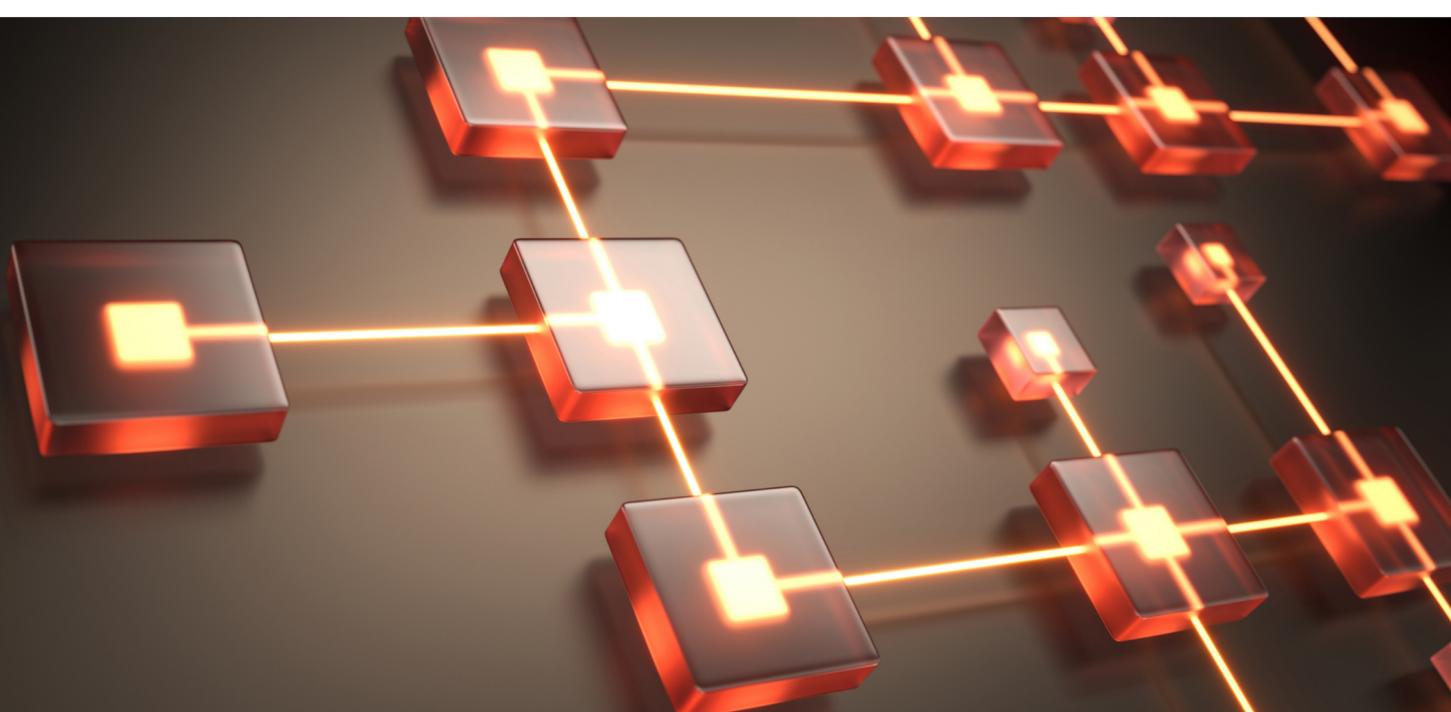


# WHITE PAPER

Kaichain Blockchain  
Version 2.0



# About KaiChain

Kaichain is an innovative permissioned blockchain solution that brings programmability and interoperability adaptable to the masses. It relies on the same POA consensus that is being used by bigger blockchains on date.

Proof-of-Authority is a consensus system that allows only authorized entities to validate transactions in a blockchain. This consensus is more energy-efficient as compared to Proof-of-Stake (POS) or Proof-of-Work (POW) or even the Delegated Proof-of-Stake (dPOS).

