Blockchain

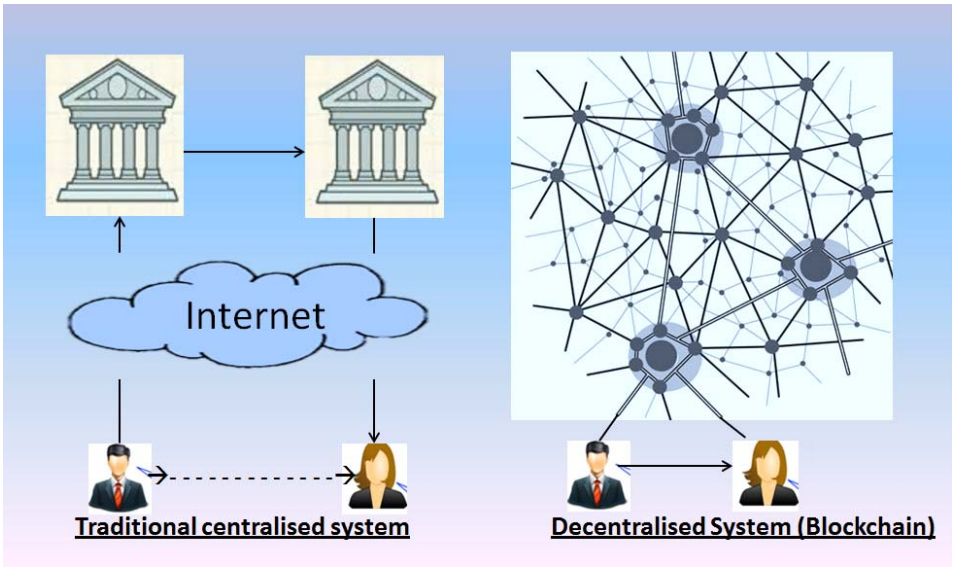
- **Blockchain is a data storage and transmission technology. By extension, this term describes a decentralised digital database. Often likened to a ledger, this database contains records of electronic transactions (*this is the "chain" in Blockchain*).**

This technology enables users who do not know each other and who are connected via a network to:

- carry out almost real-time transactions using the same application
- bypass intermediaries such as banks, notaries, property registers, etc.
- ensure the reliability and the security of their transactions

• Why are they a focus of attention?

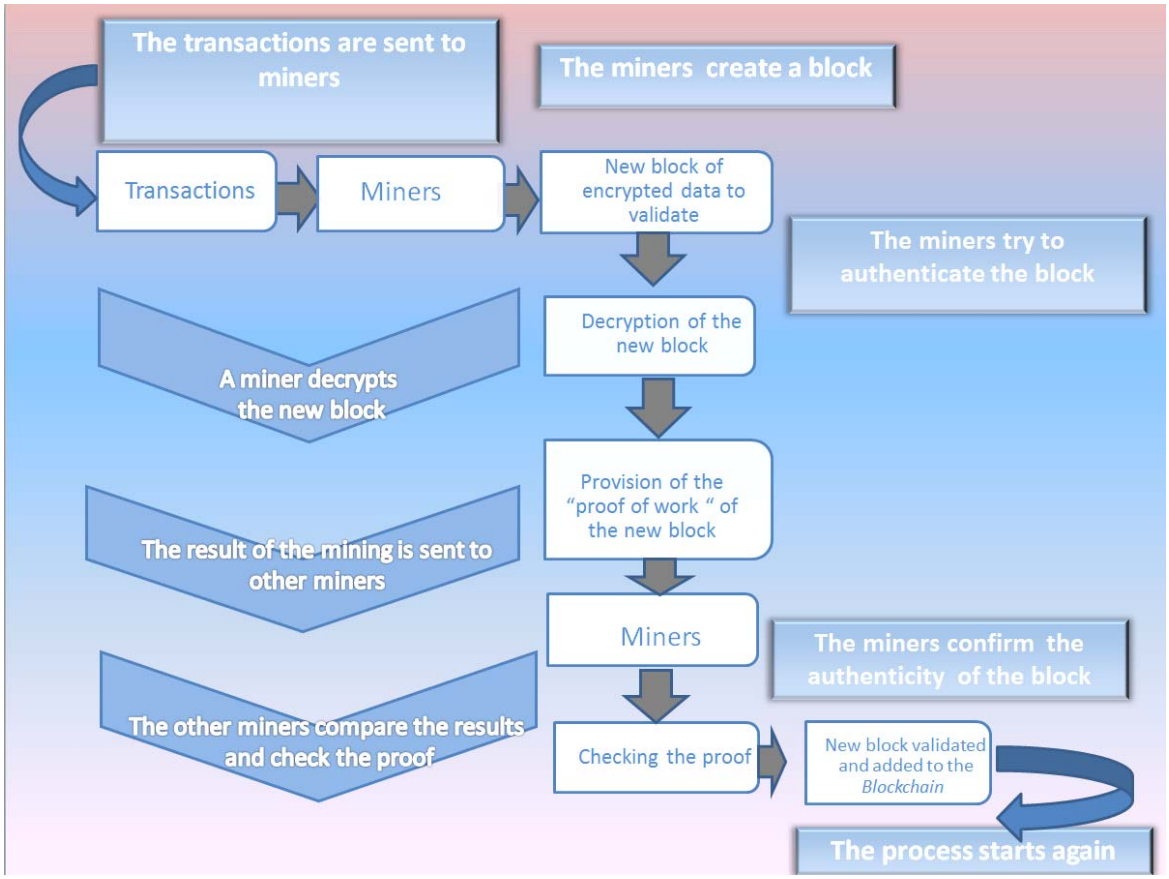
Blockchain is a **major innovation** and is the technology behind the **Bitcoin**, but its use is not limited to the banking sector. It ensures a transparency of exchanges that could change the way in which our centralised regulatory systems function, reduce costs and transform many areas such as insurance, real estate, trade, elections, etc.



• How does this work?

- The parties (buyers, sellers) are identified via an **encryption process;**
- The transaction is sent to a network (or "storage node)" of computers located throughout the world;
- Each "node" hosts a copy of the database in which the transaction history is stored. All parties can access it simultaneously;
- The security system uses **a node consensus mechanism** each time information is added. Data are decrypted and authenticated by "data centres" or "miners". The transaction validated in this way is added in the form of a **block of encrypted data** (*this is the "block" in blockchain*) ;
- The decentralisation of security management prevents transactions from being faked. Each new block added to the blockchain is linked to the previous one and a copy is sent to all the "nodes" in the network. **Each entry is chronological, permanent and unforgeable.**

Description of the simplified process


The transactions are sent to miners
The miners create a block
Transactions
Miners
New block of encrypted data to validate
The miners try to authenticate the block
Decryption of the new block
A miner decrypts the new block
Provision of the "proof of work " of the new block
The result of the mining is sent to other miners
Miners
The miners confirm the authenticity of the block
The other miners compare the results and check the proof
Checking the proof
New block validated and added to the Blockchain
The process starts again