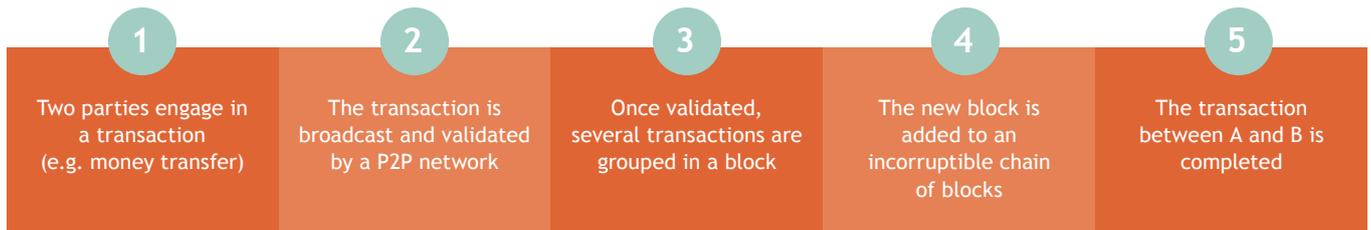


BLOCKCHAIN

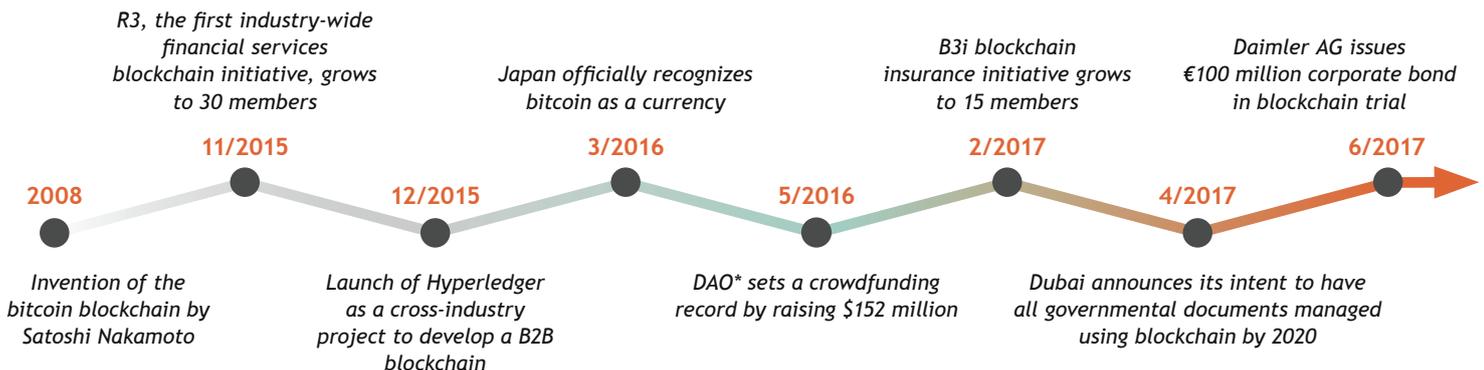
SPOTLIGHT

- Blockchain applications are booming and have the potential to not only change the financial sector.
- The reason for the success of Blockchains is that transactions can be processed **without intermediaries** like banks in a quick and tamper-proof way. The blockchain database transparently includes all information as to when and where a service has been provided or a payment has been made.
- This is achieved using a register that is stored on networked computers and constantly updated. It is only possible to access a specific record using a matching key.
- The virtual currency bitcoin is the first application that successfully implements the technology. With a venture capital investment volume exceeding \$1.8 billion, other industries are gearing up to leverage the technology.

