

# POLKADOT

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# THE DAWN OF BLOCKCHAIN

**01**

A central entity controlling a system poses many risks and disadvantages for end-users. Centralization could lead to monopoly of the services provided.

**03**

Blockchains are a recent technology proposed to address these problems, in the quest to build a decentralized web.

**02**

There is a growing need for a better security, freedom and control for net users, and with this a countermovement for more decentralized applications where no single entity controls the system.

**04**

There has been rapid change and growth in the crypto world due to the hype and proof of how decentralized apps and web provide transparency about their structure.





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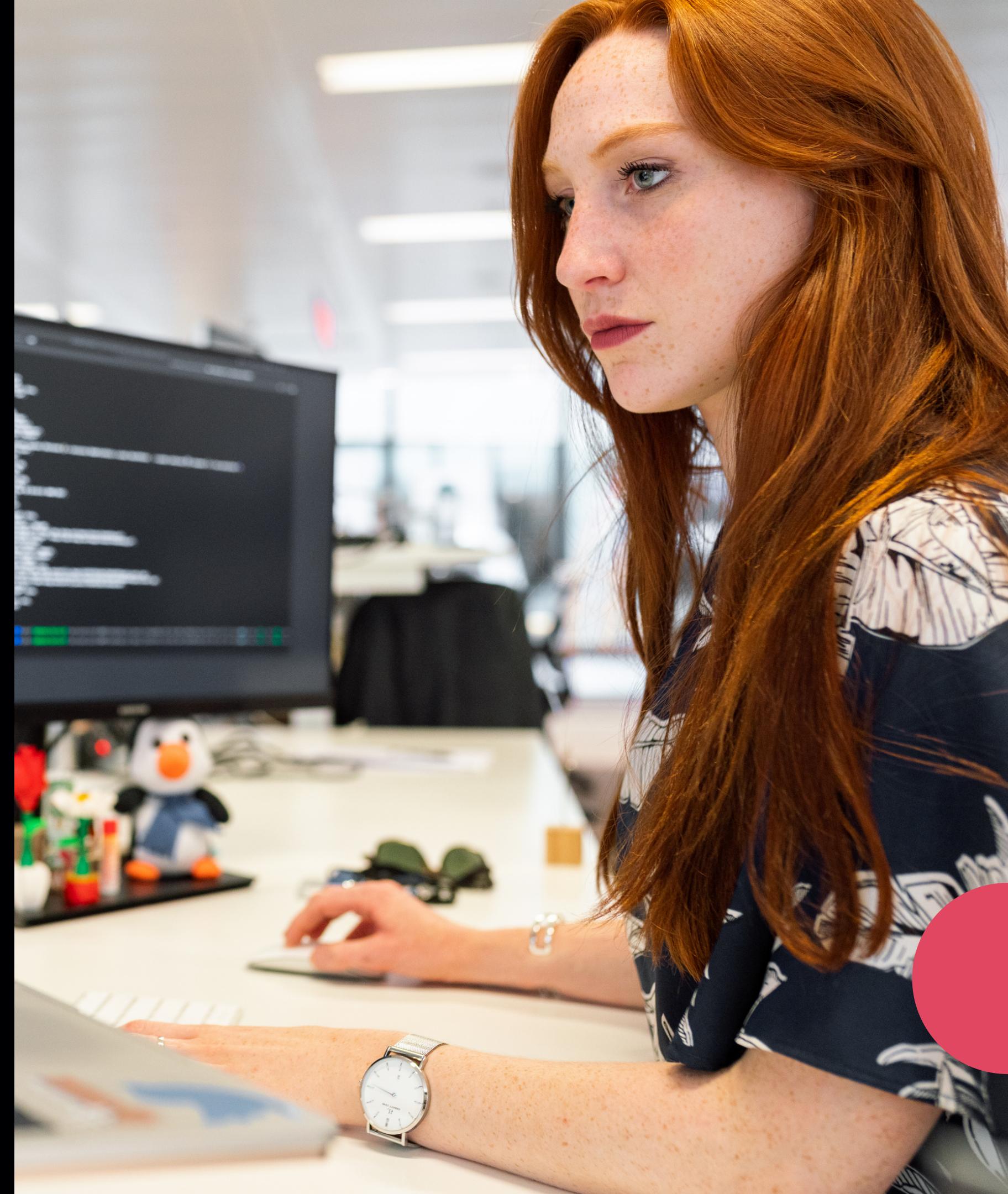
# CRYPTO BOOM 2021

BITCOIN SURPASSED **\$1 TRILLION** IN MARKET VALUE FOR THE FIRST TIME

INTEREST IN NFTS EXPLODED AFTER BEEPLE'S **\$69 MILLION** SALE

ELON MUSK CONTRIBUTED TO DOGECOIN'S RECORD HIGH

EL SALVADOR ADOPTED BITCOIN AS LEGAL TENDER





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## THEN WHAT'S WRONG?

