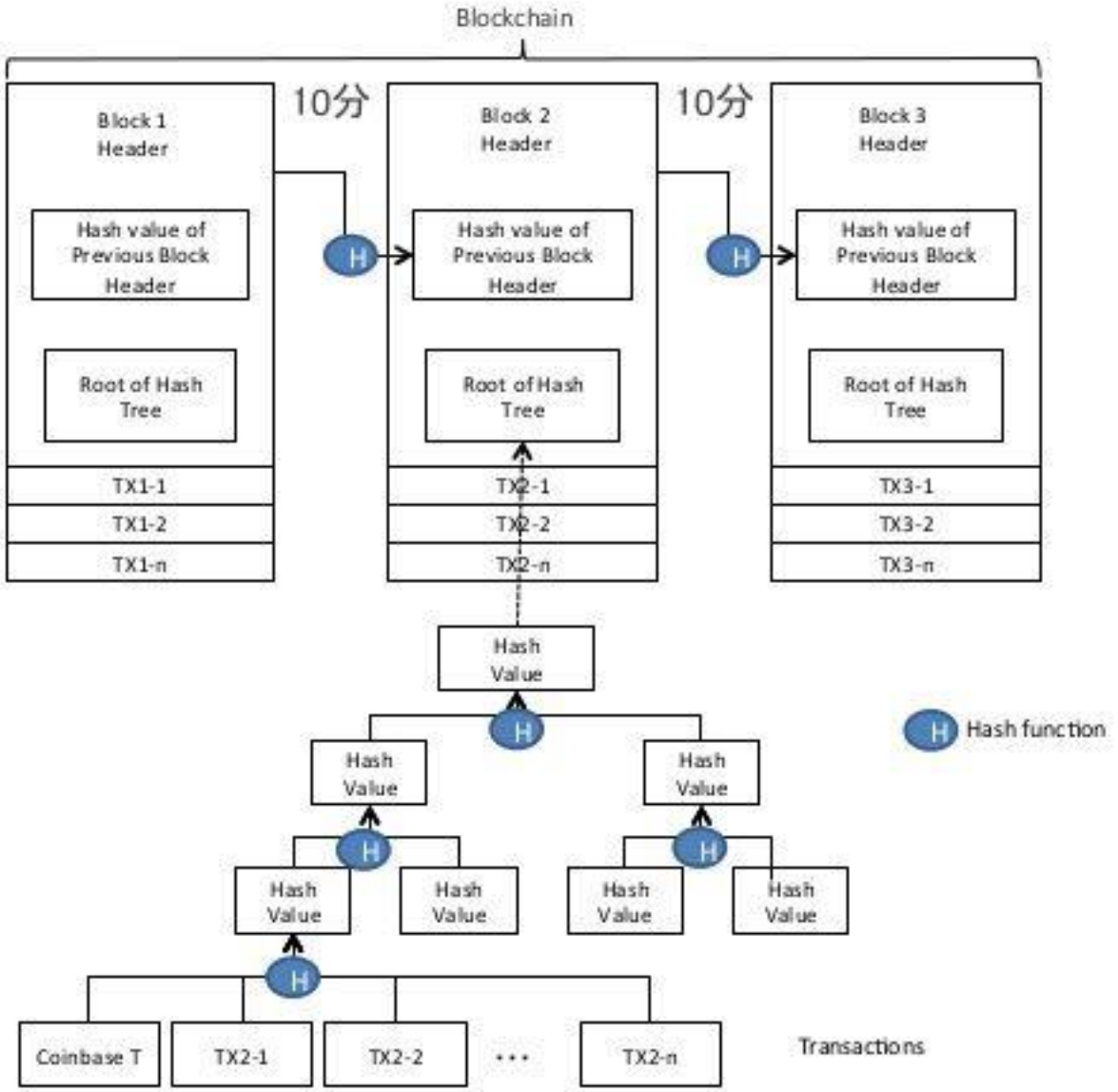
Structure of Blockchain

Connection of Blocks

Collection of Transactions



Smart Contracts

```
1  contract SimpleStorage {
2
3      uint storedData;
4
5      function setData(uint x) returns (uint retVal) {
6          storedData = x;
7          return storedData;
8      }
9
10     function getData() constant returns (uint retVal) {
11         if(storedData == 0x0) { return 500; }
12         return storedData;
13     }
14 }
15
```

Data / State

Permissions

Workflow

Token

Uber in 2018

Registration

Credit Rating

Payment

Location &
desire to hire

Registration

Credit Rating

Payment

Location &
availability for hire

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Post blockchain: Peer to peer taxi network

Government ID blockchain/ TFL blockchain

Query wallet/bank account

Smart Contract

Apps built with open APIs

What do you do on a blockchain?

