

# Blockchain 101



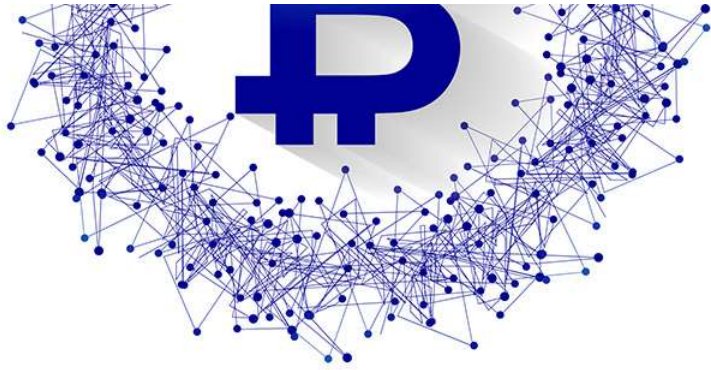
@FIVIL



<https://github.com/fivil>



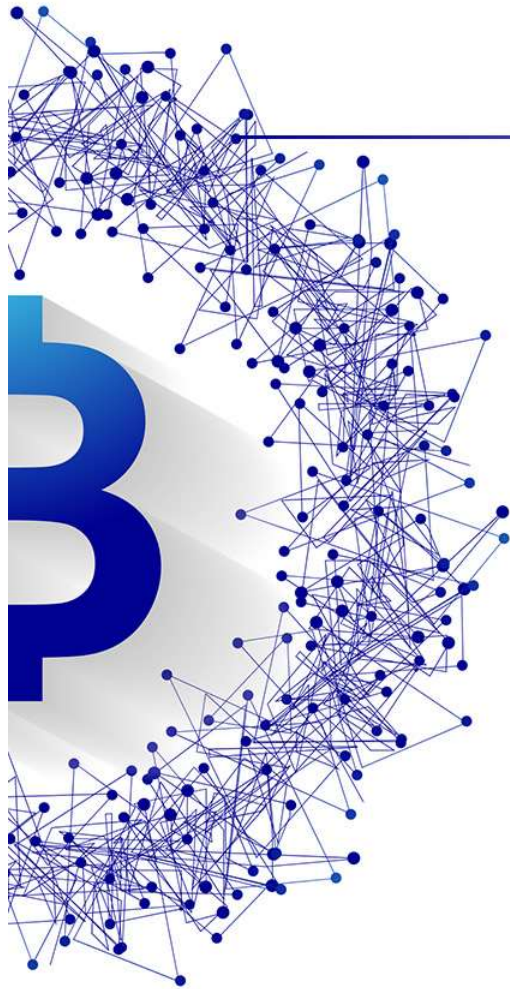
<https://www.linkedin.com/in/HammedMohamadi>



## Abstract

- What is Blockchain?
- Centralized vs distributed
- Why Decentralization Matters?
- Cryptocurrency
- Birth of Bitcoin
- Applications
- Tensions
- Structure
- Some interesting facts
- QUESTIONS?

# Why should I care?

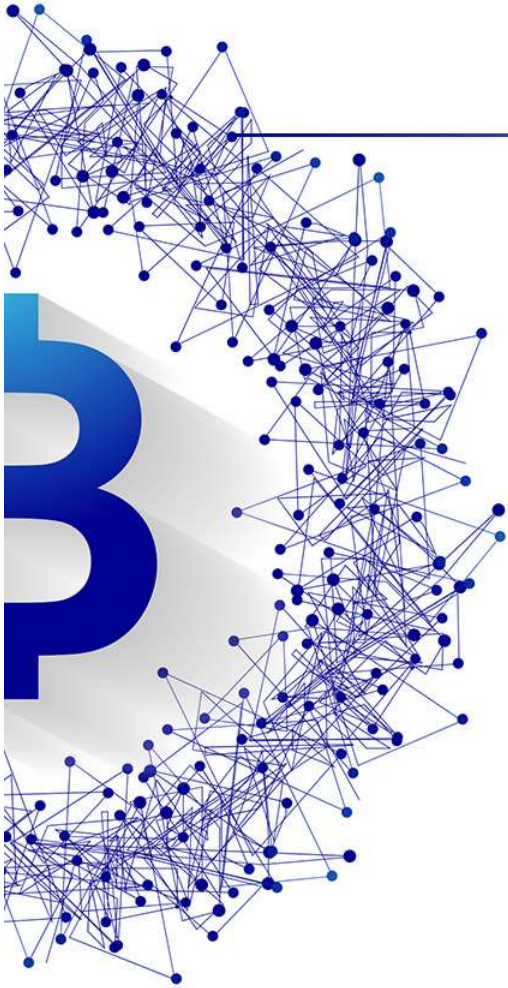


What the **internet** did for communications,  
I think **Blockchain** will do for trusted transactions.

IBM Chief Executive Ginny Rometty



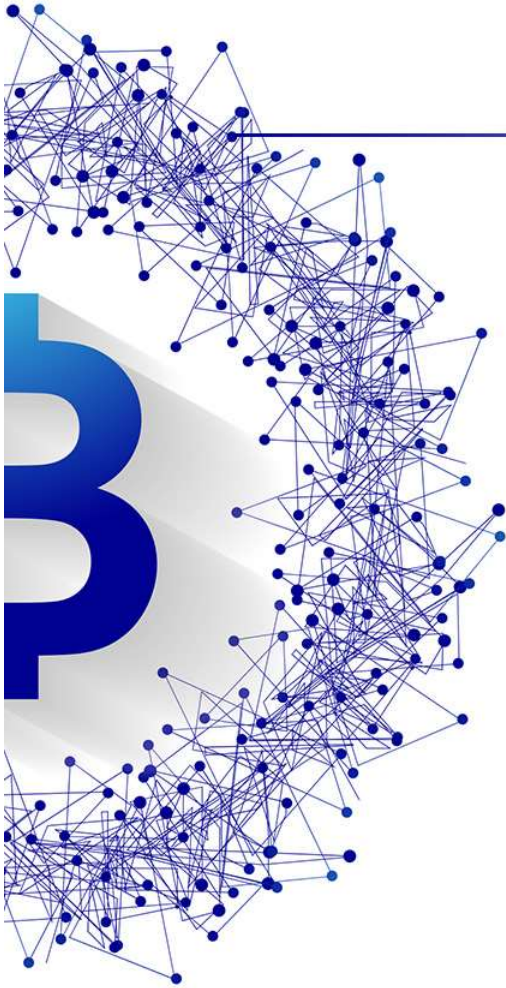
# What is Blockchain?



