

Blockchain – The Ultimate Disruption in the Financial System



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Editor: Pekka Neittaanmäki
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Pekka Neittaanmäki, Anthony Ogbechie

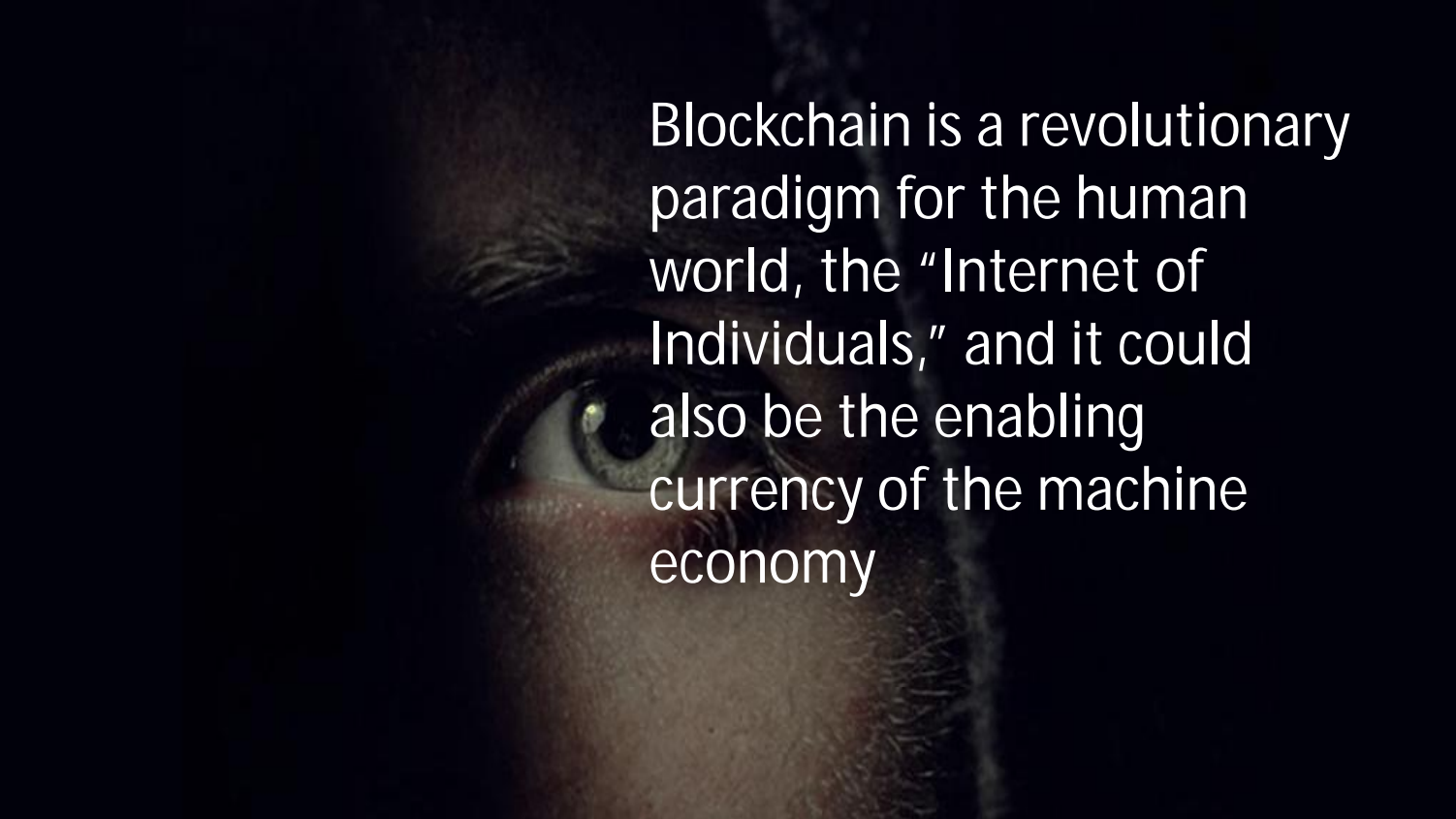
ABOUT THE PROJECT

This report was conducted under the Platform Value Now project funded by Finland's Strategic Research Council. Platform Value Now will focus on understanding the fast emerging platform ecosystems, their value creation dynamics and requirements of the supportive institutional environment. We will analyze ecosystems with systems tools and develop new methods for platform-centric ecosystems management. Data collection is based on active scanning of global technology and platform ecosystems and fast solution oriented case experiments with Finnish corporations and policy planners. The aim of the project is to operationalize the collected understanding into a Platform Profile framework that will enable more efficient method and tool development for ecosystem management.

