

EVERYTHING YOU NEED TO  
KNOW ABOUT

# BLOCKCHAIN TECHNOLOGY





## THE BIG WAVE

There are only two types of people in the world today: those who have invested in cryptocurrencies, and those who haven't and regret it. Well, you may have had a hearty laugh at that joke. But on a serious note, the scientific marvel behind the hugely popular phenomenon of cryptocurrencies, known as 'blockchain technology', is being touted as a game-changing wave that has the capability to completely disrupt the way we all make payments and transfer money. You may have come across the word blockchain on countless occasions, but the concept behind it appears extremely complicated. You'll often hear people use the words bitcoin, cryptocurrency and blockchain interchangeably, but they are completely mistaken. These are related yet different concepts.

## WHAT IS BLOCKCHAIN?

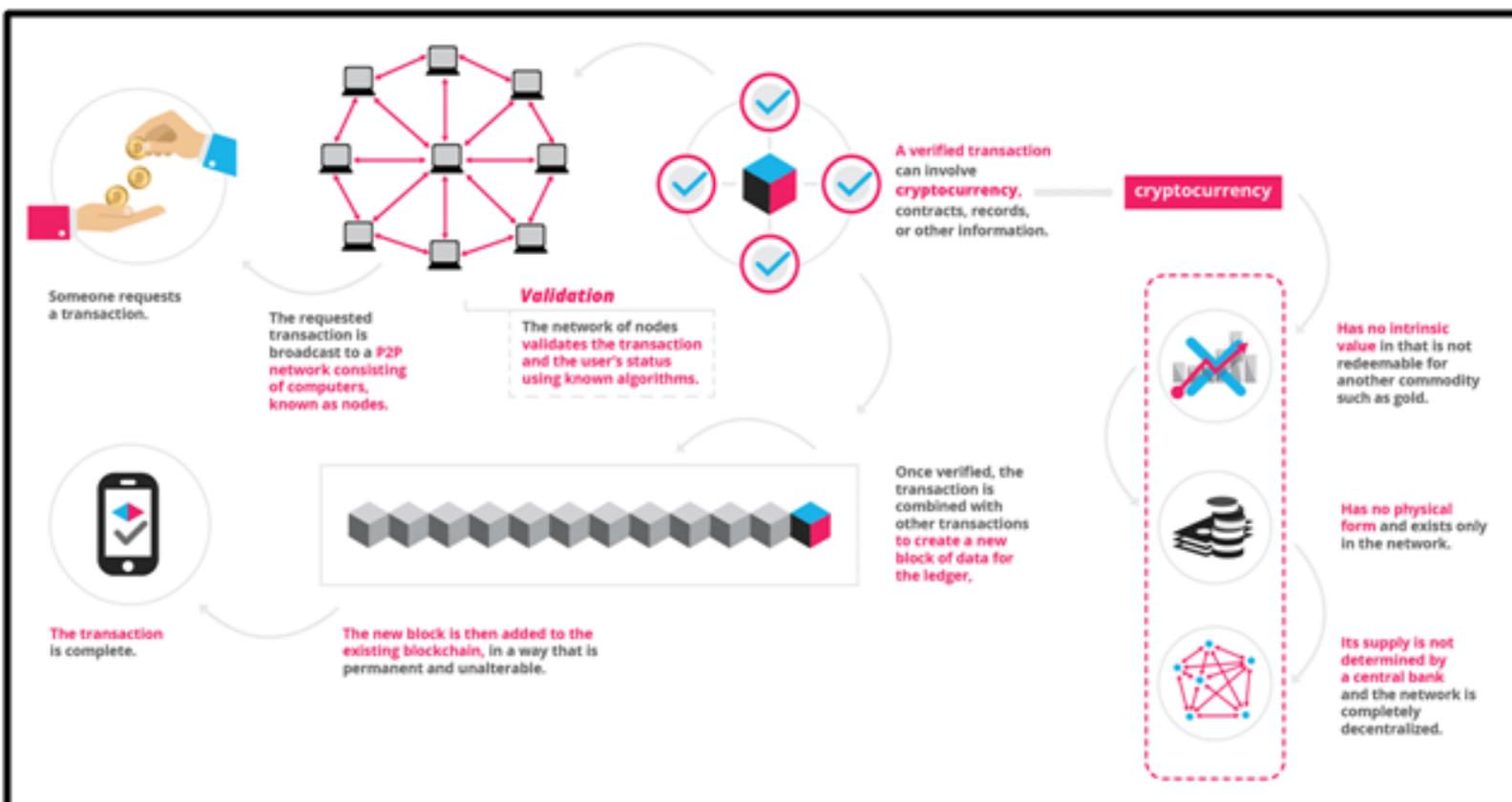
Blockchain is basically a decentralized system of record-keeping, albeit in a digital way. In the existing technology, the database of information remains firmly under the control of a centralized authority — which facilitates the transactions after validating or authenticating them. Coming to blockchain technology, it is a system that has a shared database with an integrated ledger. It keeps track of all the stages of a transaction right from scratch to finish while keeping everybody in the loop informed about each and every transaction.

# HOW BLOCKCHAIN WORKS

Whenever a new transaction is recorded, a new 'block' is created in the shared database and everybody in the network is informed of the same. This 'block' contains all the information related to the specific transaction. For example, whenever someone engages with another party to buy or sell a cryptocurrency, the details of the transaction such as source, destination, price, date and time are added as a block. When multiple transactions take place, multiple linked "blocks" are created — and so a "blockchain" is created.