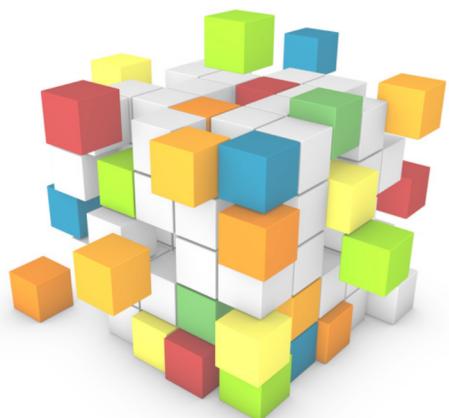
KaiChain was built to solve the foreseeable real blockchain industry problems. It aims to solve the current flaws in major ecosystems such as low transactions per second, high operational costs and carbon-emitting blockchain validations.

## Mission and Vision

Kaichain team aspires to make this blockchain the safest, fastest and most reliable with next to no carbon footprint blockchain in the world.

We are building the future of digital identity ownership by enabling the people to have full control of all of their information. We all have the same goals after all, "to have a better life".

*"We help build a  
better life"*



# The Birth of KaiChain



SEPTEMBER  
**2021**

Solana network halted for hours causing network clogging.

OCTOBER  
**2021**

High volume of transactions across the entire blockchain causing all validations to slow down and skyrocketing gas fees.

NOVEMBER  
**2021**

High volume of transactions across the entire blockchain continued.

DECEMBER  
**2021**

Solana network halted twice for few hours causing network clogging.

DECEMBER  
**2021**

Gave birth to KaiChain due to events above.

# Proof-of-Authority (POA)

Proof-of-authority is a consensus algorithm that delivers an efficient solution for blockchains, specifically private ones. The term was coined in 2017 by Gavin Wood, a co-founder of the Ethereum blockchain.

In proof-of-authority, machines earn the right to generate new blocks by passing a strict vetting process, which is discussed in detail in the next section. As a result, trustworthy validation machines protect PoA blockchains. These system moderators are preapproved participants who check blocks and transactions.

## How Does POA Work?

Preapproved validators use software to organize transactions into blocks. The process is automated, and so the validators don't need to monitor their computers constantly. That, however, means that validators must keep their computers (admin sites) in good working order.

Although conditions differ from one system to the other, to be chosen as a validator, a user must meet these three basic requirements:

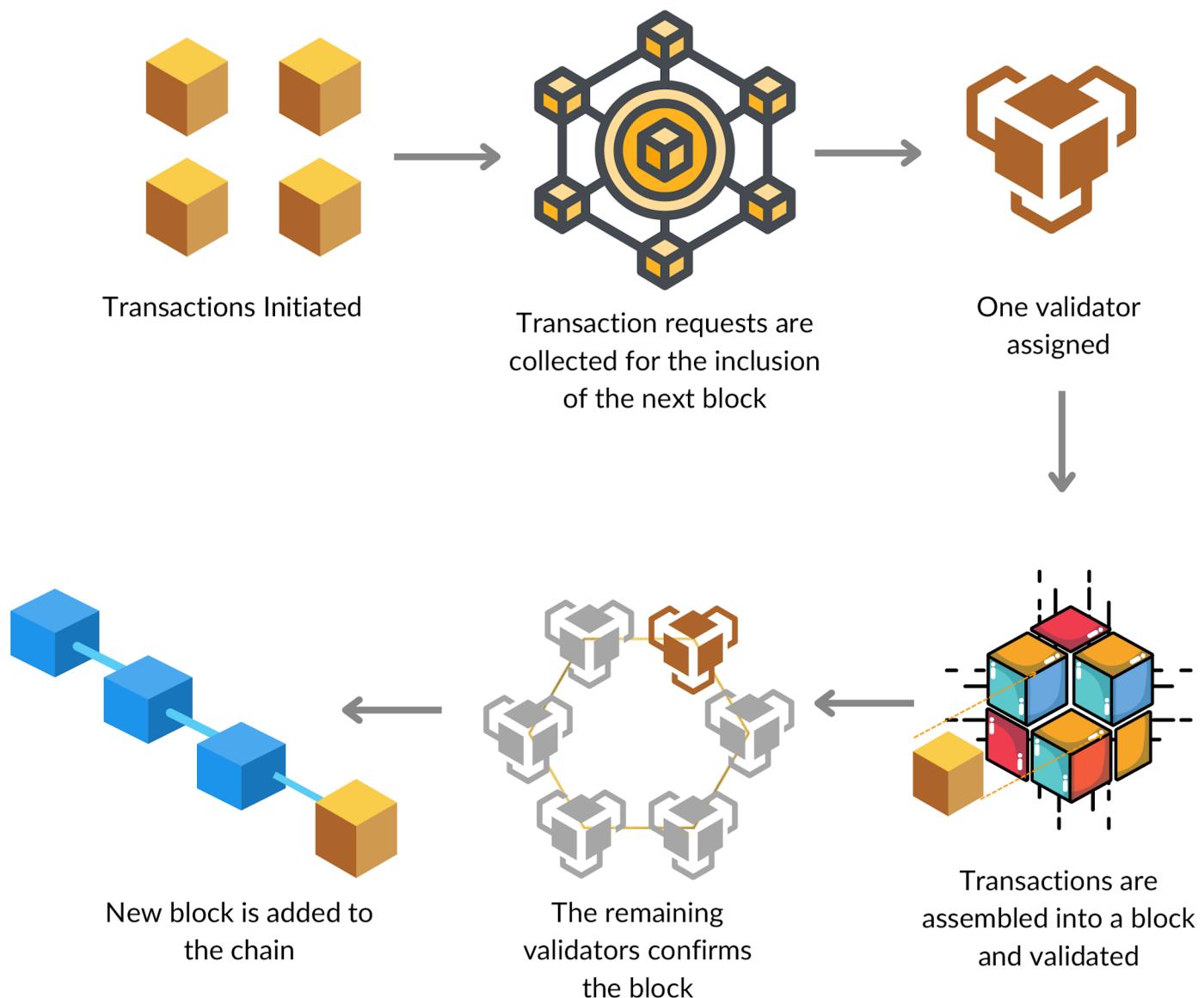
- A validator should be trustworthy, of good moral standards and without any criminal record.
- A validator's identity must be formally validated on the network, with the ability to cross-check the information in the public domain. Therefore, the real identities of validators are confirmed.
- A validator candidate should be willing to invest money and stake their own reputation. A rigorous process reduces the possibility of selecting questionable validators and encourages a long-term commitment.

Source. Coindesk.com



With PoA algorithm, people get the right to become validators so they have an incentive to maintain the position that they received. To avoid spoiling their reputation, validators are motivated to maintain normal transaction process. Thus, most users value their hard-earned role as a validator.

The graphic below presents how PoA consensus builds the network.



# Why POA?

Compared to other consensus types that require a proof of spent computational resources (POW) or an existing share (POS), POA consensus has several notable advantages.

The PoA algorithm reduces the power required to run the network and makes validation easier. On the other hand, staking in the PoS consensus mechanism facilitates decentralization by allowing individual participation in network security.

The PoA algorithm does not require puzzle-solving to guarantee the ongoing connection between nodes. Therefore, the validators don't require specialized hardware to maintain the network. However, three different pieces of software, including an execution client, a consensus client and a validator, are required to participate in the Ethereum staking process.

The speed at which the authorities validate transactions is accelerated by the proof-of-authority algorithm. As a result, the blockchain records a higher transaction rate than PoS or PoW due to the predictable generation of blocks dependent on the number of validators. Additionally, the PoA network is more resistant to attacks than the PoS or PoW consensus because a user who manages to create 51% of the processing power cannot compromise the network.