Store digital records

Bob has a TFL license

Transfer ownership of digital assets

Alice pays Bob

Execute Smart Contracts

Bob gets paid when Alice's journey is complete

Public or Private?

Public Blockchains (Permissionless)

Private Blockchains (Permissioned)

corda

parity

HYPERLEDGER

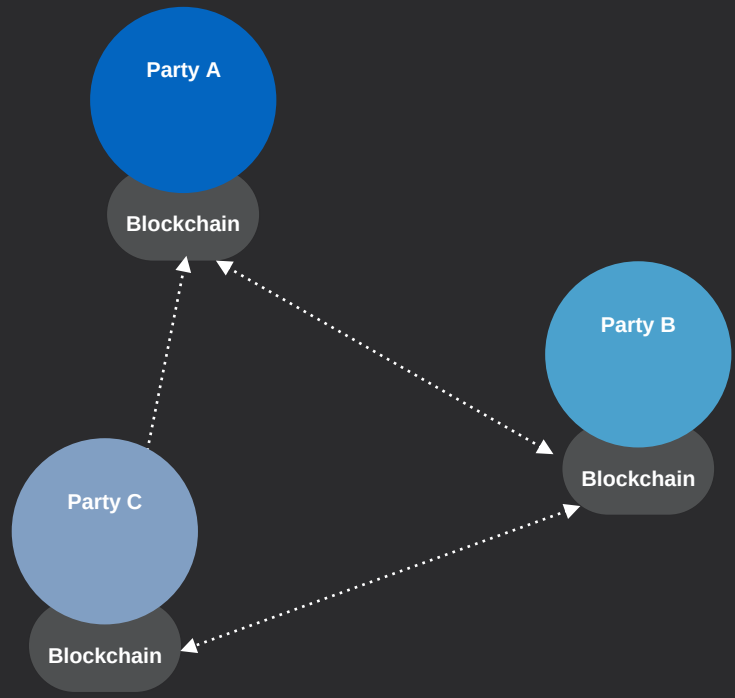
(Private) Blockchain Properties

Distributed

- Everything is Everywhere
- No Central Control?
- Redundancy

Immutable

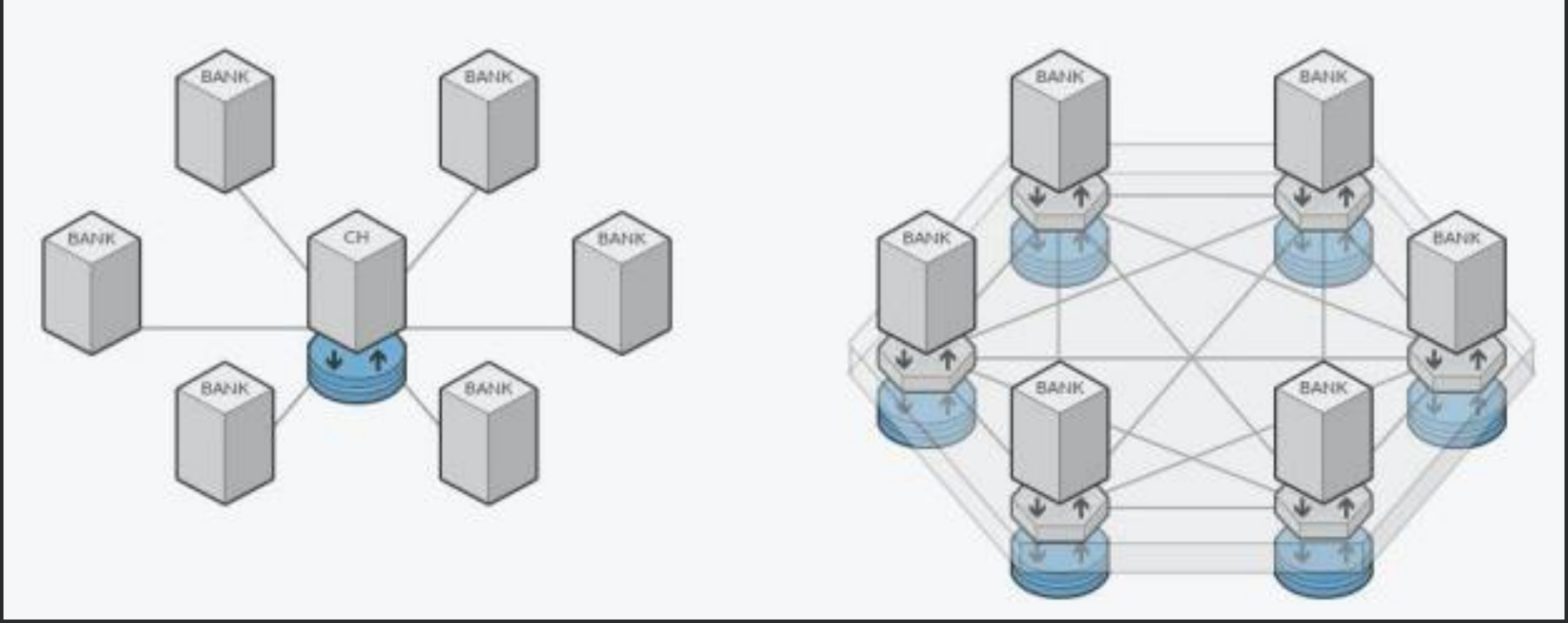
- Tamperproof
- Secure?