Blockchain is considered a very secure payment technology as everybody involved in the network has a validated copy of every transaction. The safety factor minimizes the chances of hacking or phishing since the database is not parked in a centralized repository. These blocks are a high-level and an extremely complex set of codes, which are almost impossible to compromise.

Every ledger contains a linked series of transactions and their identical copies are stored on more than 20,000 computers. Every transaction is signed cryptographically to validate it. Once a transaction is recorded, every node of the network knows about it.





## FUTURE OF BLOCKCHAIN

In spite of all the hype and hoopla surrounding blockchain technology, its utility in the long run is yet to be established. Even strong proponents of this technology admit that it will take a lot more time to gain acceptability among institutions and users. But again, over the past, that's been the case with all revolutionary technologies such as the Internet that was invented during the 1960s. It took the Internet a good three to four decades to enter the mainstream.

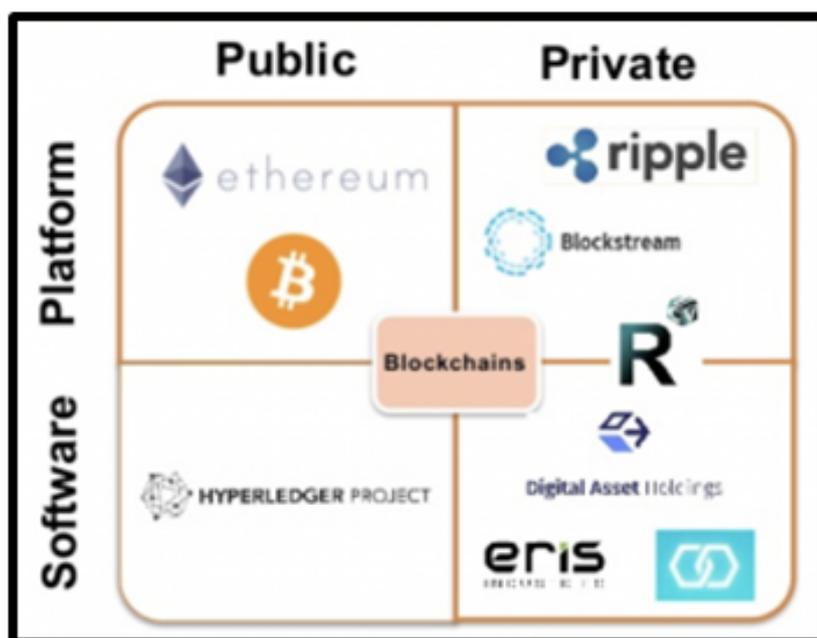
Blockchain technology can actually have multiple utilities in future. For instance, your digital identity can be validated through a blockchain token, which can later be used to open a bank account, log in to various apps and certify your email and social media accounts. It can help in creating whole new social media platforms that would be based on inter-connected smart ledgers. The success of the bitcoin as the world's most popular cryptocurrency has increased the possibility of launching an online service that can function outside the over-centralized control of any single entity.

## WHO ARE USING IT NOW?

The pace of growth of blockchain technology has been hectic, to say the least. The world's leading financial institutions have already started adopting it, which itself is a clear indication that the technology has a very bright future. From Walmart to Disney to the Bank of Japan, the rate at which highly influential corporate big guns are turning to blockchain technology has been really high. No wonder huge investments are making their way to blockchain start-ups. These investments are particularly targeted towards solving specific industry problems. If you look back, a similar phenomenon had happened when the Internet was coming up, wherein companies tested it at a local level before going for mass adoption.

# TYPES OF BLOCKCHAINS

The fanfare surrounding blockchain technology has been so high of late that it has obfuscated the fundamental differences between public-to-public (P2P) currencies such as bitcoin, DASH and Litecoin as well as the blockchains developed by top corporations and leading governments. There mainly three types of blockchains:



**PUBLIC BLOCKCHAIN:** As the name suggests, a P2P Blockchain is for the people and is also designed and developed by the people. There is no centralized owner of this network. Anybody can read, write and audit this blockchain. It is open to review for anyone at any given point of time. In this set-up, decisions are taken through designated consensus mechanisms such as POW (proof of work) and POS (proof of stake). Bitcoin, Litecoin and Dash are good examples of the P2P blockchain technology.

**PRIVATE BLOCKCHAINS:** are the opposite of public blockchains. A private blockchain's owner is a single firm or entity. These are not decentralized bodies and the system works on distributed ledgers. In such blockchains, everybody can't make a transaction except for a few designated authorities.

**CONSORTIUM BLOCKCHAIN:** These blockchains are used by a group of consortiums that eliminates sole autonomy, unlike in the case of private blockchains. For example, a consortium blockchain created by 15 to 25 financial corporations will require verification from each one of them when a new institution proposes to come into the fold.

## CONCLUSION: DECENTRALIZATION, THE NEW NORMAL

Blockchains aren't just popular because they provide high-level security. The phenomenon offers a powerful alternative to change the way we transact digitally. The crux of the whole concept of blockchain technology lies in its ability to decentralize an entire transaction process. You no longer have to depend entirely on your bank and its online policies. Yes, it does seem too good to be true in the world of excessive digitization, online trickery and over-centralization of digital authorities. But it may be a reality in the future.