Blockchain is a shared, distributed ledger that facilitates the process of recording transactions and tracking assets in a business network. An asset can be tangible — a house, a car, cash, land — or intangible like intellectual property, such as patents, copyrights, or branding. Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved



# What is Blockchain?



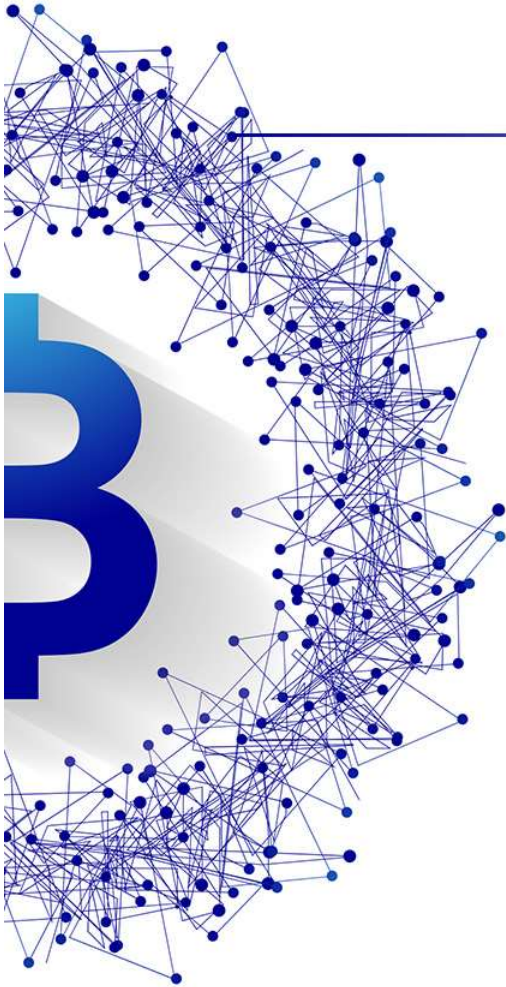
## Blockchain is

- Distributed
- Ledger
- P2P
- Immutable

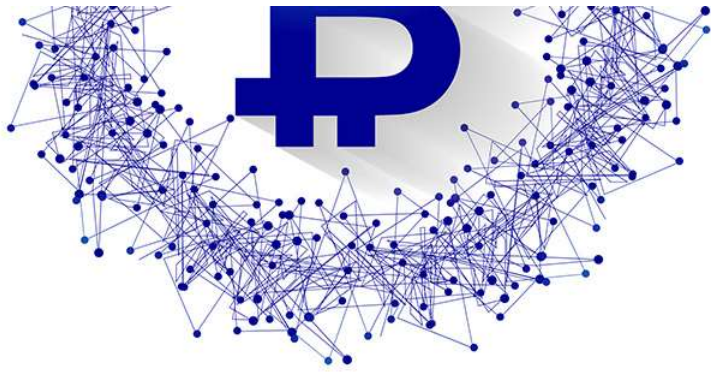
## Blockchain is **NOT**

- Bitcoin
- Money
- Mastercard
- A Messenger
- A Database

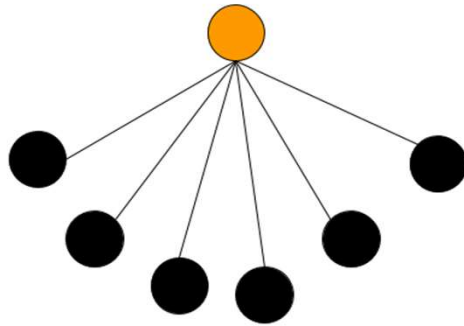
# What is Blockchain?