Visible?

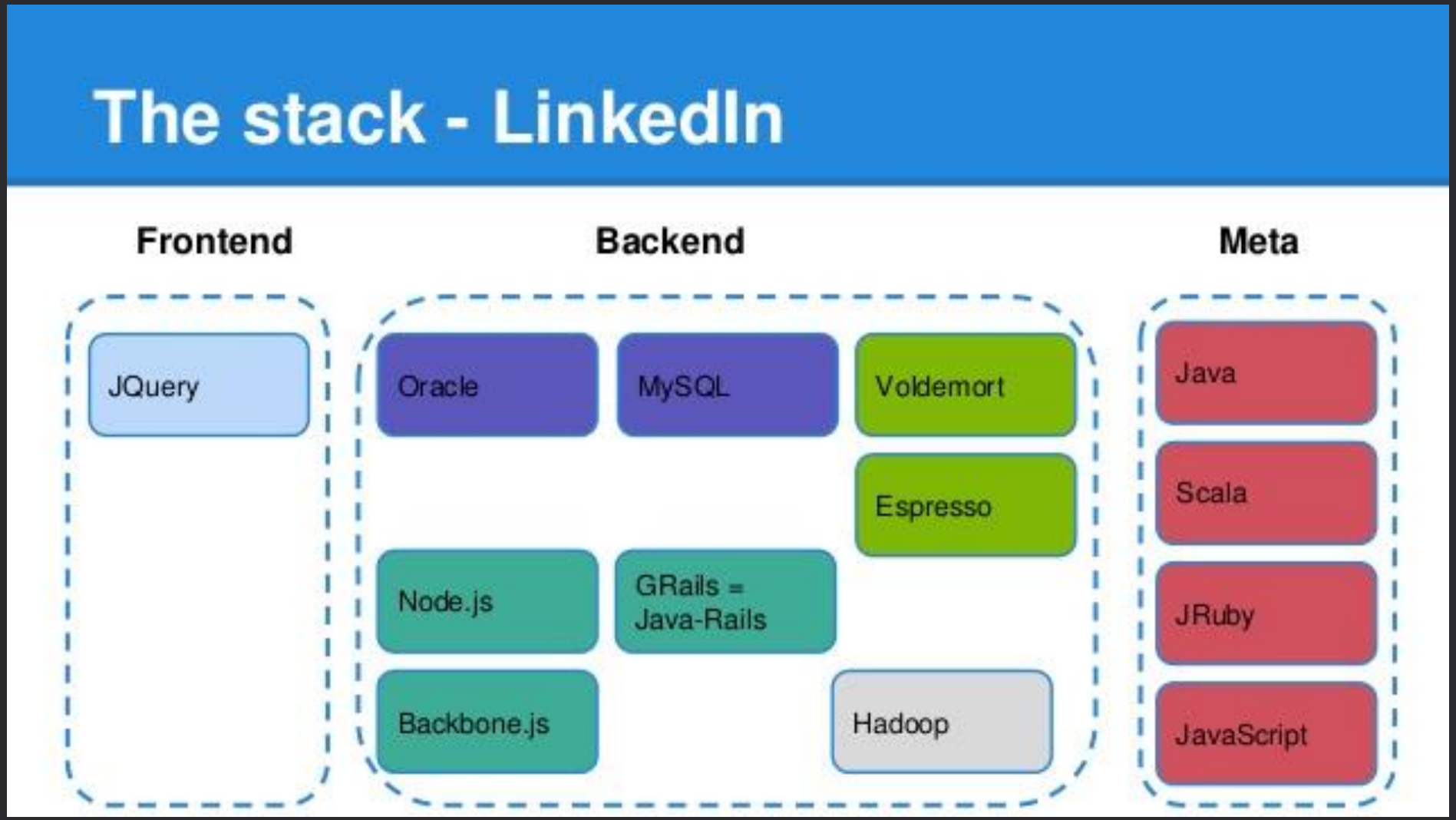
- Data permissioned between parties
- Known identities of participants (transaction anonymity possible)
- Closed Source

How do I re-engineer my business processes?