A graphic featuring a glowing blue globe with a network of white lines and dots representing a distributed network. The text 'BLOCKCHAIN TECHNOLOGY' is written in white, bold, uppercase letters, framed by two horizontal green lines.

BLOCKCHAIN TECHNOLOGY


Over the last few years, a major IT innovation colloquially known as blockchain technology has emerged as a potentially disruptive technology. The core of this innovation is built around the concept of a distributed consensus ledger, where the ledger is kept and maintained on a distributed network of computers.

A close-up, high-contrast photograph of a human eye, looking directly at the viewer. The eye is the central focus, with the surrounding facial features in shadow.

Blockchain is a revolutionary paradigm for the human world, the “Internet of Individuals,” and it could also be the enabling currency of the machine economy



The blockchain is seen as the main technological innovation of Bitcoin, since it stands as proof of all the transactions on the network. A block is the 'current' part of a blockchain which records some or all of the recent transactions, and once completed goes into the blockchain as permanent database (Investopedia).



A blockchain is a data structure that makes it possible to create a digital ledger of transactions and share it among a distributed network of computers. It uses cryptography to allow each participant on the network to manipulate the ledger in a secure way without the need for a central authority (The Wall Street Journal).

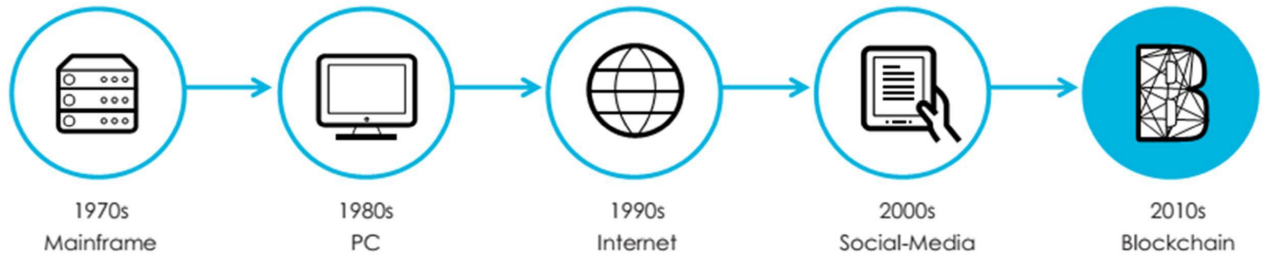
The potential benefits of the blockchain are more than just economic—they extend into political, humanitarian, social, and scientific domains—and the technological capacity of the blockchain is already being harnessed by specific groups to address real-world problems

- For example, to counter repressive political regimes, blockchain technology can be used to enact in a decentralized cloud functions that previously needed administration by jurisdictionally bound organizations

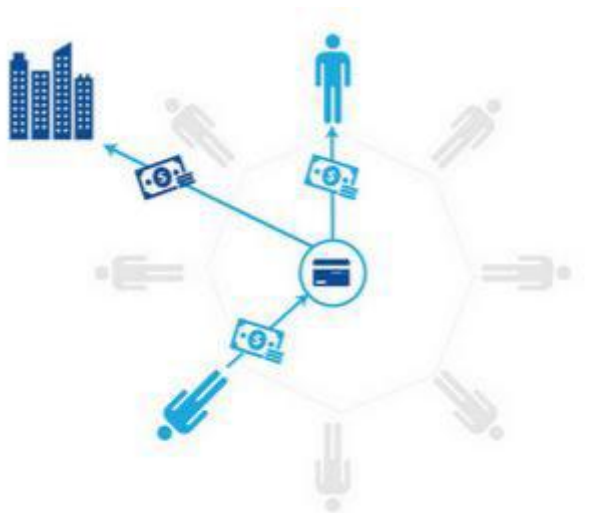


“Blockchain can bring the experience of a continuously connected, seamless, multi-device computing layer, with an overlay for payments —not just basic payments, but micropayments, decentralized exchange, token earning, digital asset invocation and transfer, and smart contract issuance and execution — as the economic layer that the Web never had.” - Melanie Swan

The new Disruptive Innovation



- A new paradigm for computing (Evry Whitepaper)



Current payment systems require third-party intermediaries that often charge high processing fees ...