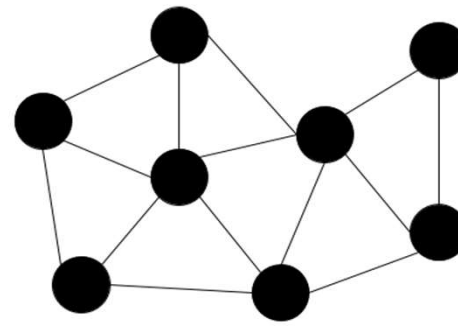
Ledger



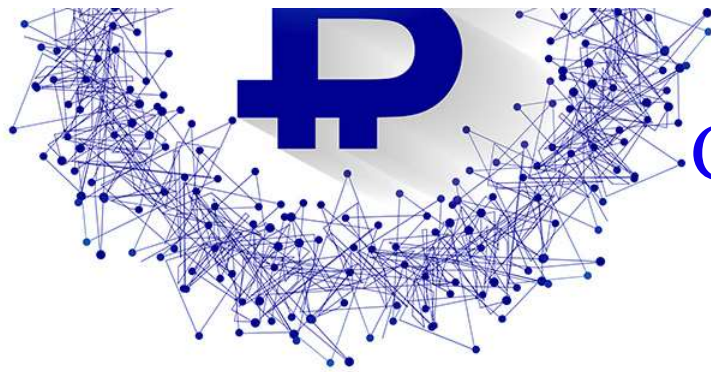
## Centralized vs distributed



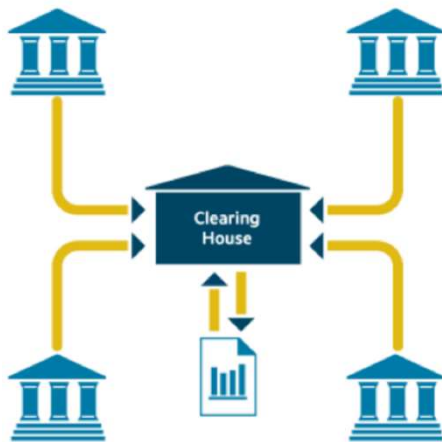
Centralized



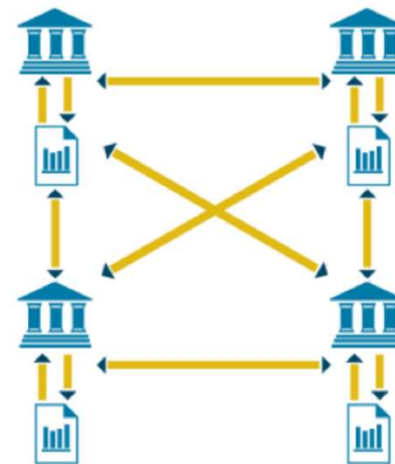
Distributed



## Centralized vs distributed ledger



Centralized ledger

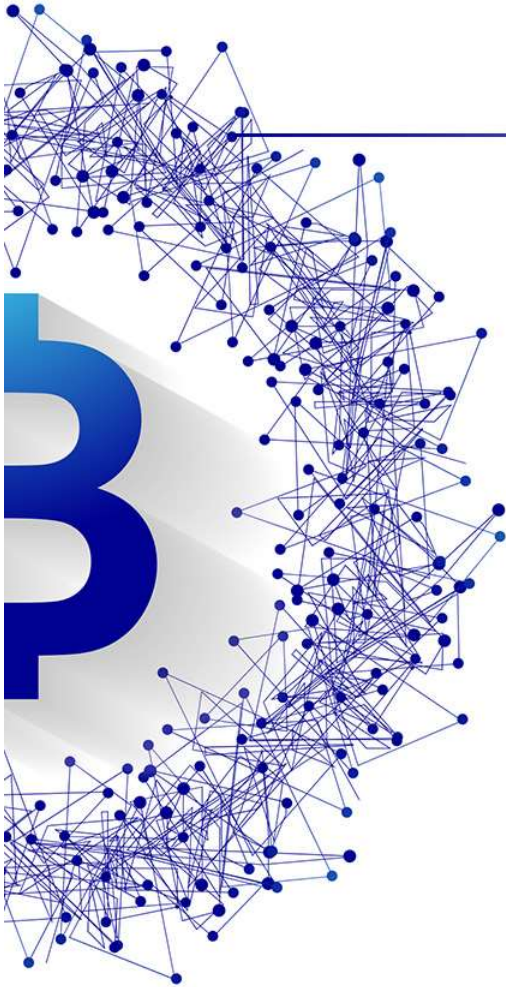


Distributed ledger



# Why Decentralization Matters?

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- Single point of failure
- Control
- Prone to political pressure
- Cost
- Bureaucratic leadership
- Remote control
- Delays in work
- Distrust

# Cryptocurrency

- Bitcoin
  - Ethereum
  - XRP
  - Bitcoin Cash
  - Litecoin
  - EOS
  - IOTA
- And about 2200 more





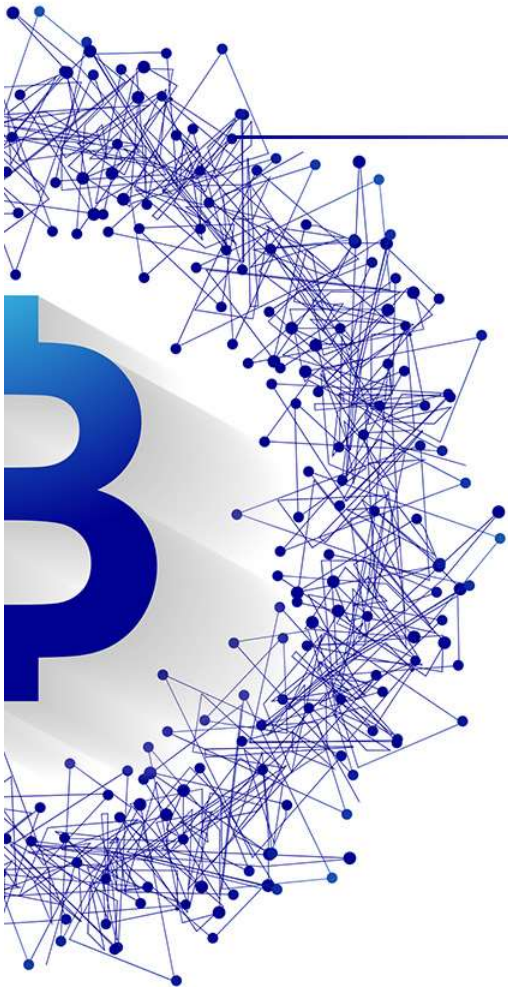
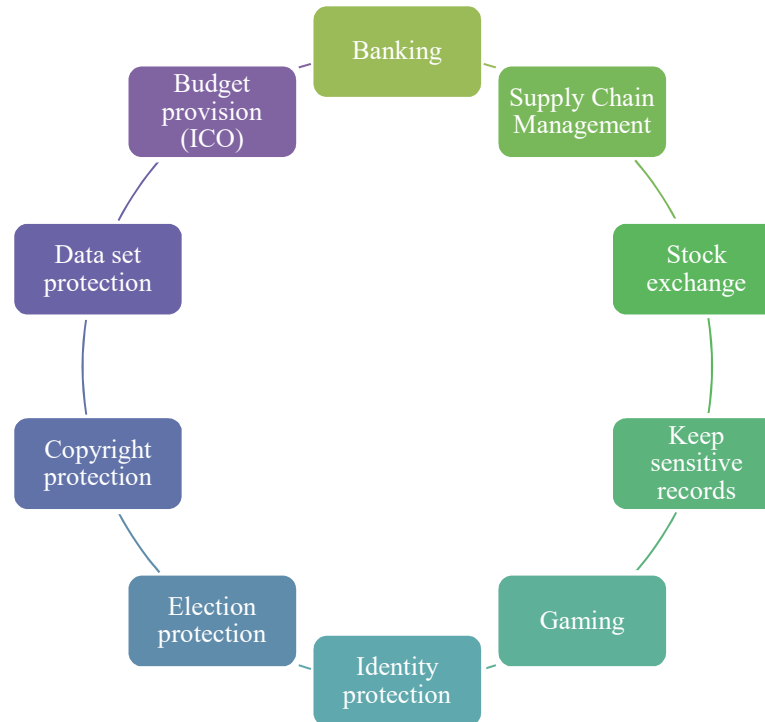
# Birth of Bitcoin