	POA	POS
Basis of Consensus	Disclose the identity of authorities to verify and add new blocks	Stake coins to verify and add new blocks
Requirement	Specialized hardware is not required	Users must run a software
Resistance to 51% attacks	An authority with 51% power cannot compromise the network	Anyone who obtained 51% of the stake can shut down the network
Suitability	Permissioned Blockchain	Permissionless Blockchain

Source. Cointelegraph.com

# Blockchain Security

In PoW, if miners or group of miners can accumulate 51% of Bitcoin's hash rate, they can flout the rules temporarily, block transactions or double-spend BTC. [Ethereum Classic's hack in August 2020](#)<sup>1</sup> is a classic example of a 51% attack, which caused a reorganization of over 7,000 blocks, equivalent to 2 days of mining.

Unlike POW which has miners and uses computers and heavy machinery to mint new blocks, PoS has validators and uses staked coins to attest blocks into existence. This mechanism though is energy-efficient has some security vulnerabilities.

PoA on the other hand, validators stake their reputation instead of coins. Therefore, PoA networks are secured by validating nodes that are randomly selected as trustworthy entities.

Since PoA incorporates a more human security approach by including validators that stake their reputation the network leveraging this mechanism is sustainable and secure from reply and 51% attacks. Additionally, the PoA Model is highly scalable because it relies on a limited number of validators. Therefore PoA is an ideal choice because it is highly secure and uses the least energy among the 3 consensus.

	PoW	PoS	PoA
Mining Method	Hardware	Coin Staking	Reputation
TPS	Limited	< 100,000	Unlimited
Scalable	No	No	Yes
Eco-Friendly	No	Yes	Yes
Scam Protection	Unlikely	Likely	Yes
Security from Malicious Activity	No	No	Yes
Validators	Anonymous	Highest Stake	Most Trustworthy

Sources:

1 <https://www.coindesk.com/markets/2020/08/29/ethereum-classic-hit-by-third-51-attack-in-a-month/>

# Forseeable Problems

Below are the current problems most blockchains experience during high volume transactions. These problems will continue as more will be joining the crypto space in the future.

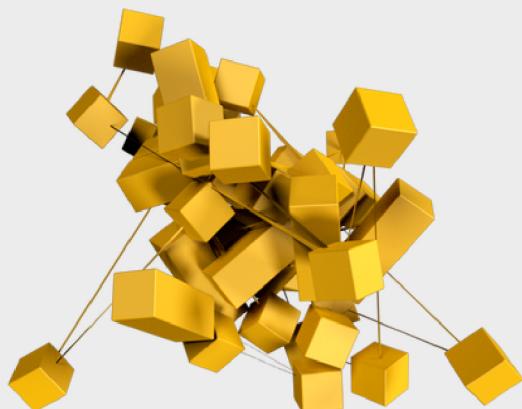


## SLOW NETWORK

The top blockchain second to Bitcoin have the speed of only 15 TPS which is not ideal for high volume transactions. During congestions, transactions sometimes get validated after few minutes to few hours.

## NETWORK OVERLOAD

Blockchain adoption, though increasing rapidly, is still in its infancy. With less than 5%\* of the global population using cryptos and even a lesser amount in GameFi, the stresses and load on even the most advanced blockchain ecosystems are being felt.



\*Source: <https://triple-a.io/crypto-ownership-data/>



## HIGH TRANSACTION FEES

Due to network clogging and slow validations, gas prices also skyrocketed. The gas fees between Jan 2021 to May 2022 on eth ranges from \$40 to \$200. All other blockchain gas fees experienced the same.