***"Blockchain technology, in its current form, isn't ready to break the corporate stranglehold on the web just yet. Despite the promise and the progress made, we have yet to see significant real-world deployment of the technology"***

- Dr. Gavin Wood





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## PROBLEMS WITH CURRENT

### Scalability

Bitcoin – 3.3 to 7 transactions per second

Visa – 1700 transactions per second

**Dropping the state is not a solution (e.g. Factom)**

### Isolatability

Bitcoin and Litecoin – mining, investing

Fabric and Corda – supply chain, voting

R3 – banks and governance

**Is there a one size fits all?**



# INTRODUCING POLKADOT



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# FOUNDERS



**Robert Habermeier**

Founder



**Dr. Gavin Wood**

Founder



**Peter Czaban**

Founder

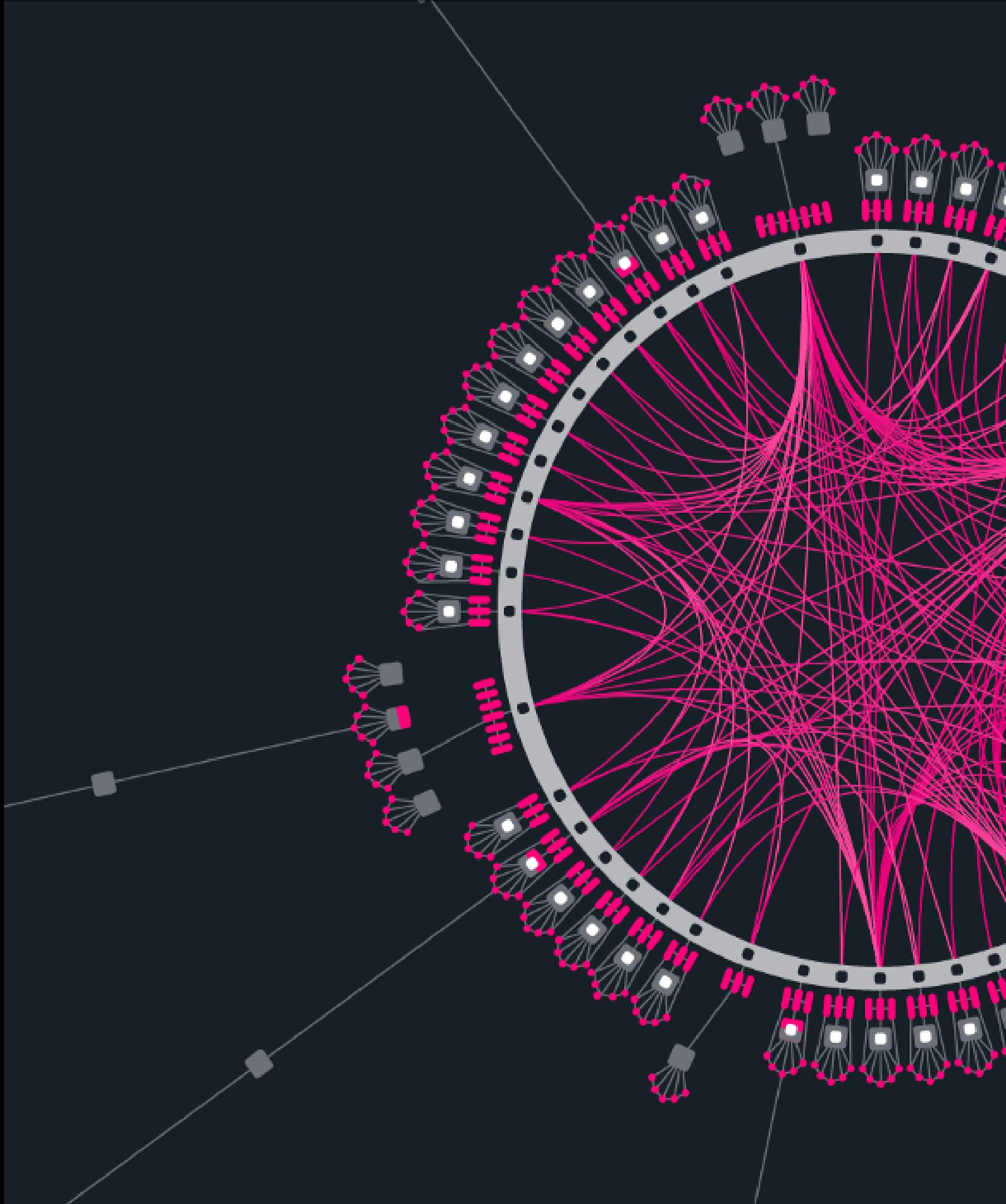


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# INTRODUCTION

Polkadot provides a cross blockchain information exchange platform. It enables cross-blockchain transfers of any type of data or asset and not just tokens. Hence enabling to interoperate with wide variety of blockchains.