## Bitcoin: A Peer-to-Peer Electronic Cash System

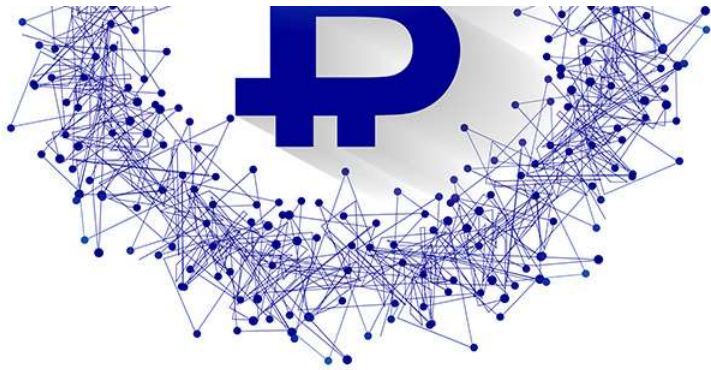
Satoshi Nakamoto  
satoshin@gmx.com  
[www.bitcoin.org](http://www.bitcoin.org)

**Abstract.** A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As

# Applications



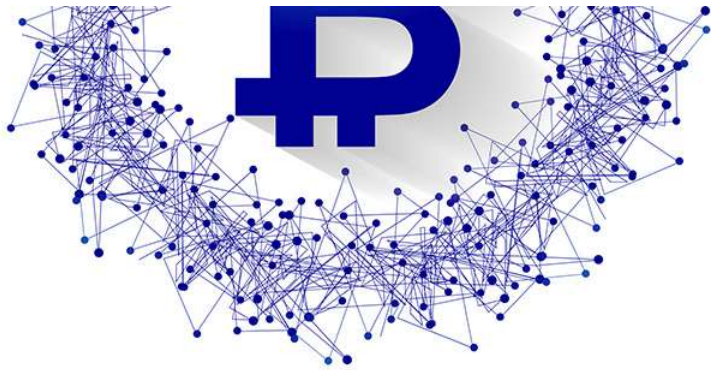




## Starbucks

- With the partnership, Microsoft's blockchain service will record all changes along the journey of the coffee on a shared ledger, providing participants with a “more complete view” of the supply chain.
- Starbucks will use all that information to bring a new feature to its mobile app, giving consumers details on where the coffee was sourced and roasted, as well as on tasting notes.



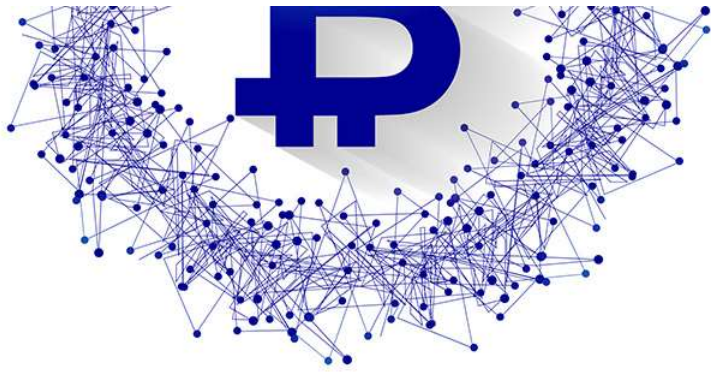


# Decentralized identity

Microsoft is launching the first decentralized infrastructure implementation by a major tech company that is built directly on the bitcoin blockchain.

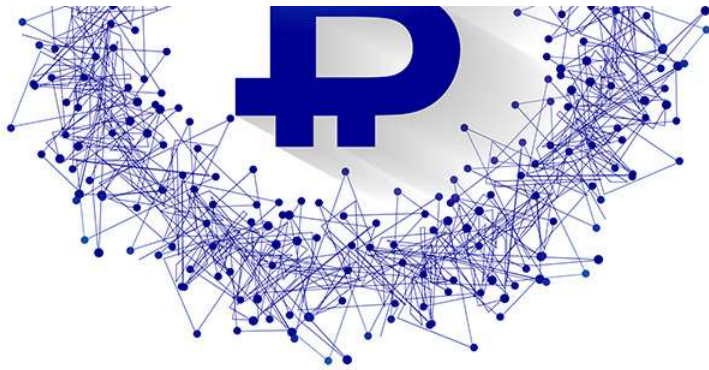
The open source project, called Ion, deals with the underlying mechanics of how networks talk to each other.