Decentralising centralised structures or doing something new?

Where does blockchain fit in my tech stack?



How do I re-engineer my business processes?

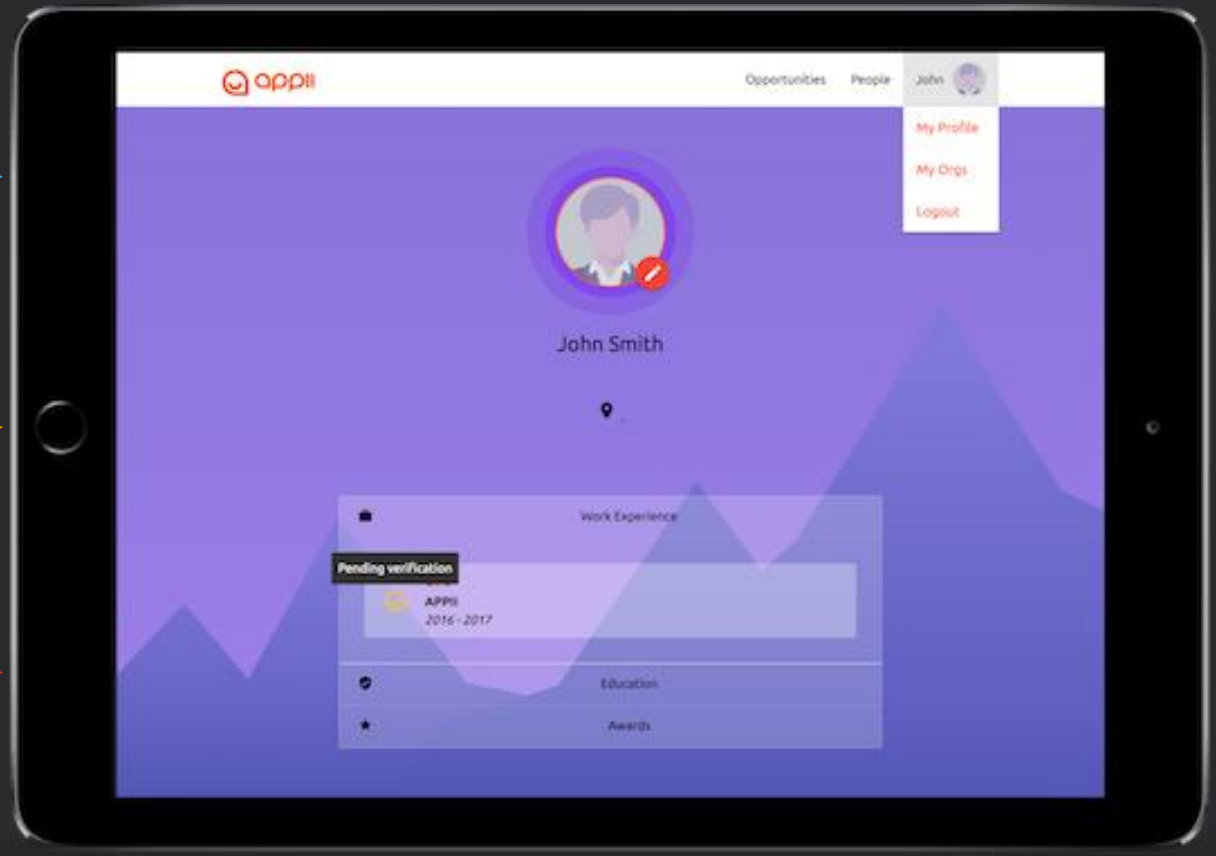
APPII:
Experience and Achievement Verification Platform

