

## Release X:

# Financial Industry: The Blockchain

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### Quote:

“So, this [Blockchain technology] permits us to imagine a very changed financial system. Infrastructure backing that system, where costs and risks and inefficiencies are drastically reduced, and where transactions can be incorruptibly recorded in a cryptographically secure manner, shared by numerous parties, constantly reconciled and in sync by design, without the need for the costs of constant efforts to reconcile and to explain differences in that information. That is a hugely powerful concept for institutions that are dealing in financial information and transaction record-keeping.”

Blythe Masters, CEO of Digital Asset Holdings

### [ALT Quote]

“Blockchain is a bit like gluten. Everyone is talking about it but no one knows what it is in great detail.”

Tim Swanson, Head of Research at R3CEV

### [ALT Quote]

“You should be taking this technology as seriously as you should have been taking the development of the Internet in the early 1990s. It’s analogous to e-mail for money.”

Blythe Masters, CEO of Digital Asset Holdings

### [ALT Quote]

“...Beyond payments systems, distributed ledger technologies [blockchain technologies] have implications for a wide range of markets and financial market infrastructures as a fast, accurate and secure record keeping system, including for stock exchanges, central securities depositories, securities settlement systems or trade repositories.”

International Monetary Fund White Paper “Virtual Currencies and Beyond: Initial Considerations.” January 2016.

### [ALT Quote]

“...Now, everyone sees this as a critical topic. I know of more than 100 firms that are trying to make the blockchain more scalable, more secure, to make the one that everybody will use. There’s a race out there.”

Oliver Bussmann, Chief Information Officer of UBS

### Context:

The blockchain is the digital ledger software first created to power the cryptocurrency Bitcoin. It distributes a public ledger across a vast, decentralized network of computers, and uses cryptography to verify and record each bitcoin transaction, thereby securely updating and maintaining the integrity of the ledger. Anyone in the world can pay anyone else in the world directly without having to trust each other or any central authority. No separate clearing or settlement party is required. The recorded trade is its own settlement and the ledger itself is cumulative proof of all of the transactions ever recorded on the network.

Right now, blockchain appears to have surpassed Bitcoin in capturing the imagination of fintech start-ups, financial institutions, regulators, and governments, alike. Many see it as a paradigm-shifting technology, much like the Internet, that will change the way commerce is conducted. Although virtual currencies are still deemed a crucial part of transforming the global economy, blockchain or distributed ledger technology holds promise for the creation of truly secure, bona fide online transaction records, with myriad applications and implications for industries well beyond the financial industry.

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## Learning Media 1: [How Blockchain could change finance](#)

**Description:** Watch this short comprehensive video explaining the impact of Blockchain technology on world finance.

## Learning Media 2: [Blockchain technology](#)

**Description:** Watch this brief video about blockchain technology from the U.K. Government Office for Science.

### Key Points:

1. Blockchain technology is a decentralized, distributed ledger that is shared across a peer-to-peer network of computers. Coders, participants in the network are known as Bitcoin miners. Approximately every ten minutes, they receive their own identical copy of a master digital ledger with a new sequential transaction block added to it for their validation. It contains all previously unrecorded transactions made since the previous transaction block was issued. They race each other to be the first to solve a cryptographic or "proof of work" puzzle – a complex mathematical equation that requires vast computational effort. Upon solving the puzzle, bitcoin payment transactions are then recorded as validated entry blocks on the digital ledger. As a reward for their efforts and for solving the equation, the miners are paid in bitcoins, as incentive to process more transactions.
2. Blockchain or distributed ledger technologies are challenging the status quo of established network security models. Current models employ perimeter security platforms to lock users out of networks. The data contained within these networks is not encrypted. Instead, an encryption key is issued to users with permission to access the network. As a result, these networks can be vulnerable to security breaches. Yet, blockchain technology works in the exact opposite way. The data within the network is encrypted and the system lets as many people into the network as possible. The more miners there are validating the ledger, the more challenging it is to break or cheat the system.
3. Distributed ledger technologies have the potential of streamlining all manner of financial transactions. It is estimated that the blockchain could save lenders up to \$20 billion annually in settlement, regulatory and cross-border payment costs. Blockchain technology could create operational efficiencies like eliminating middlemen and shortening the time required in settling transactions, thereby reducing risk and freeing up capital.
4. Currently, financial institutions and fintech startups are racing to file blockchain-related patents in the hope of reserving rights to intellectual property once commercial applications become more clearly defined. At the same time, these parties are establishing large consortiums, such as the U.S.-based R3CEV, to collaborate on a distributed ledger technology framework that can deeply transform the global financial market ecosystem. Regulators and policymakers will aim to stay in lock step with these innovators to strike a balance between regulating for risk and fostering innovation.
5. The beauty of blockchain technology is that it has many potential applications beyond Bitcoin. This open, cryptographic, decentralized ledger can be applied to any area that requires fast, accurate, and secure record keeping in the financial world or beyond. Potential applications include record land titles, payment systems, clearing and settlement solutions, transactions in fiat currencies, virtual wallets, tracking airline miles, diamond certification, organic food or fair trade certification, secure and discreet medical records management, secure electronic voting ballots, and undoubtedly much more.

### More Resources:

- Video: [How Bitcoin and its Blockchain work](#)
  - Video: [Blockchain: from Bitcoin to back office | FT Markets](#)
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- Video: [Blockchain: The Financial Challenge of our Time \(Blythe Masters\) FULL SESSION](#)
- Video: [Bitcoin might fail but the blockchain is here to stay - Full WIRED Retail talk](#)
- Video: [Bitcoin: The security of transaction block chains](#)
- Infographic: [Blockchain Breakdown](#)
- Infographic: [The Disruption of Blockchain on the Financial Services Industry](#)
- Article: [Bloomberg Business: Blythe Masters Tells Banks the Blockchain Changes Everything](#)
- Article: [The Economist: Blockchain The Next Big Thing](#)
- Report: [IMF Staff Discussion Note - Virtual Currencies and Beyond: Initial Considerations](#)
- Report: [Deloitte: Blockchain Disrupting the Financial Services Industry?](#)
- Report: [Government Office for Science: Distributed Ledger Technology: beyond block chain](#)

## Learning Media 1:

< <https://www.youtube.com/watch?v=sYduOfRLHq0> >

Context & relevant details:

This short video by Financial News highlights the key features of blockchain technology outlining its potential pros and cons for the global financial industry.

## Learning Media 2:

< <https://www.youtube.com/watch?v=4sm5LNqL5j0&feature=youtu.be> >

Context & relevant details:

This U.K. Government Office for Science video highlights the broader uses of blockchain or distributed ledger technology.

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