# CryptoKitties





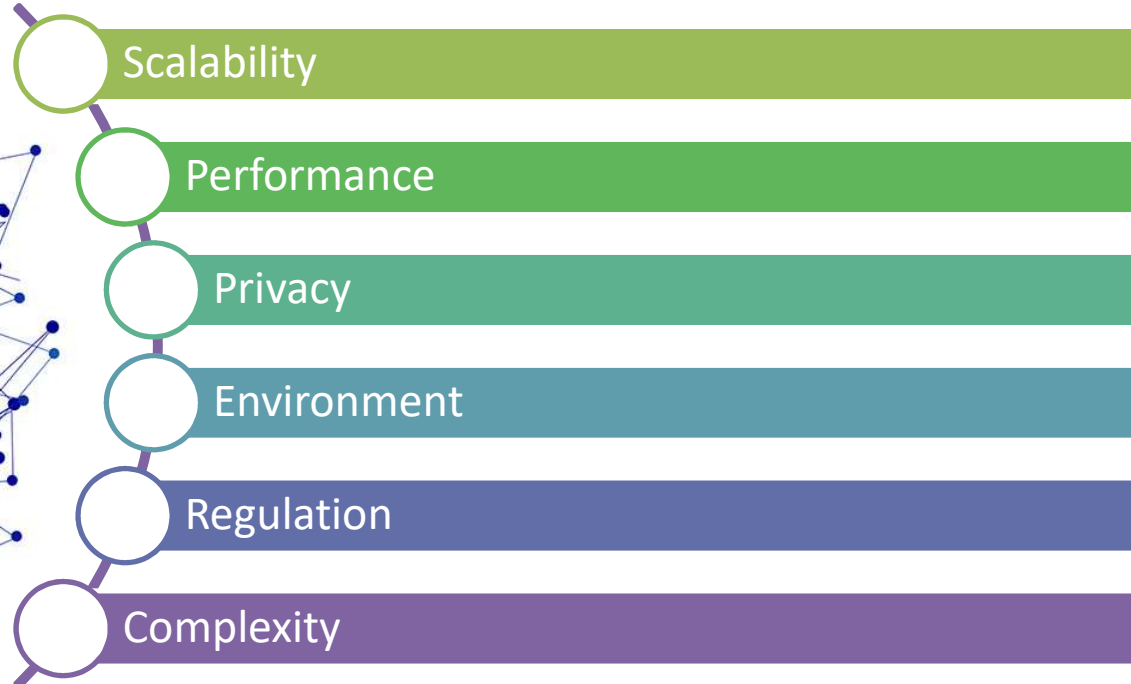
## Medicalchain

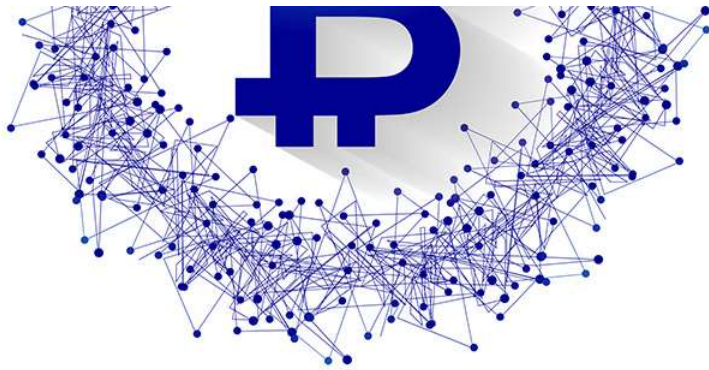
Medicalchain uses blockchain technology to securely store health records and maintain a single version of the truth. The different organisations such as doctors, hospitals, laboratories, pharmacists and health insurers can request permission to access a patient's record to serve their purpose and record transactions on the distributed ledger.