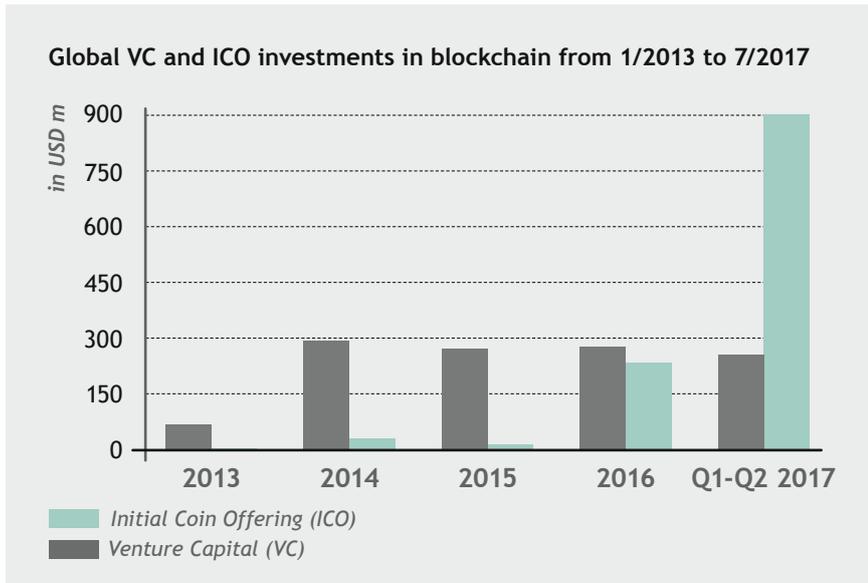
HOW BLOCKCHAIN WORKS



TIMELINE



Global investment in blockchain



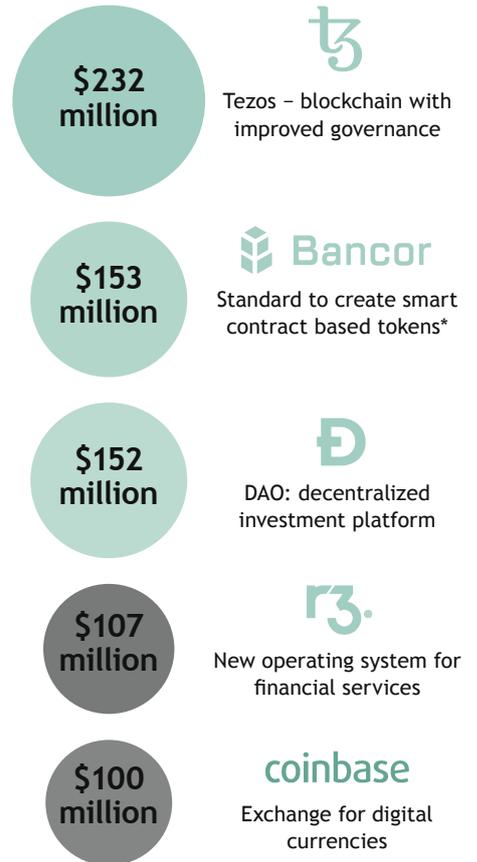
What is VC?

Financing companies/funds in exchange for equity or ownership stake

What is an ICO?

Similar to Initial Public Offerings (IPOs), Initial Coin Offerings (ICOs) offer cryptocurrency coins sold in exchange for legal tender

Top 5 investments in blockchain (VC and ICO) by volume



Blockchain in finance & insurance

Blockchain initiatives in finance and insurance promise to simplify and streamline contracting, clearing, claims settlement and record-keeping processes

Selected blockchain projects



> Ripple and BBVA teamed up to enable blockchain based cross-border transfer of money

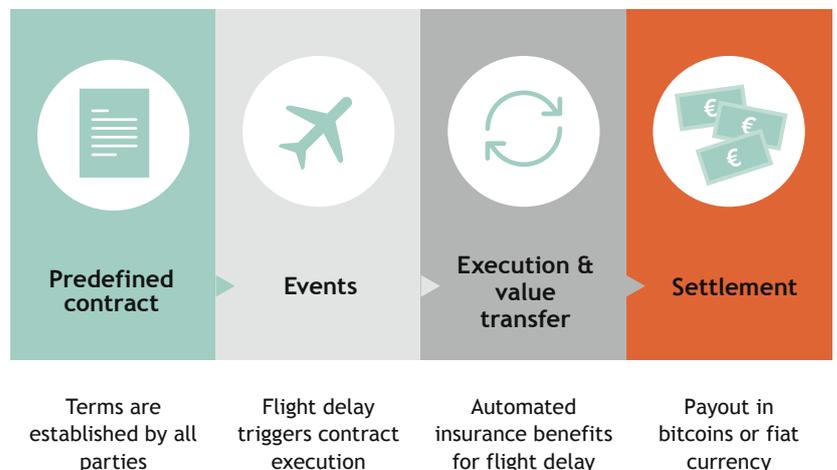


> American International Group and Standard Chartered piloted a smart contract based transfer of risk



> Bitpay enables users to securely accept, store and spend bitcoins

Example: Etherisc – Flight delay insurance



ETHERISC

Blockchain in automotive

Blockchain initiatives simplify tracking of automotive parts and verification of vehicle origin, while streamlining the supply chain and logistical processes. They also facilitate vehicle data exchange and create a platform for mobility services.

Selected blockchain projects



>Share & Charge allows drivers of electric cars to share charging stations

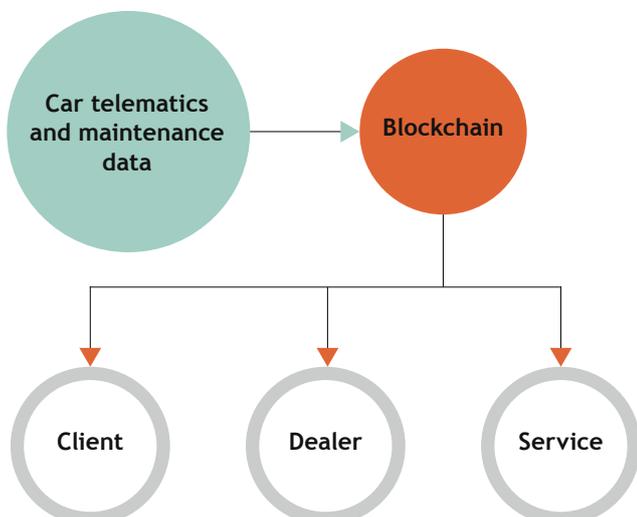


>Toyota develops a blockchain platform for exchanging data between autonomous vehicles (AVDEX)

DAIMLER LB≡BW

>Daimler issues €100 million in corporate bonds in a blockchain trial with LBBW

Example: Digital Carpass – Provides history of a car's life



Blockchain in media

Blockchain shortens the value chain in the media industry and revolutionises pricing, advertising, revenue sharing and royalty payments.

