# Autonomous Agents Powered by Blockchain Technology

## Overview

Traditional Internet of Things (IoT) systems typically rely on Cloud or centralised systems for decision making and storage, resulting in an additional layer in the threat model when it comes to cyber-attacks (Fernandez-Carames and Fraga-Lamas, 2018). This includes having a single point of failure, denial of service (DoS) attacks and trusting that data has not been manipulated.

Distribute Ledger Technology (DLT) was first introduced by Satoshi Nakamoto in 2008 with the original cryptocurrency Bitcoin (Nakamoto, 2008) which offered a novel way for nodes to reach consensus in a decentralised manner via Proof of Work (PoW). Nodes of the blockchain network each store a copy of the ledger on their system removing the single point of failure. Trust in a third-party intermediary is also no longer required as the system is sufficiently ‘decentralised’ and reaches ledger consensus (Nakamoto Consensus) (ref).

## References

1. Fernandez-Carames, T. and Fraga-Lamas, P., 2018. A Review on the Use of Blockchain for the Internet of Things. *IEEE Access*, [online] 6, pp.32979-33001. Available at: <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=8370027> [Accessed 29 September 2021].
2. Nakamoto, S., 2008. Bitcoin: A Peer-to-Peer Electronic Cash System. [online] Available at: <http://www.bitcoin.org>.