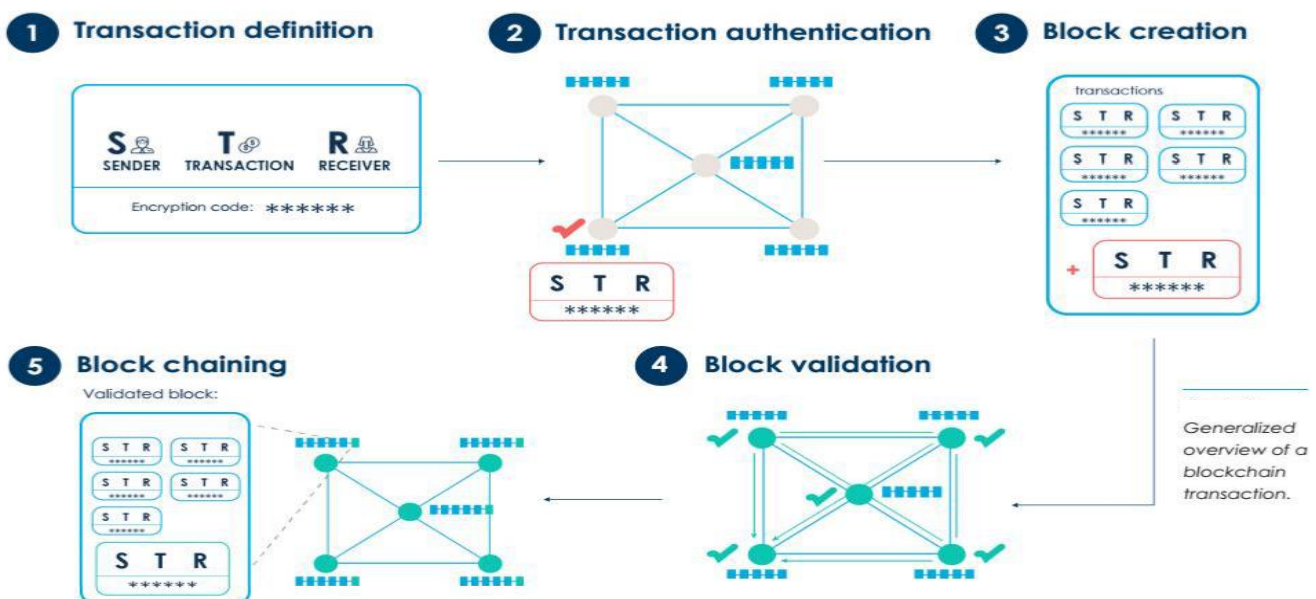


... but machine-to-machine payment using the Bitcoin protocol could allow for direct payment between individuals, as well as support micropayments.

Benefits of blockchain technology as specified by *Forbes* are:

- As a public ledger system, blockchain records and validate each and every transaction made, which makes it secure and reliable.
- All the transactions made are authorized by miners, which makes the transactions immutable and prevent it from the threat of hacking.
- Blockchain technology discards the need of any third-party or central authority for peer-to-peer transactions.
- Decentralization of the technology.

The Blockchain Process (Evry Whitepaper)



(Evry Whitepaper)

1

Transaction definition

The "Sender" creates a transaction and transmits it to the network. The transaction message includes details of the Receiver's public address, the value of the transaction, and a cryptographic digital signature that proves the authenticity of the transaction.

2

Transaction authentication

The nodes (computers/users) of the network receive the message and authenticate the validity of the message by decrypting the digital signature. The authenticated transaction is placed in a 'pool' of pending transactions.

3

Block creation

These pending transactions are put together in an updated version of the ledger, called a block, by one of the nodes in the network. At a specific time interval, the node broadcasts the block to the network for validation.

4

Block validation

The validator nodes of the network receive the proposed block and work to validate it through an iterative process which requires consensus from a majority of the network. Different blockchain networks use different validation techniques. Bitcoin's Block chain uses a technique called "proof-of-work", Ripple uses "Distributed Consensus", and Ethereum uses "proof-of-stake". The various techniques have different pros and cons. The common denominator is that they ensure that every transaction is valid, and make fraudulent transactions impossible.