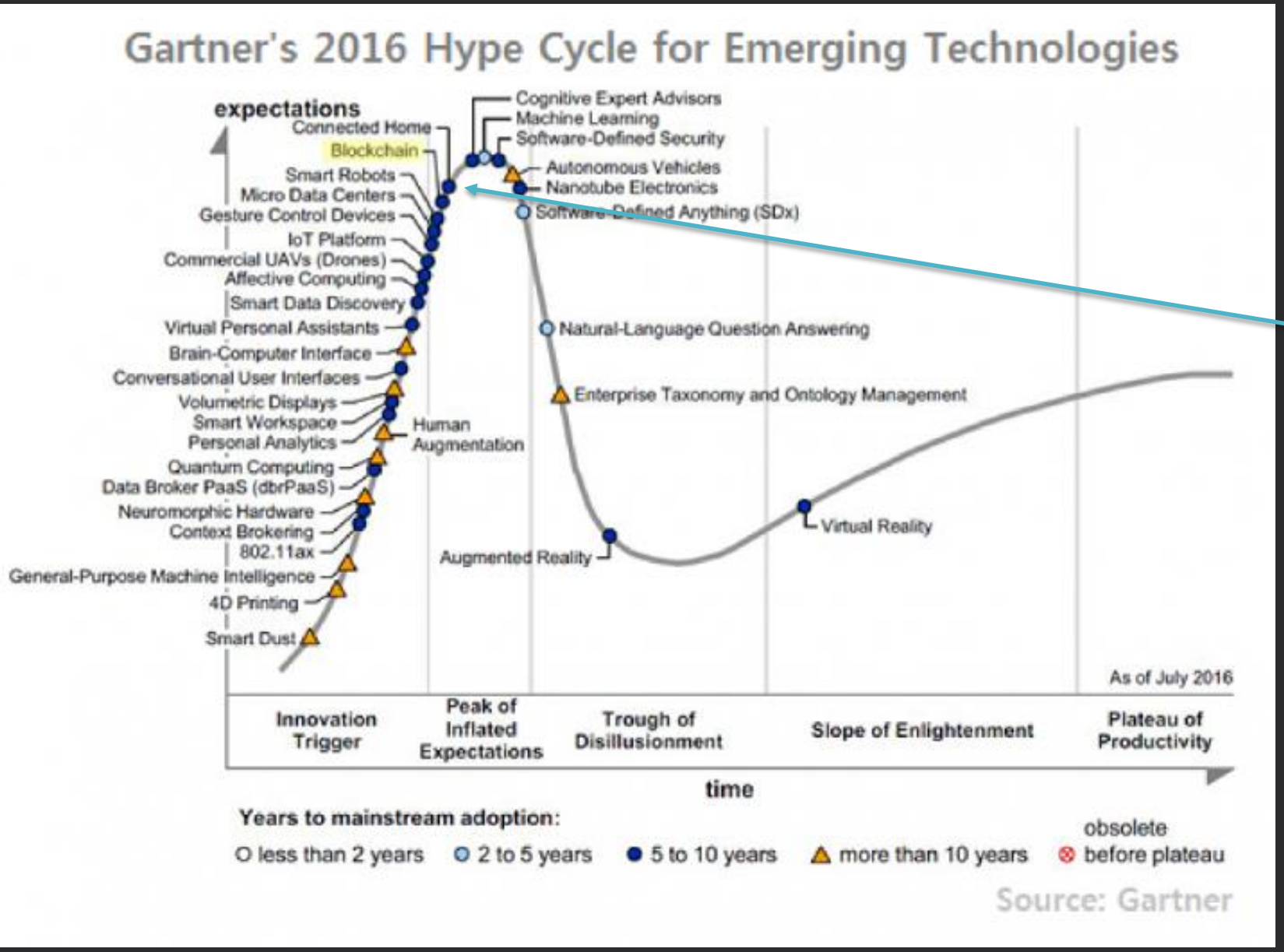
Immutable record of qualification attainment and work experience, verified and timestamped on the blockchain to reduce employment fraud.