# Tensions



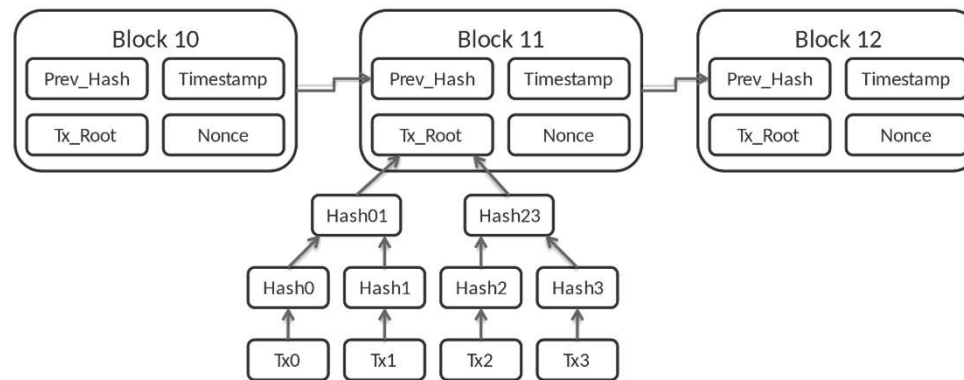


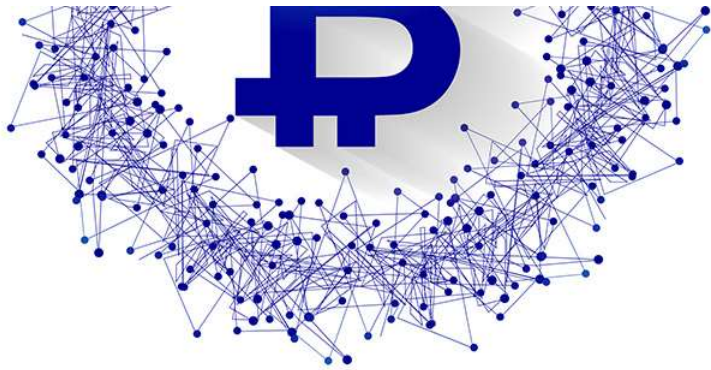
## Scalability and performance

Cryptocurrencies Transaction Speeds Compared to Visa & Paypal



# Structure

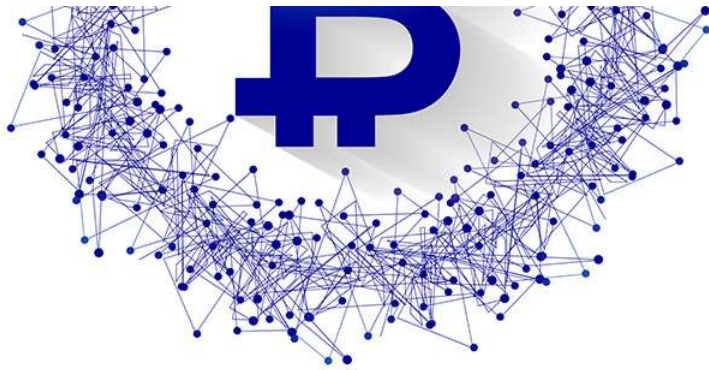




## Bitcoin price

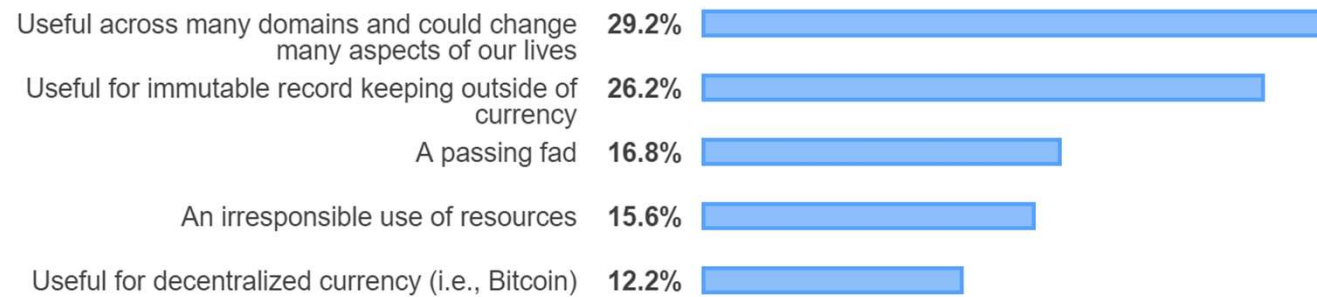






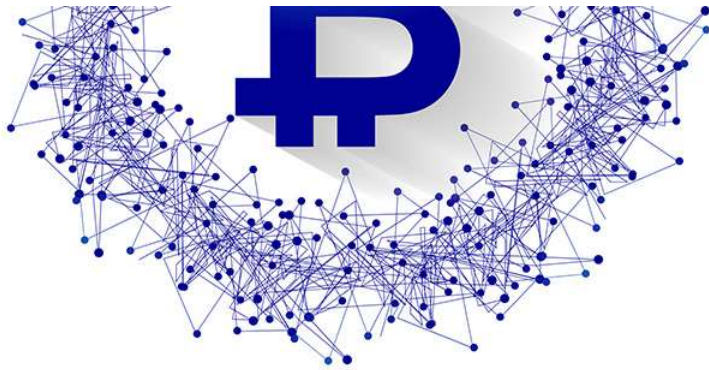
# Stackoverflow survey

## Developer Opinions on Blockchain Technology

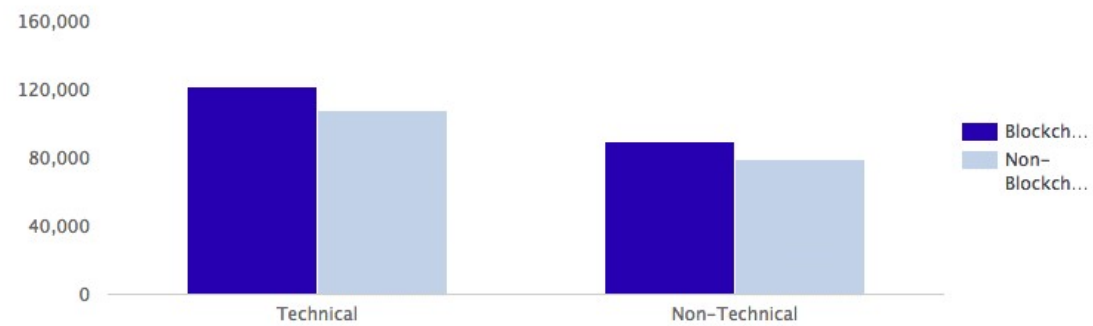


60,165 responses

# Salary

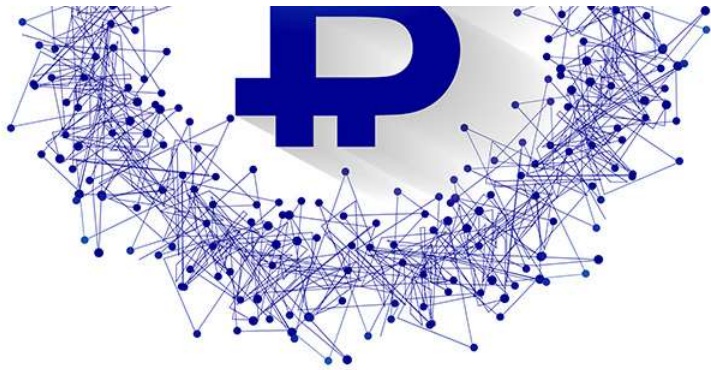


Posted Median Salary for Jobs at Cryptocurrency and Non-cryptocurrency Companies, USD

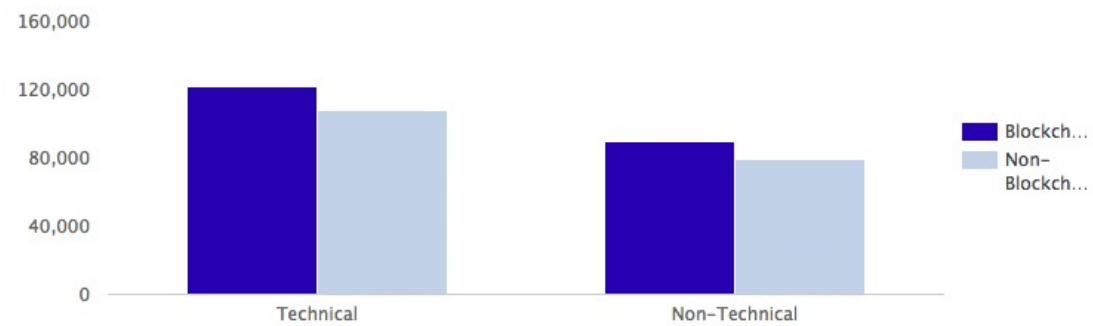


Source: AngelList Data

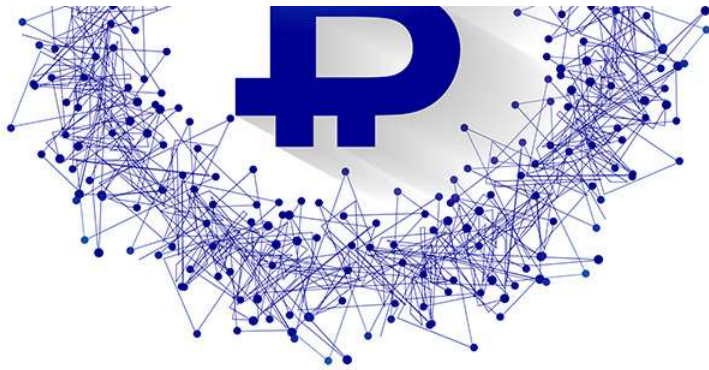
# Salary



Posted Median Salary for Jobs at Cryptocurrency and Non-cryptocurrency Companies, USD



Source: AngelList Data



## Salary rank

### IT JOB SALARIES

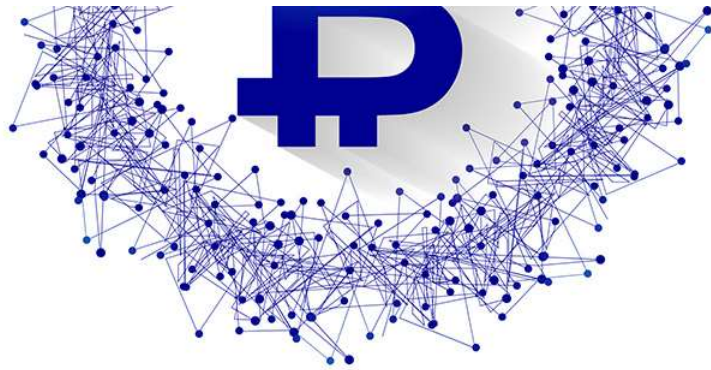
Blockchain developers are among the **highest paid** IT jobs.