5

Block chaining







If all transactions are validated, the new block is "chained" into the blockchain, and the new current state of the ledger is broadcast to the network. This whole process can be completed in 3-10 seconds.














blockchain use cases and initiatives taken by financial services industry

The interest of financial institutions on blockchain is quite evident considering that Santander Bank has identified 20 to 25 use cases for the technology. The bank also estimated that the usage of blockchain by banks can reduce the infrastructure cost by up to \$20 billion a year. Other banks such as UBS have set up a blockchain research lab in London, Goldman Sachs has invested in bitcoin startup Circle, and NASDAQ is also experimenting with the technology.

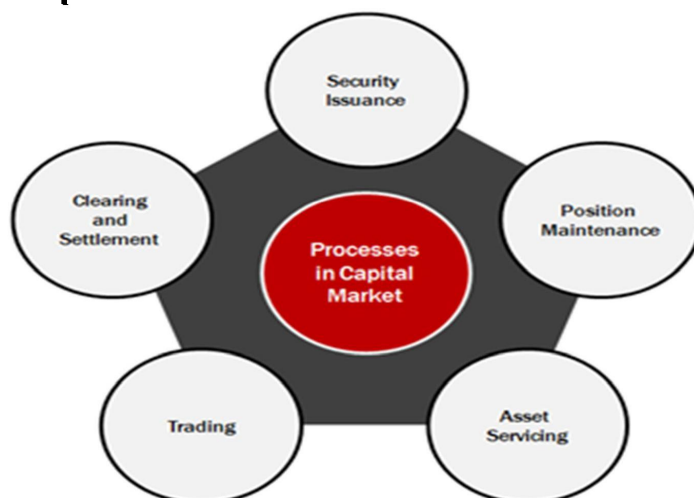


[Blockchain](#) technology allows everyone to hold and make transactions as strangers but in a completely transparent manner. There is no mediator in between two people making the transaction, and the entire process becomes easier and cheaper. This concept can be applied to the entire digital world, making any kind of exchange/transactions secure.

Financial Use Cases					
Currency Exchange & Remittance	P2P Transfers	Ride Sharing	Data Storage	Trading Platforms	Gaming
					
Coinbase (Wallet), BitPesa, Billion, Ripple, Stellar, Kraken, Fundrs.org, MeXBI, CryptoSigma	BTC Jam, Codiuz, BitBond, BitnPlay (Donation), DeBuNe (SME's B2B transactions)	La'zooz	Storj.io, Peernova	equityBits, Spritzle, Secure Assets, Coins-e, DXMarkets, MUNA, Kraken, BitShares	PlayCoin, Play(on DACx platform), Deckbound

Non-Financial Use Cases				
Digital Content/Documents, Storage & Delivery	Authentication & Authorization	Digital Identity	Marketplace	
				
BitProof, Blockcai, Ascribe, ArtPlus, Chainy.Link, Stampery, Blocktech (Alexandria), Bisantyum, Blockparti, The Rudimental, BlockCDN	The Real McCoy, Degree of Trust, Everpass, BlockVerify,	Sho Card, Uniquid, Oname, Trustatom	Providing premium rights & brand based coins: MyPowers	
Smart Contracts	Real Estate	Diamonds	Gold & Silver	Reviews/Endorsement
				
Otonomos, Mirror, Symbiont, New system Technologies	Factom	Everledger	BitShares, Real Asset Co., DigitalTangible (Serica), Bit Reserve	TRST.im, Asimov (recruitment services), The World Table
Blockchain in IoT	App Development	Network Infrastructure & APIs		Other
				
Filament, Chimera-inc.io, ken Code – ePlug	Proof of ownership for modules in app development: Assembly	Ethereum, Eris, Codiuz, NXT, Namecoin, Colored Coins, Hello Block, Counterparty, Mastercoin, Corona, Chromaway, BlockCypher		<u>Prediction platform:</u> Augur <u>Election Voting:</u> Follow My Vote <u>Patient Records management:</u> BitHealth