Employer and institution verification of user experience and achievements

A tamper-proof record of events, controlled by the individual

Secure storage of personal information, where the user controls who has access

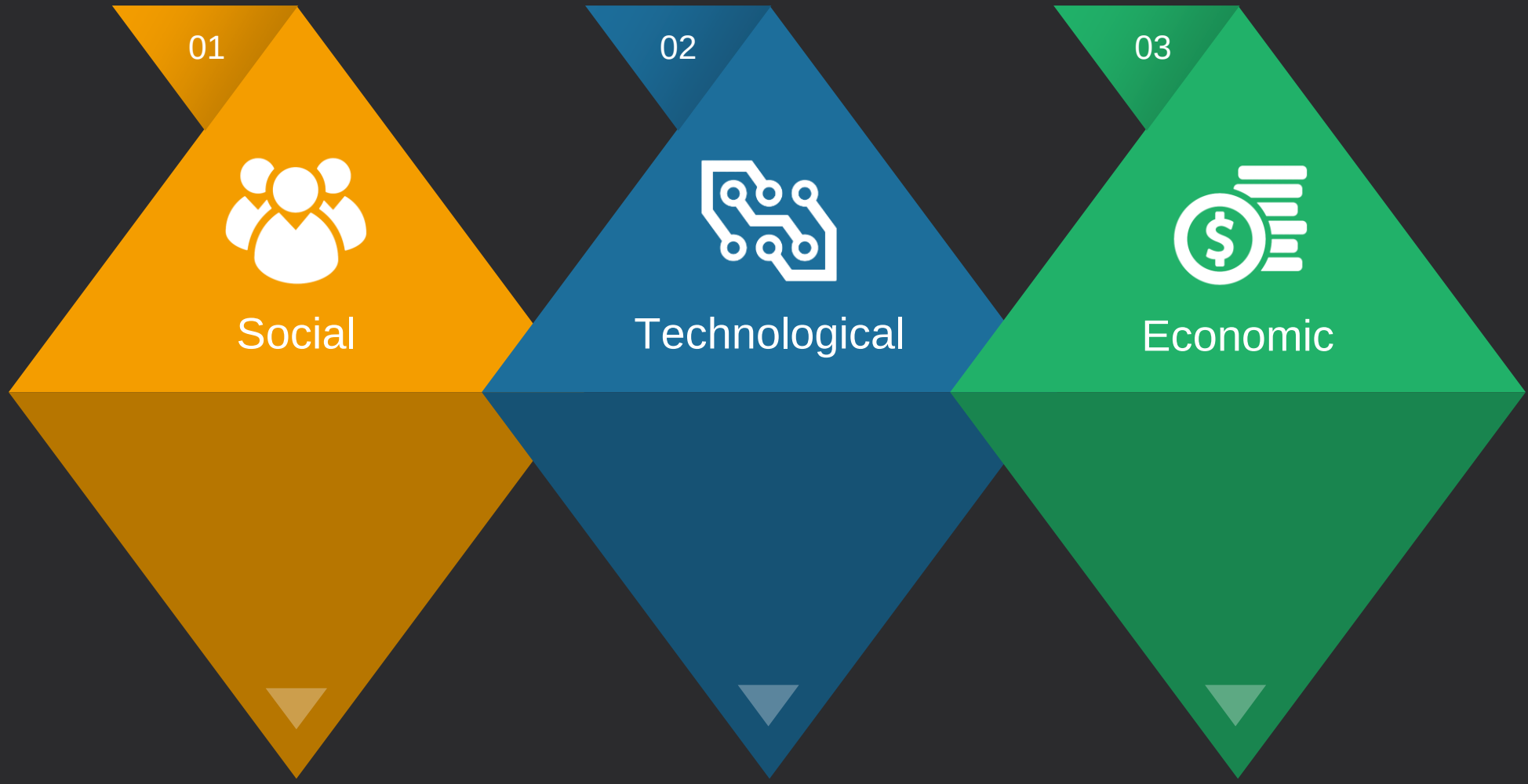




The peak of inflated expectations

A solution in search of a problem?

Market Forces Driving Change



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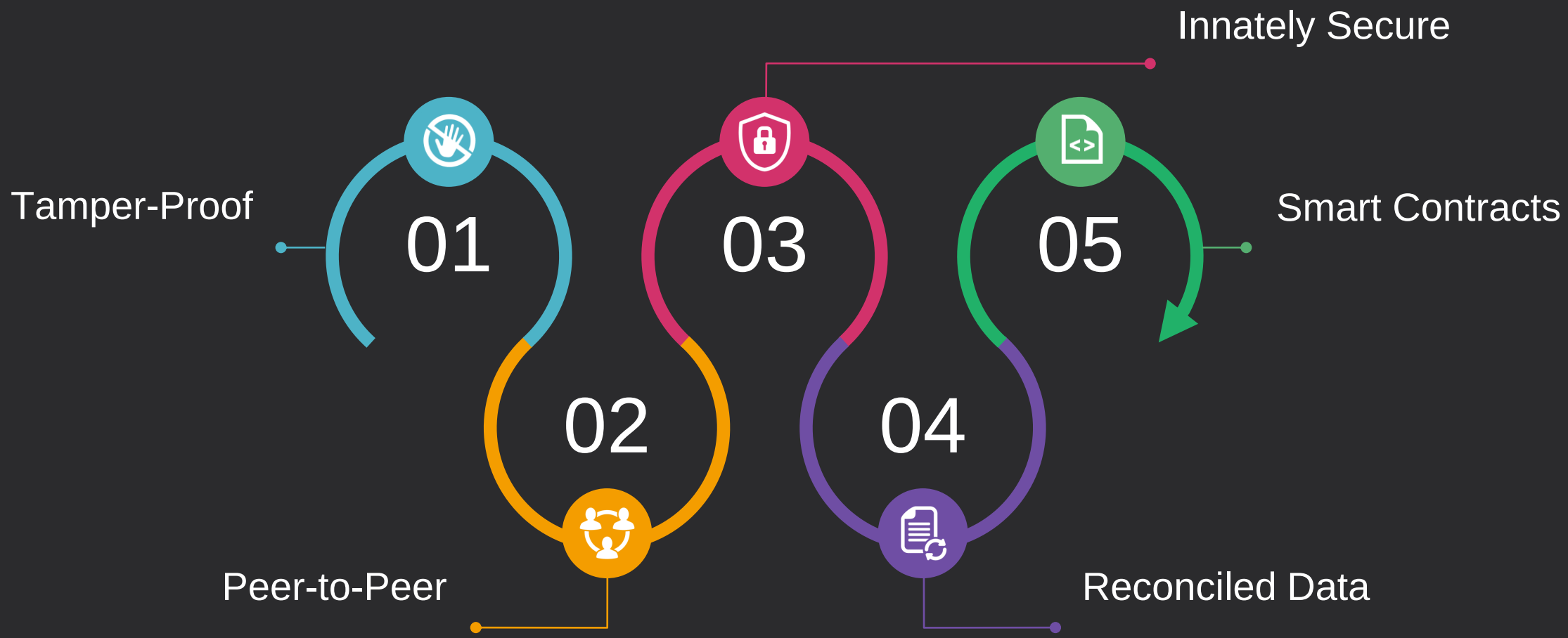
The Revolutionary Benefits Of Blockchain