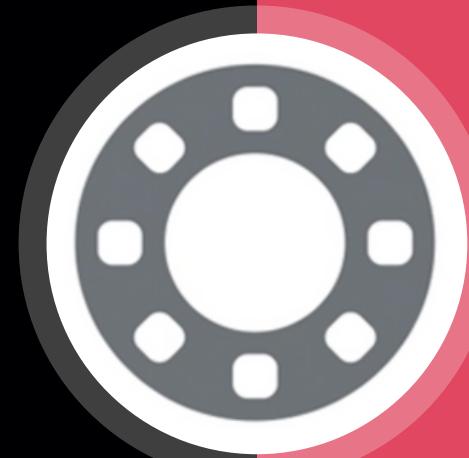
- **True interoperability**
- **Economic & transactional scalability**
- **Easy blockchain innovation**
- **High energy efficiency**
- **Security for everyone**
- **User-driven governance**





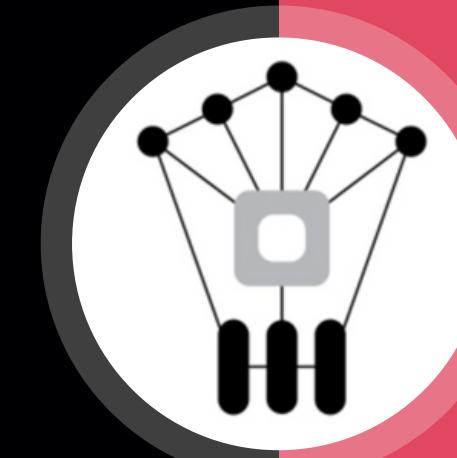
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# POLKADOT ARCHITECTURE



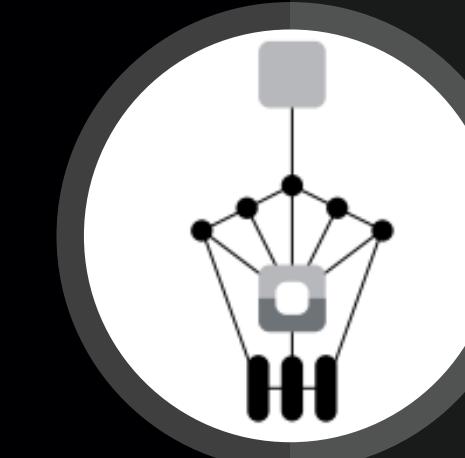
## Relay Chain

Polkadot's heart, responsible of the network's security, cross-chain and consensus interoperability.



## Parachains

Different blockchains that can have their own tokens and optimize their functionality for specific use cases.



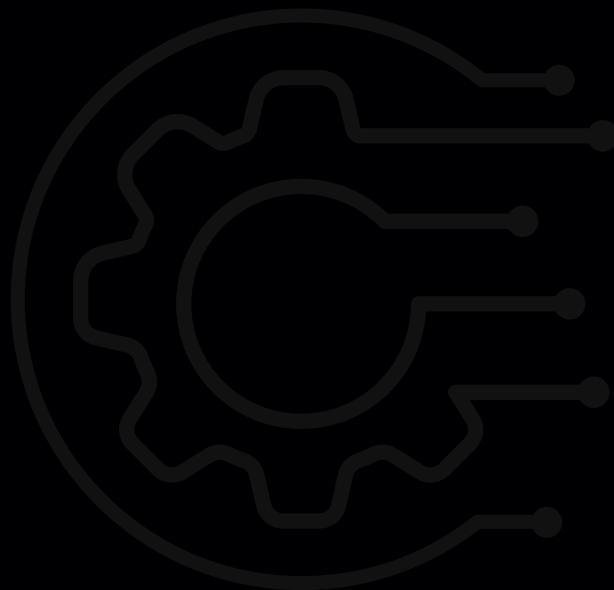
## Bridges

Special blockchains that allow Polkadot shards to connect to and communicate with external networks like Ethereum and Bitcoin.



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# CONSENSUS ROLES



01

## Validators

Secure the Relay Chain by staking DOTs, validating proofs from collators and participating in consensus with other validators.

02

## Collators

Maintain shards by collecting shard transactions from users and producing proofs for validators.