	Janco Benchmark	2nd Quartile	1st Quartile
ERP Data Engineer	\$209,000	\$156,000	\$131,000
ERP Data Architect	\$182,000	\$124,000	\$113,500
Database Manager	\$184,000	\$134,000	\$110,000
Business Intelligence Analyst	\$140,000	\$107,500	\$89,000
Data Scientist	\$187,250	\$129,500	\$106,250
Database Developer	\$164,000	\$119,500	\$99,750
Blockchain Developer	\$176,000	\$132,000	\$119,000
Data Modeler	\$162,000	\$101,500	\$83,500
Data Warehouse Analyst	\$162,750	\$98,500	\$82,000
Database Administrator	\$171,250	\$98,800	\$83,000
Data Analyst	\$135,800	\$96,000	\$83,500
Data Reporting Analyst	\$101,000	\$75,250	\$61,500

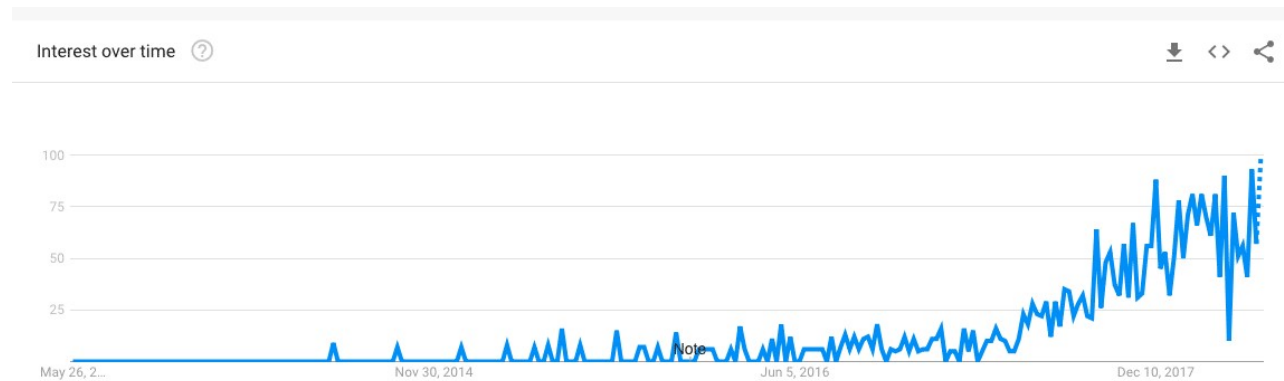
SOURCE: JANCO / EJOBDESCRIPTION.COM

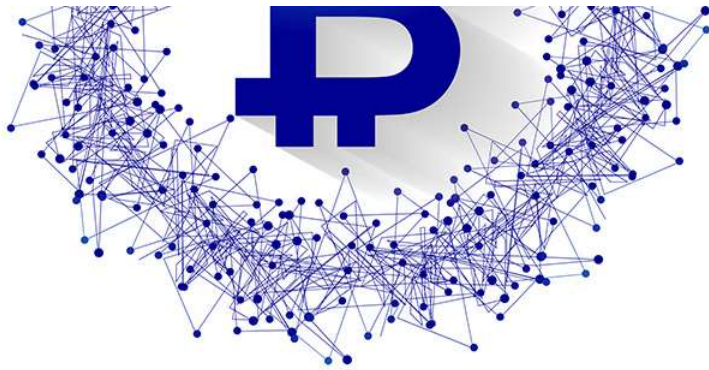
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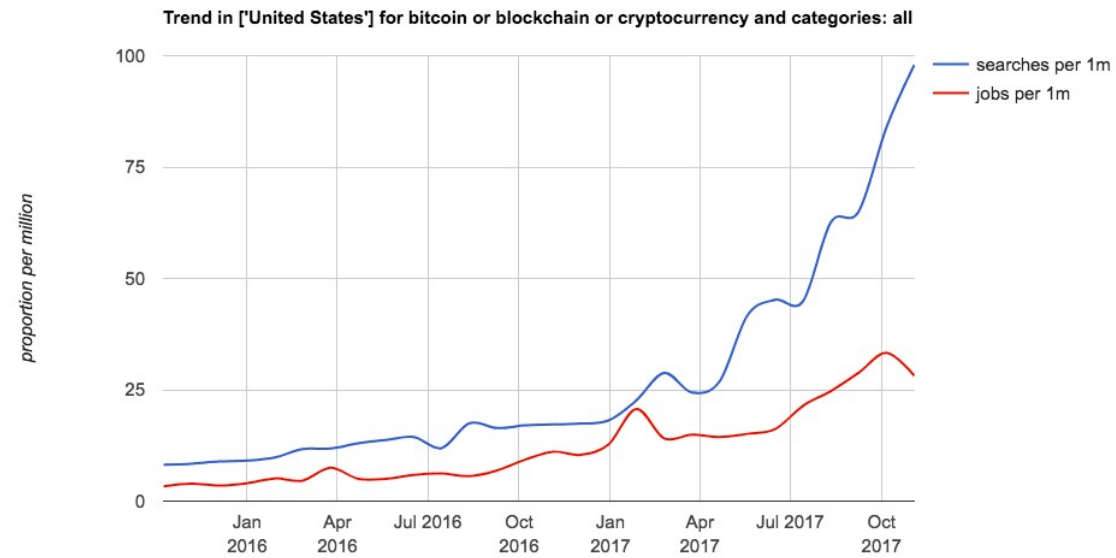


