The role of block chain in financial engineering

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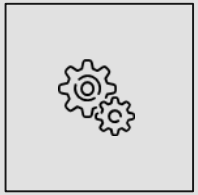
Defenition

A blockchain is a decentralized ledger of all transactions across a peer-to-peer network. It is a distributed database or ledger that is shared among the nodes of a computer network. In simple terms, blockchain is a technology that helps keep a record of currency transactions in a detailed manner.

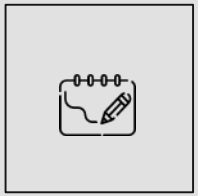
Security and Transparency

Effectively Control Risks



Instant Settlements

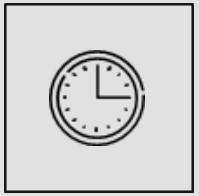
Better Auditing



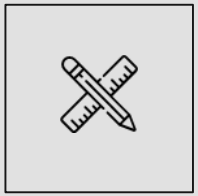
Reduced Costs

Benefits

Digital assets are distributed, not copied or transferred.

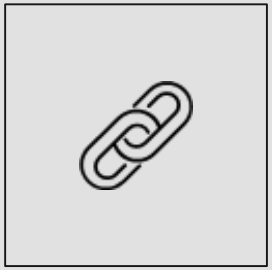


Digital assets are decentralized, which ensures real-time availability, transparency and management by more than one side.



Blockchain ledgers are transparent – any changes made are documented, preserving integrity and trust.

Blockchain ledgers are public and constructed with inherent security measures, making it a prime technology for almost every sector.



Use of block chain

As we now know, blocks on Bitcoin's blockchain store data about monetary transactions. Today, there are more than 10,000 other cryptocurrency systems running on blockchain. But it turns out that blockchain is actually a reliable way of storing data about other types of transactions as well.

Importance

1. Blockchain is an especially promising and revolutionary technology.

2. It helps reduce security risks, stamp out fraud and bring transparency in a scalable way.

3. Popularized by its association with cryptocurrency and NFT.

4. Blockchain technology has since evolved to become a management solution for all types of global industries.

Banking and Finance

Perhaps no industry stands to benefit from integrating blockchain into its business operations more than banking. Financial institutions only operate during business hours, usually five days a week. That means if you try to deposit a check on Friday at 6 p.m., you will likely have to wait until Monday morning to see that money hit your account. Even if you do make your deposit during business hours, the transaction can still take one to three days to verify due to the sheer volume of transactions that banks need to settle. Blockchain, on the other hand, never sleeps.

By integrating blockchain into banks, consumers can see their transactions processed in as little as 10 minutes–basically the time it takes to add a block to the blockchain, regardless of holidays or the time of day or week.

With blockchain, banks also have the opportunity to exchange funds between institutions more quickly and securely.

Given the size of the sums involved, even the few days that the money is in transit can carry significant costs, risks for banks.

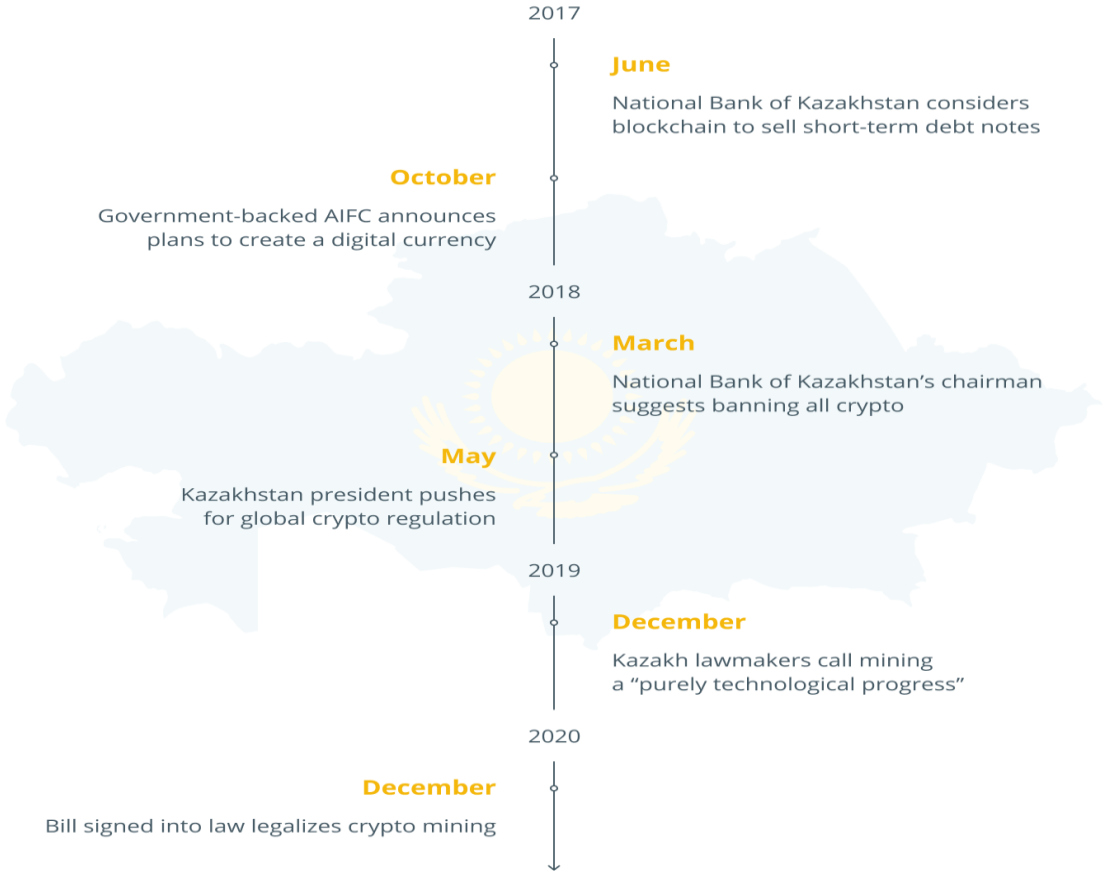
Involvement the blockchain into bank system