03

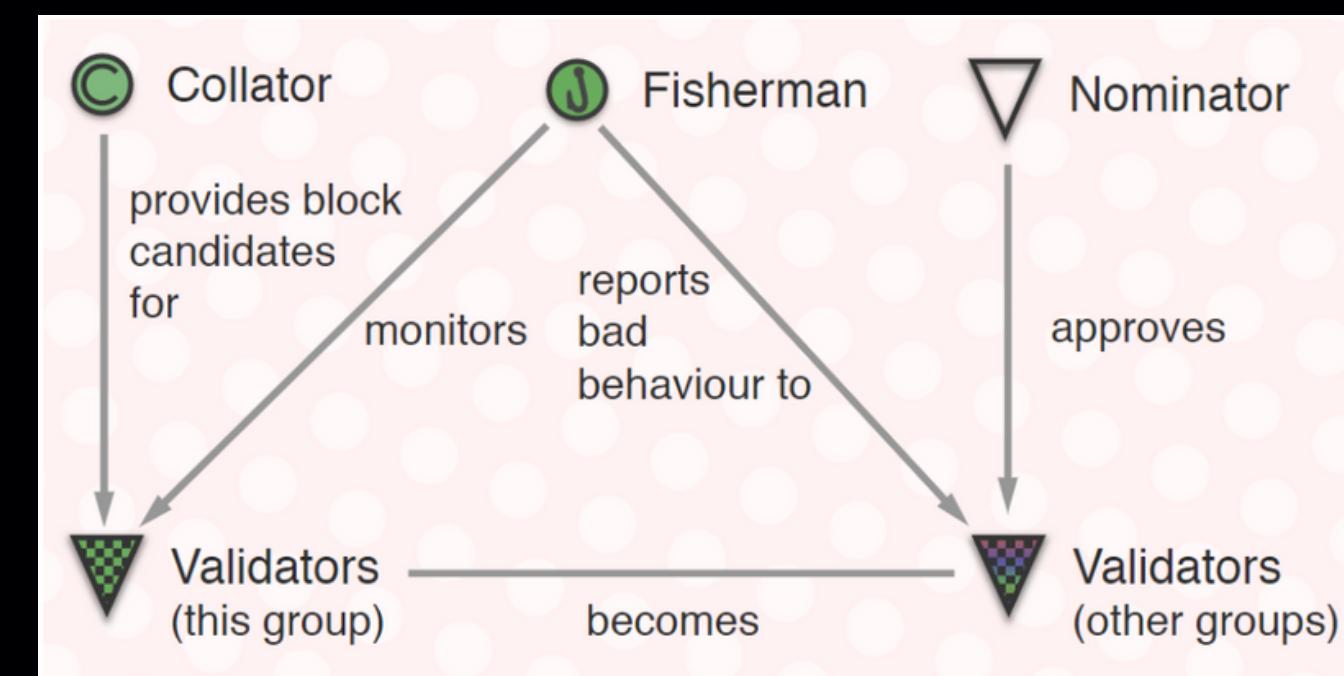
## Nominator

Secure the Relay Chain by selecting trustworthy validators and staking DOTs.

04

## Fishermen

Monitor the network and report bad behavior to validators. Collators and any parachain full node can perform the fisherman role.





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# GOVERNENCE ROLES

01

## Council members

Elected to represent passive stakeholders in two primary governance roles: proposing referenda and vetoing dangerous or malicious referenda

02

## Technical Committee

Composed of teams actively building Polkadot. Can propose emergency referenda, together with the council, for fast-tracked voting and implementation.



# THE DOT TOKEN

The **DOT** token serves three different purposes:

- **Governance:**
  - The DOT token holders have complete control over the protocol.
  - They have all the privileges which miners have on other blockchain platforms, like protocol upgrades and fixes.
- **Staking:**
  - Proof-of-stake promotes honest behaviors and network security. Reward mechanism for good actors whilst bad actors will lose their stake in the network.
- **Bonding:**
  -



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# DEVELOPERS SUPPORT

- Technology is only relevant if it has a thriving developer ecosystem
  - Facebook - React (Web), React Native (Mobile)
  - Google - Angular (Web)
  - Ethereum - solidity, truffle, ganache, hardhat, metamask.
- Similarly for Polkadot
  - Kusama - trial version of polkadot.
  - Kusama is an early, unaudited and unrefined release of Polkadot created to test the network's technology and economic incentives in a real-world environment.
  - Substrate - framework for building blockchains



# THE FUTURE

- Polkadot revolutionizes the conventional way of hard forking the network to upgrade, enabling blockchains to upgrade themselves without the need to fork the chain with forkless upgrades
- As of now there is just one relay chain. Polkadot is planning to have multiple relay chain in the future to have more versatile and opportunistic decentralized marketplaces to emerge, offering fairer ways to access services through a variety of apps and providers.



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# THANK YOU



# REFERENCES

<https://polkadot.network/>

<https://polkadot.network/Polkadot-lightpaper.pdf>

<https://polkadot.network/PolkaDotPaper.pdf>