How Blockchain Technology Will Play an Imperative Role in Capital Markets



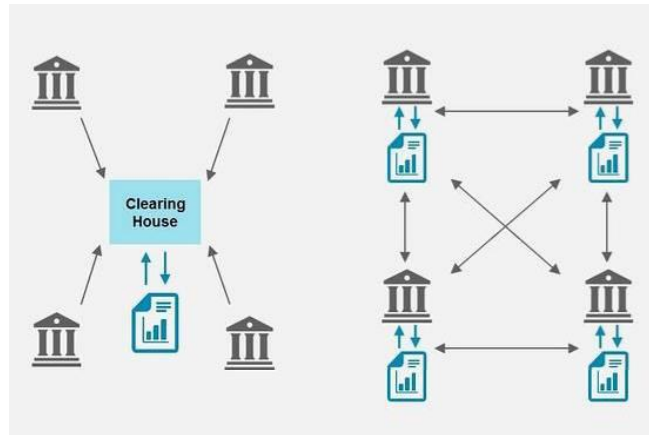
- Blockchain technology has been acknowledged as one of the most disruptive innovations since the advent of the Internet. The financial industry has also started looking to leverage it to store and transfer its value to other financial instruments. Capital Markets is one such industry in the financial space where industry experts are optimistic about the use of blockchain technology.

Want To Gain More Insights on the Blockchain Phenomena?

THE ARTICLES IN THE REST OF THIS PRESENTATION WILL BE RELEVANT

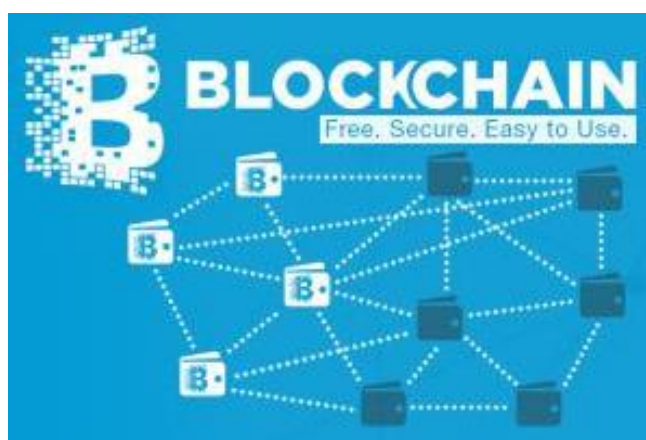


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Wait, What Is Blockchain?
The 30-second definition by [Robert Hackett](#)



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The Impact of the Blockchain Goes Beyond Financial Services (Harvard Business Review)



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Blockchain: The next big thing (The Economist)



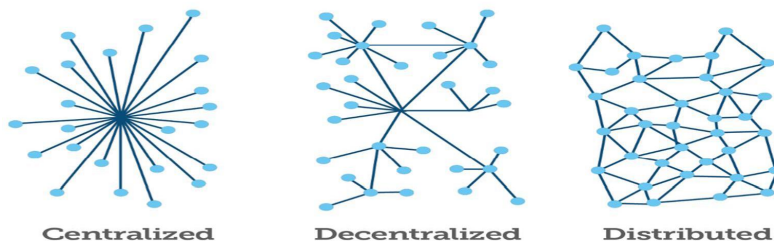
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Goldman Sachs: Blockchain Tech Could Save Capital Markets \$6 Billion a Year



- <http://www.coindesk.com/goldman-sachs-blockchain-tech-save-capital-markets-12-billion/>

How blockchain tech could change the way we do business



<http://www.bbc.com/news/business-35370304>

Blockchain Technology Explained

Definitions and Explanations to Understand Blockchain Technologies



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Blockchain is useful for a lot more than just Bitcoin



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What's the Blockchain, and Why Does Bitcoin Depend On It?



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What You Need to Know About Blockchain Technology(The Huffington Post).



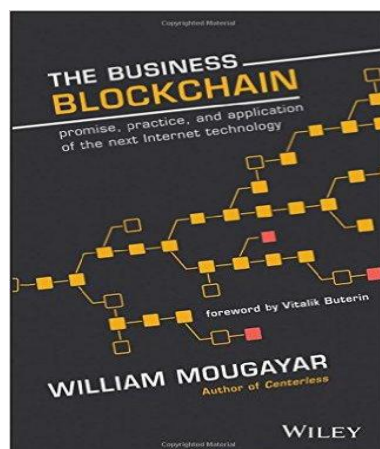
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How Blockchain Technology Could Change The World (Forbes).



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