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Should I Use Blockchain?

If your current business process includes several of the following,
then blockchain could add significant value

Sharing Data

Updating Data

Proof of Validity

Multiple Intermediaries

Time Sensitivity

Process Dependencies

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Creating value with blockchain applications

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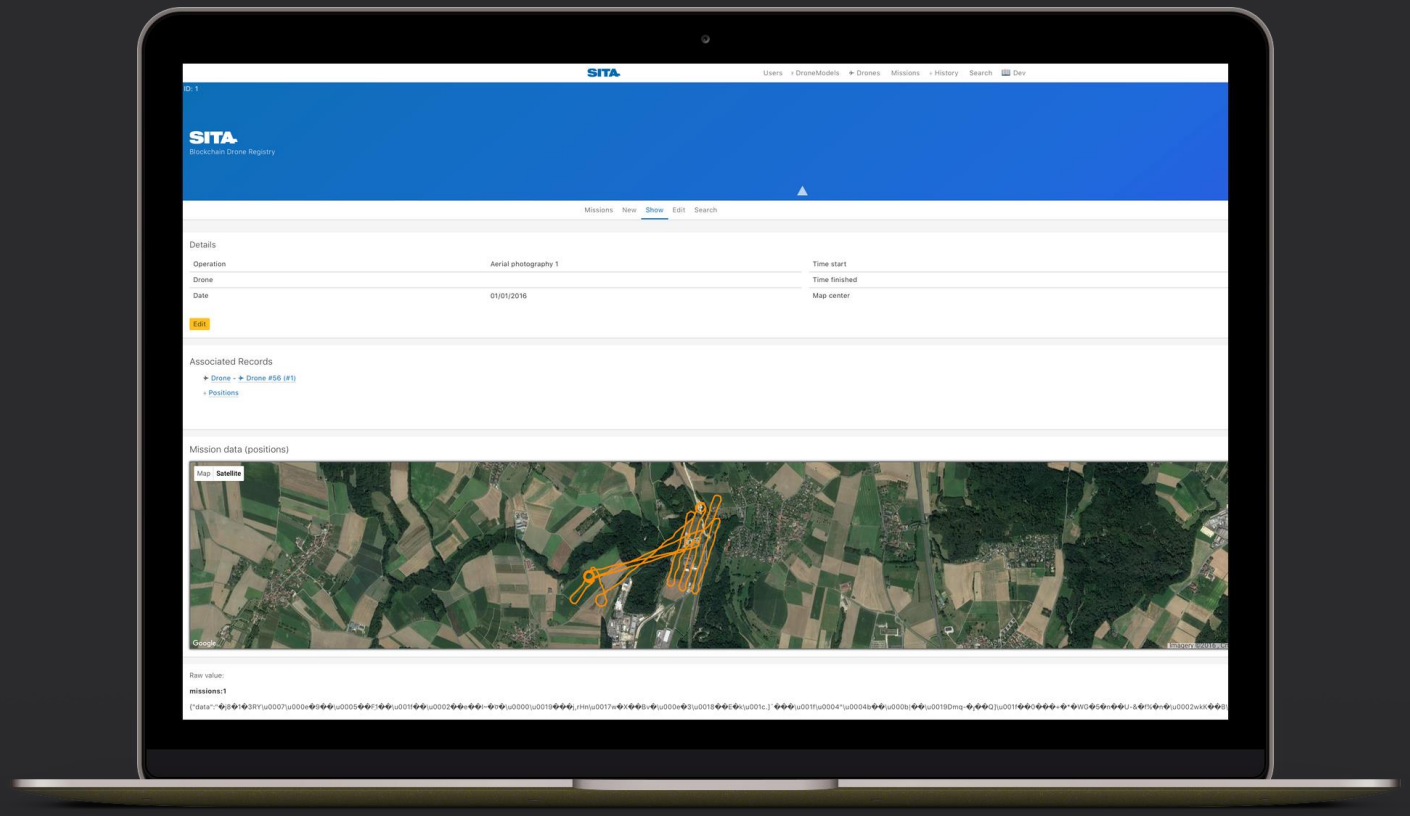
Client Project: Distributed Drone Registry

