



# BLOCKCHAIN AND PAYMENT SERVICES



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## Blockchain and Payment Services



### Current challenges in payment infrastructure

The current payment infrastructure is mostly based on messages and relies on exchange of files between multiple parties. A typical cross-border non-euro payment lifecycle involves several steps and parties to process the payments, which can take days to complete.<sup>1</sup> Due to this delay, a company initiating a payment is required to monitor its bank account or bank account statement to know exactly when the payment has cleared. Leading companies in payments industry are finding new delivery approaches for instant payment processing that incorporate real-time fraud prevention methods.<sup>2</sup> The distributed ledger makes it possible to connect all the parties in a financial trade in real time for faster processing of a payment – all while maintaining an audit trail. As such, it is virtually impossible to change or control the data, since processing is distributed over the network. This is vital in preventing fraud or a security breach.



### Current initiatives

Currently most of the large companies in financial transaction processes have started initiatives to discover this technology and evaluate its application in the payments area. A prominent example includes the initiative taken by SWIFT.<sup>3</sup> This global payment innovation initiative, launched in January 2017, explores whether blockchain technology can be used by banks to improve the reconciliation of their nostro databases in real time.<sup>4</sup> Twenty-two banks around the world have joined SWIFT in this initiative. Citi Bank has also announced a similar partnership with NASDAQ to explore blockchain technology for payments.<sup>5</sup> A number of companies and NGOs are also exploring private blockchain use for settlement of internal payments to reduce the settlement delay.



One of the main selling points offered by blockchain technology is the security it provides to the transactions that take place in its driven platforms.<sup>6</sup> Another advantage of blockchain is the transparency of its transactions. Blockchain technology allows all the transactions and balances to be seen by all users on the network, making it virtually impossible to be manipulated or tampered with. A decentralised protocol is the core of the blockchain and is one of its biggest advantages over today's centralised alternatives.

### Conclusion

<sup>1</sup> <https://www.europeanpaymentscouncil.eu/news-insights/insight/blockchain-applications-payments>

<sup>2</sup> <https://www.ibm.com/blogs/blockchain/2017/04/platform-future-blockchain-payments-2017/>

<sup>3</sup> <https://www.europeanpaymentscouncil.eu/news-insights/insight/blockchain-applications-payments>

<sup>4</sup> <https://www.swift.com/news-events/press-releases/swift-explores-blockchain-as-part-of-its-global-payments-innovation-initiative>

<sup>5</sup> <http://www.nasdaq.com/article/nasdaq-and-citi-announce-pioneering-blockchain-and-global-banking-integration-cm792544>

<sup>6</sup> [https://thenextweb.com/contributors/2017/09/07/blockchain-vs-banks/#.tnw\\_3JIOhL2J](https://thenextweb.com/contributors/2017/09/07/blockchain-vs-banks/#.tnw_3JIOhL2J)



## Resilience

As blockchain consists of a distributed architecture by design, it allows the network of banks to be operated by all permissioned nodes in the ecosystem. Thus, all important members of the payment ecosystem such as banks and other financial institutions can effectively become the participating nodes in the blockchain network.<sup>8</sup> If an unfortunate event such as a cyber-attack affects the ecosystem, and some nodes of the network are unavailable, the consensus algorithms in blockchain ensure that a transaction can be approved by the remaining nodes in the network.<sup>9</sup>

## Efficiency



Most banking processes are linear and hierarchical in nature. These processes are similar to the assembly line of the manufacturing industry such as maker-checker processes. The maker checker-approver process helps banks in gaining control and puts the emphasis on ownership of decisions.<sup>10</sup>

Blockchain technology can help in improving the speed of these processes by reducing decision-making time across the organisations. Thus, blockchain technology has the potential to address several limitations of the current banking processes by streamlining, simplifying, modernising, and enhancing the traditional silo-design of banks.

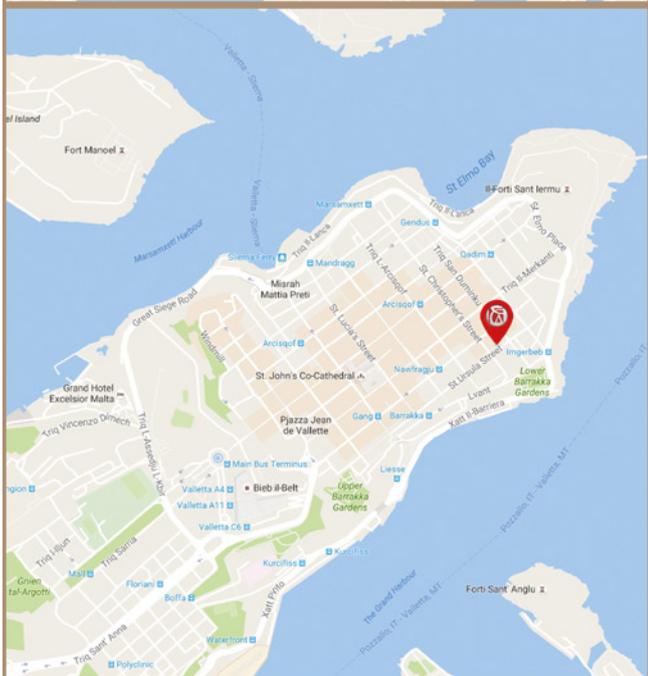
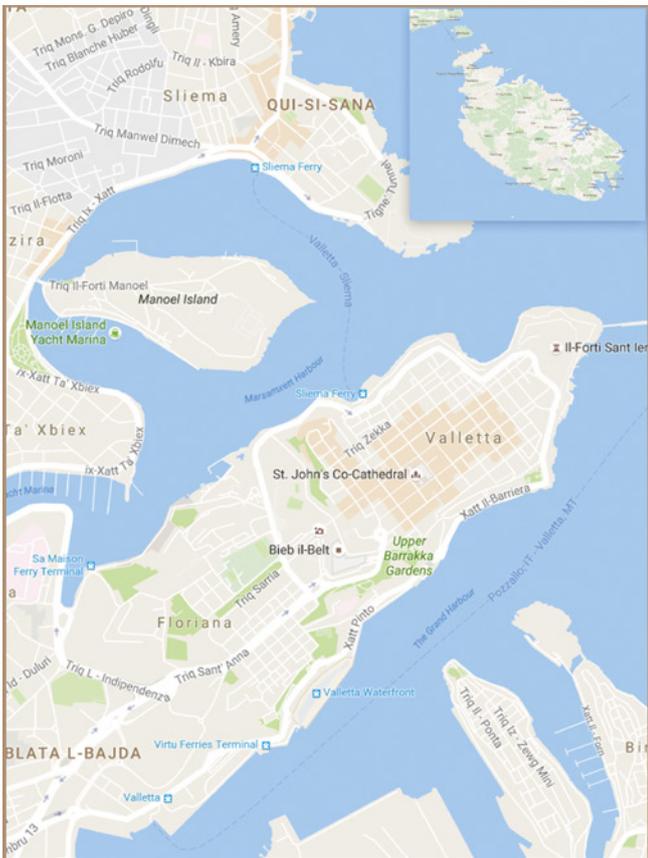
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<sup>7</sup> <https://www.linkedin.com/pulse/blockchain-technology-banking-sector-naveen-joshi>