Currency

Blockchain forms the bedrock for cryptocurrencies like Bitcoin. The U.S. dollar is controlled by the Federal Reserve. Under this central authority system, a user's data and currency are technically at the whim of their bank or government. If a user's bank is hacked, the client's private information is at risk. If the client's bank collapses or the client lives in a country with an unstable government, the value of their currency may be at risk. In 2008, several failing banks were bailed out—partially using taxpayer money. These are the worries out of which Bitcoin was first conceived and developed.

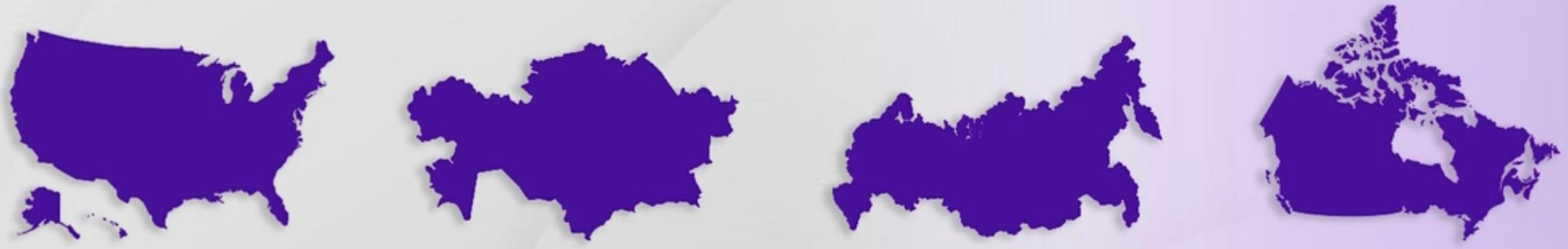
Using cryptocurrency wallets for savings accounts or as a means of payment is especially profound for those who have no state identification. Some countries may be war-torn or have governments that lack any real infrastructure to provide identification. Citizens of such countries may not have access to savings or brokerage accounts—and, therefore, no way to safely store wealth.

Timeline of crypto events in Kazakhstan



AVERAGE MONTHLY BITCOIN HASHRATE SHARE

AS OF JULY 2021



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KAZAKHSTAN POWER SHORTAGES LEAD TO CRYPTO MINING SHUTDOWN

LIVE

Inside Kazakhstan's giant crypto-mine

Kazakhstan is thought to process nearly a fifth of all Bitcoin "mining", as the process is called, due to its usually cheap electricity. And an internet shut-down earlier this week appeared to hit the processing power of the entire Bitcoin network.

Crypto mining is proving to be one of Kazakhstan’s important lifelines.

According to a document released by the State Revenue Committee of Kazakhstan’s Ministry of Finance on Tuesday, Bitcoin mining revenues flowed in from 12 different regions of the country.

Inside Kazakhstan's giant crypto-mine

Last year Kazakhstan became the second biggest crypto-currency mining country in the world, thanks partly to a vast mine containing 50,000 computers in the desert near the northern city of Ekibastuz.

Young men work 12 hours a day for 15 days in a row without leaving the site, in order to keep it running round the clock.

But the rapid growth of crypto-mining in the country has put pressure on the energy sector, which relies heavily on polluting, carbon-intensive coal-fired power stations.

Earlier this month the rising cost of car fuel acted as the trigger for nationwide political protests. For five days the Kazakh crypto-mines could not connect to the internet, causing crypto-currency transactions across the world to slow down.

Kazakhstan is home to a disproportionately large share of the mining industry, despite the fact that mining still consumes a negligible amount of the world’s total energy.

The country is home to only 19 million people, yet it accounts for 13.3% of the global hash rate, according to latest data, making it the third-largest Bitcoin mining hotspot in the world.

Thank you for your attention!

Resources

Information

- https://link.springer.com/chapter/10.1007/978-981-15-7961-5_72
- https://www.researchgate.net/publication/345003102_The_Role_of_Block_chain_Technology_in_Financial_Engineering
- https://www.salesforce.com/eu/blog/2020/02/how-financial-services-are-implementing-blockchain-technology.html
- https://builtin.com/blockchain
- https://www.investopedia.com/terms/b/blockchain.asp

Presentation made by

- https://slidesgo.com/theme/web-project-proposal
- https://bitcoinist.com/tezos-generative-nfts-features-at-art-basel-hong-kong-2022/
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