Interest

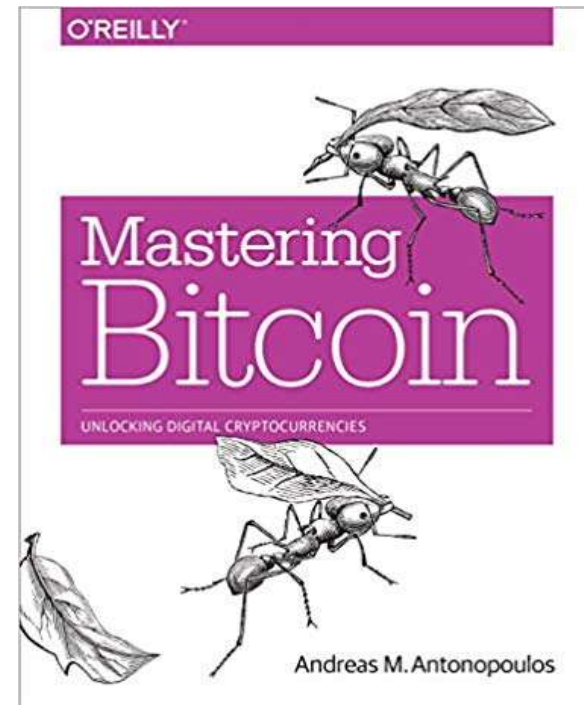




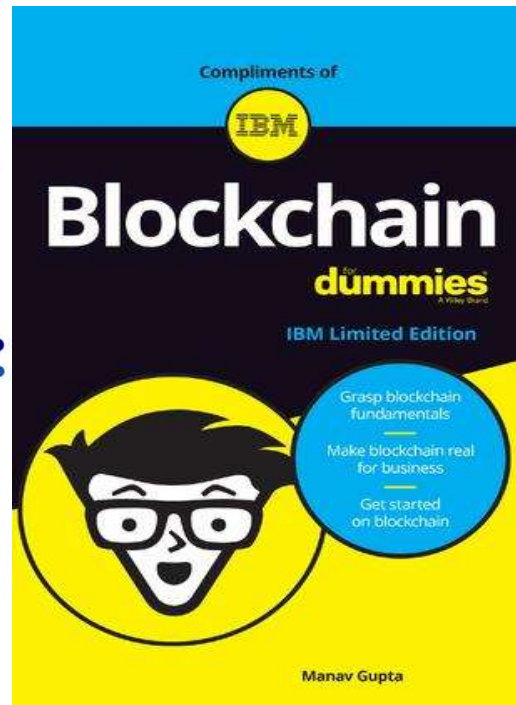
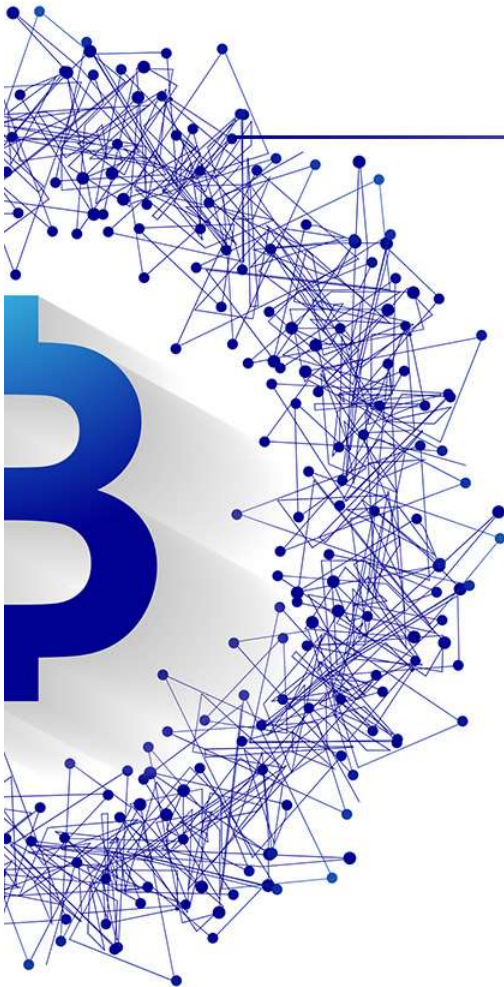
# Job availability



More...



# More...

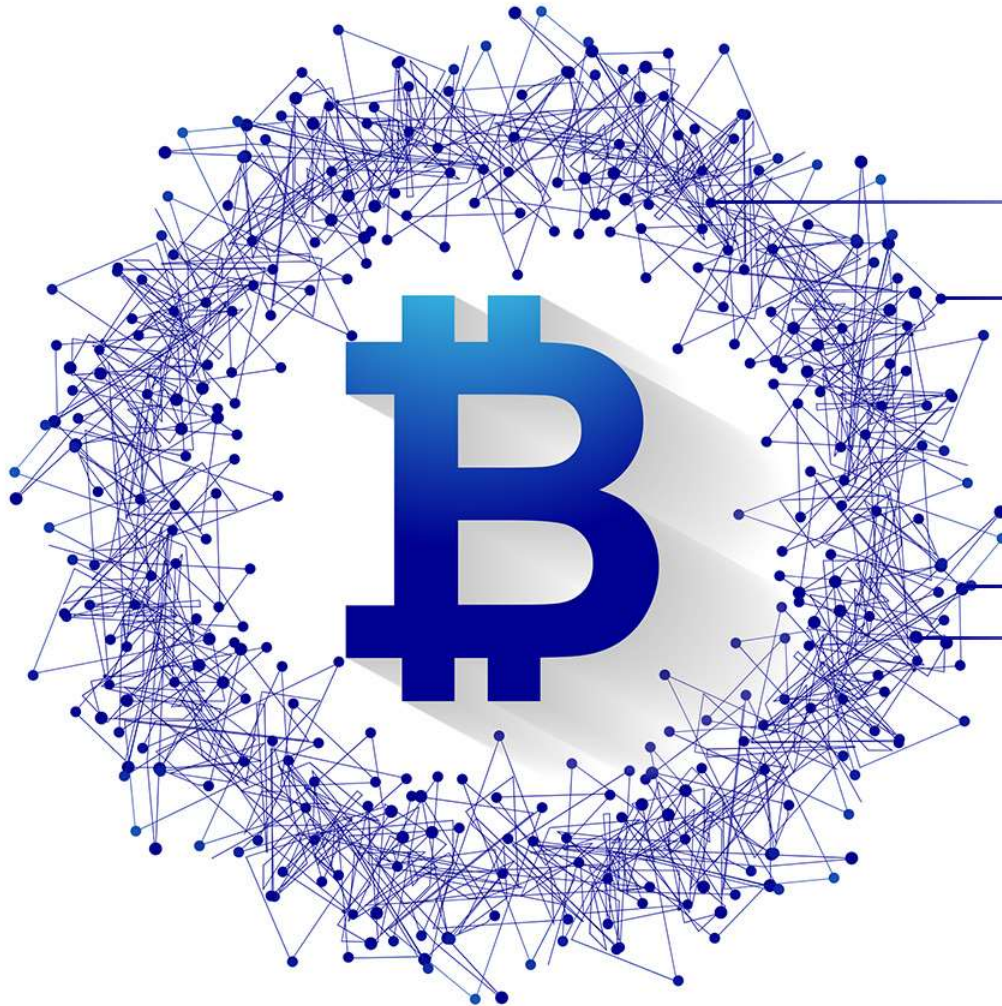


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Satoshi Nakamoto  
satoshi@gmx.com  
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Thank you!!!

Questions???