<sup>8</sup> <https://www.allerin.com/blog/blockchain-technology-in-the-banking-sector>

<sup>9</sup> <https://www.linkedin.com/pulse/blockchain-technology-banking-sector-naveen-joshi>

<sup>10</sup> <https://www.allerin.com/blog/blockchain-technology-in-the-banking-sector>



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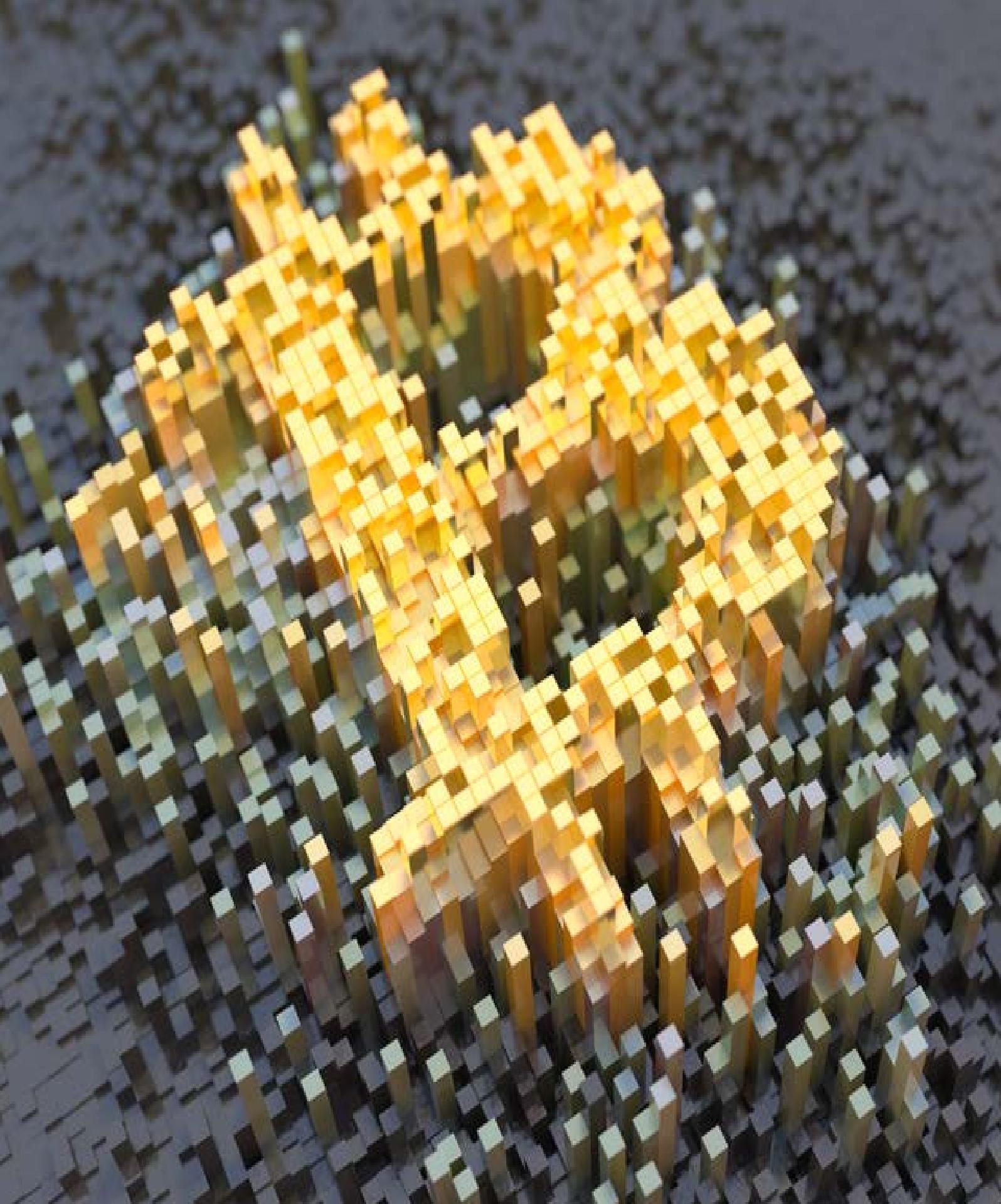
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