Selected blockchain projects



>The Blockchain Insights Platform enables marketers and networks to select ads based on anonymous customer data matching

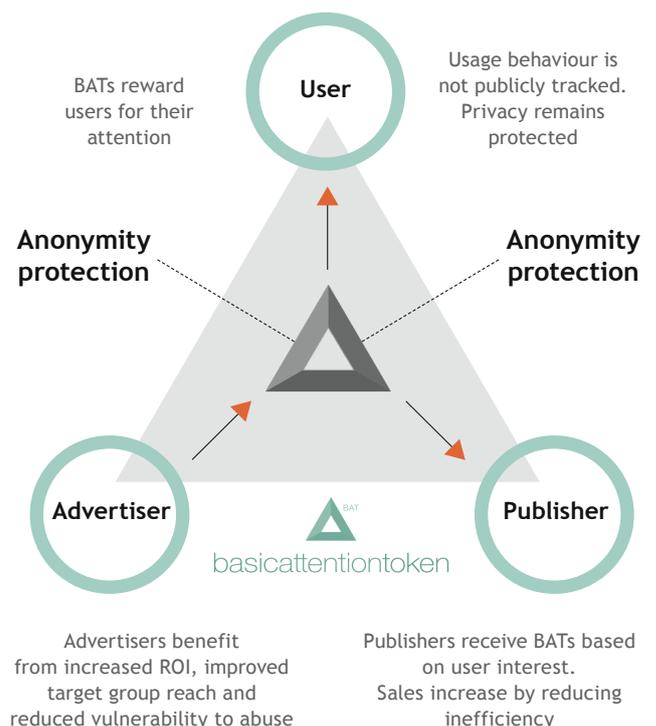


>MetaX gives sellers control over their content and allows publishers to track and verify ad impressions



>Allows artists to easily register their music on a blockchain and share it on their own terms

Example: Basic Attention Token (BAT) – improves efficiency of digital advertising



Blockchain: opportunities and challenges

OPPORTUNITIES

- > Enables digital transactions without intermediaries and therefore without additional fees
- > Allows for process automation based on smart contracts*
- > Computer-generated blockchain data is timely, complete and accurate
- > Increased compliance and auditability based on data transparency
- > The decentralized structure has no central point of failure and provides improved protection against hackers

CHALLENGES

- > Complex security mechanisms limit performance and can cause high energy consumption
- > Competing blockchain protocols complicate standardisation and interoperability
- > Further development of blockchain protocols managed by a distributed community
- > Data transparency and privacy of individual users are possibly contradictory
- > Problems securing user access and physical connection of objects to blockchain

THE NUNATAK GROUP & BLOCKCHAIN

Selected areas of experience:

- > The impact of blockchain on advertising and marketing
 - > Blockchain in finance and insurance – opportunities and risks
- > Blockchain as a basis for smart city applications
 - > Blockchain as a key enabling technology for the Internet of Things
- > Crypto-property and peer-transaction without intermediaries: is blockchain revolutionising property rights and transaction systems?



- > Collaboration with the Blockchain Research Institute, a renowned international organisation founded by Don and Alex Tapscott, to explore strategic opportunities for blockchain as an emerging platform for Industry 4.0

GLOSSARY: THE BASIC PRINCIPLES OF BLOCKCHAIN

- Altcoins:** *alternative cryptocurrencies to bitcoin* **Bitcoin:** *first currency application for blockchain* **DAO:** *decentralized autonomous organization as mesh of smart contracts* **Ethereum:** *most widespread and popular altcoin*
- Ledger:** *list of all transactions* **Miner:** *individuals or groups, who update the ledger* **Proof of work:** *mathematical algorithm for securing the network*
- Smart contract:** *automated contracts on blockchain* **Token:** *digital resource with intrinsic (e.g. bitcoin) or extrinsic value (e.g. property rights)*
- Wallet:** *software to access the blockchain network*

The Nunatak Group is a management consulting company with a focus on digital strategy. We support transformation processes in sectors ranging from media, financial services and consumer goods to conventional industry. Our core competencies include digital marketing and advertising, company building and M&A in the digital sector, as well as data analysis and strategy. At the Nunatak Academy, we develop digital coaching formats for top management.

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