Blockchain's key features

- **A decentralized, distributed and transparent architecture of trust:** Information added to the blockchain is immediately visible to all participants in the network and distributed – i.e. each peer keeps a complete copy of the data (or as close to it as possible), and updates, if any, are shared with the whole network without anyone having to trust a single central third party. Blockchain ensures immediate, across the board transparency – although in the case of permissioned blockchains (see Section 2.3), trust is more centralized and the readability of some information can be restricted to participants with permission to better suit the objectives of the blockchain.

- **High security, immutability and traceability:** The concomitant use of various cryptographic techniques and the decentralized and distributed nature of blockchain platforms make such platforms highly resistant to attacks compared to traditional databases. However, although the technology itself provides for a high level of security, weaknesses remain in relation to smart contracts, user interfaces and private keys used for encryption, which can be stolen via conventional attacks if they are saved on an individual user's computer or a centralized server.[1]

  Information, when added to the blockchain, is time-stamped and cannot be easily modified. This has several implications:

  - First, it makes it easy to track attempted changes. This is particularly important in a world where digital objects can be copied, modified and shared around at virtually no cost. Blockchain's immutability makes it possible to easily authenticate products and documents – however, it is important to note that, while Blockchain can help prevent fraud on the ledger, the tamper-resistance of the technology cannot prevent false information from being fed into the ledger.

  - Second, the immutable and distributed nature of the technology negates the need for database backups, thereby fundamentally changing disaster recovery. Once information is added to the blockchain, it is shared with the whole network and saved on all nodes, and it is near impossible to modify. If one node is affected by a disaster, information can easily be recovered.