Connecting drone manufacturers, drone operators and drones onto a single platform, regulated by the Civil Aviation Authority.



01 Perfect Information
A single shared database of drone identities and flight data

02 Tiered Permissions
Data access restrictions depending on pre-defined user roles

03 Real-Time Regulation
Regulators have a real-time perspective of all drones in the sky

04 Global Connectivity
Linking drones with telecoms for real time geo-location tracking

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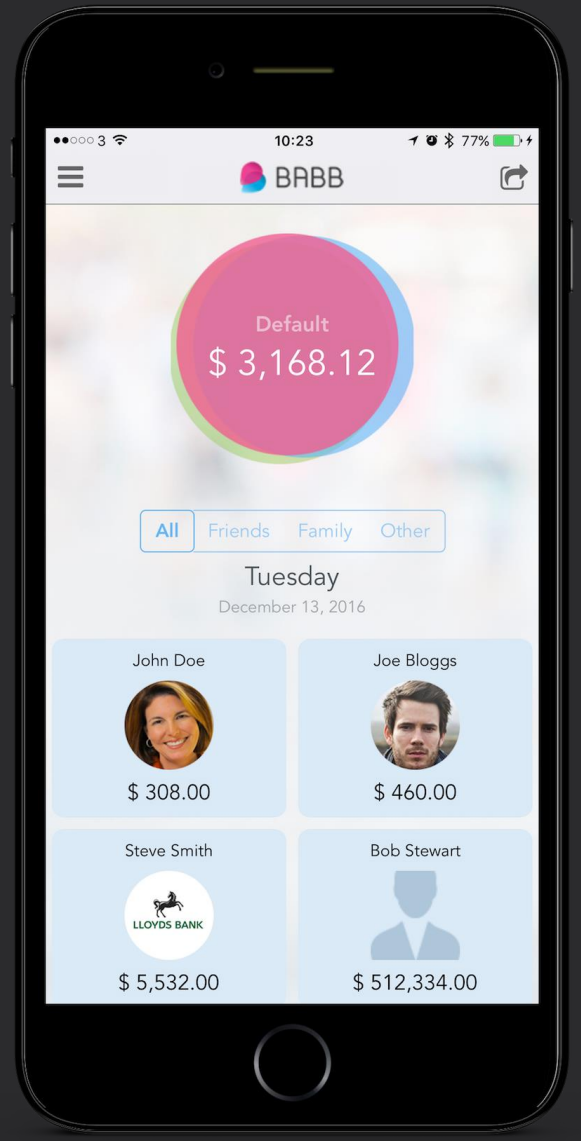

Client Project: Blockchain Based Social Bank

A bank built on the blockchain. Secure P2P transactions between service providers and customers, with new customers on-boarded using biometrics.

Biometric KYC

New customers are on-boarded using face and voice data

Blockchain Security

Customer data is encrypted and stored securely on the blockchain

Direct Transactions

P2P connections between users and service providers greatly reduce cost

A Digital Identity

Financial inclusion and a digital identity without documentation

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Client Project: E-Commerce Payments and Identity

Tokenised payment details cryptographically stored on the blockchain, built for secure e-commerce payments.

Super Secure
Card details are encrypted so only the user has access

Tokenised Transactions
Payment data never shared online

Biometric Verification
Payments verified using device finger scan

Seamless Integrations
with payment processors

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Final Thoughts

How many problems are there that it’s possible to solve with blockchain?

Is this comparable to the start of the World Wide Web? Look at creating protocols and standards as opposed to single applications.

The internet changed the model for B2C engagement. Blockchain might do the same for the B2B model.

Strategic thinking required.