# KaiChain Solution

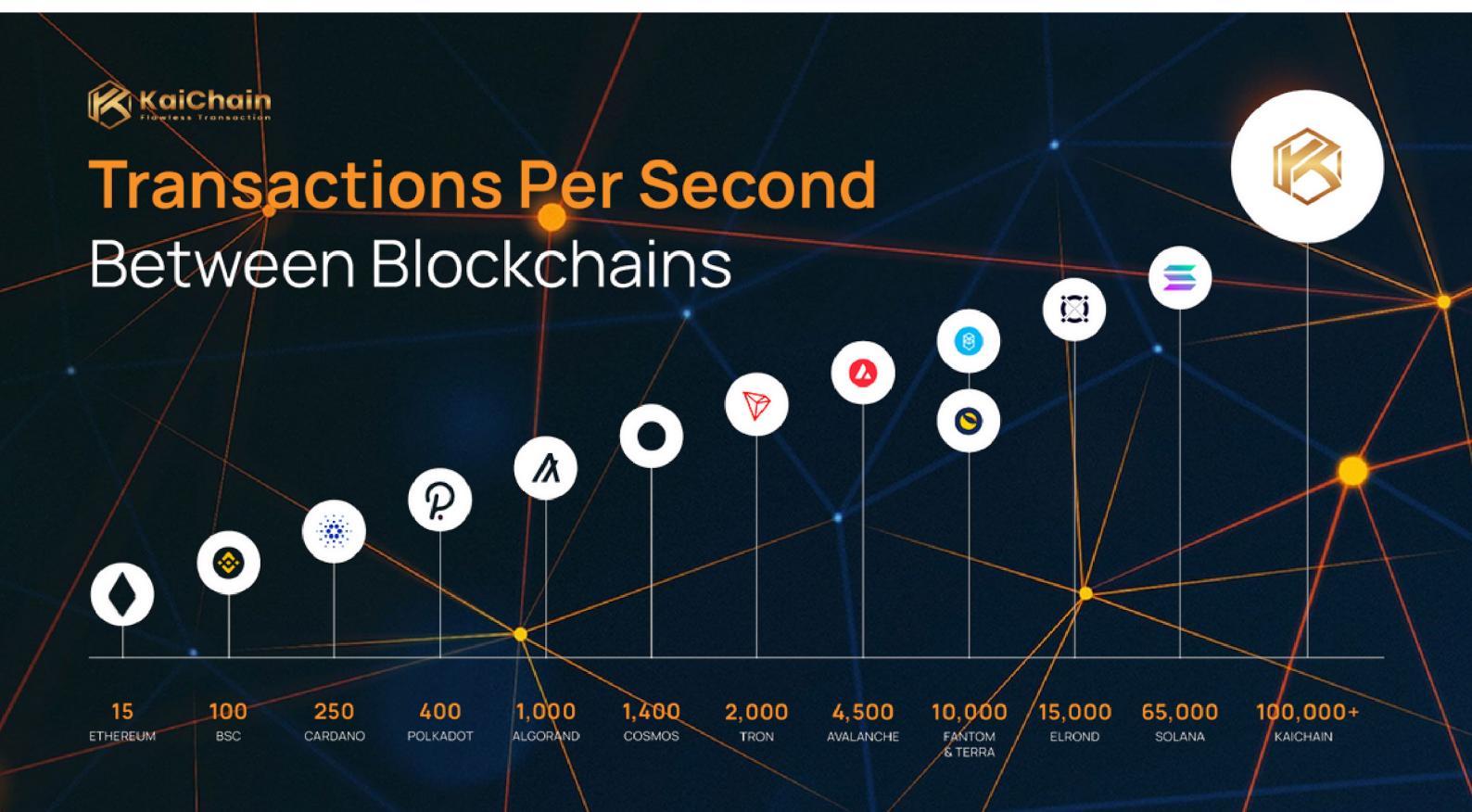
## FAST AND SCALABLE NETWORK

KaiChain offers a solution to the scalability faced by all major blockchain networks as they struggle to support the massive adoption. Blockchain adoption has seen an unprecedented rise in the last few years and running networks are not designed to sustain the load.

Kaichain team foresees the grind increasing day by day. Instead of using ad hoc methods and adding complexity to already overburdened networks, the team has come up with a solution of providing a new blockchain network that has extreme scalability already woven into its very fabric.

Top DeFi and GameFi blockchain networks offer extremely slow TPS (Transactions Per Second). Ethereum, the largest network does a mere 15 at maximum. Though rival networks such as Solana have a much better 50,000 TPS, these will soon face the same issues.

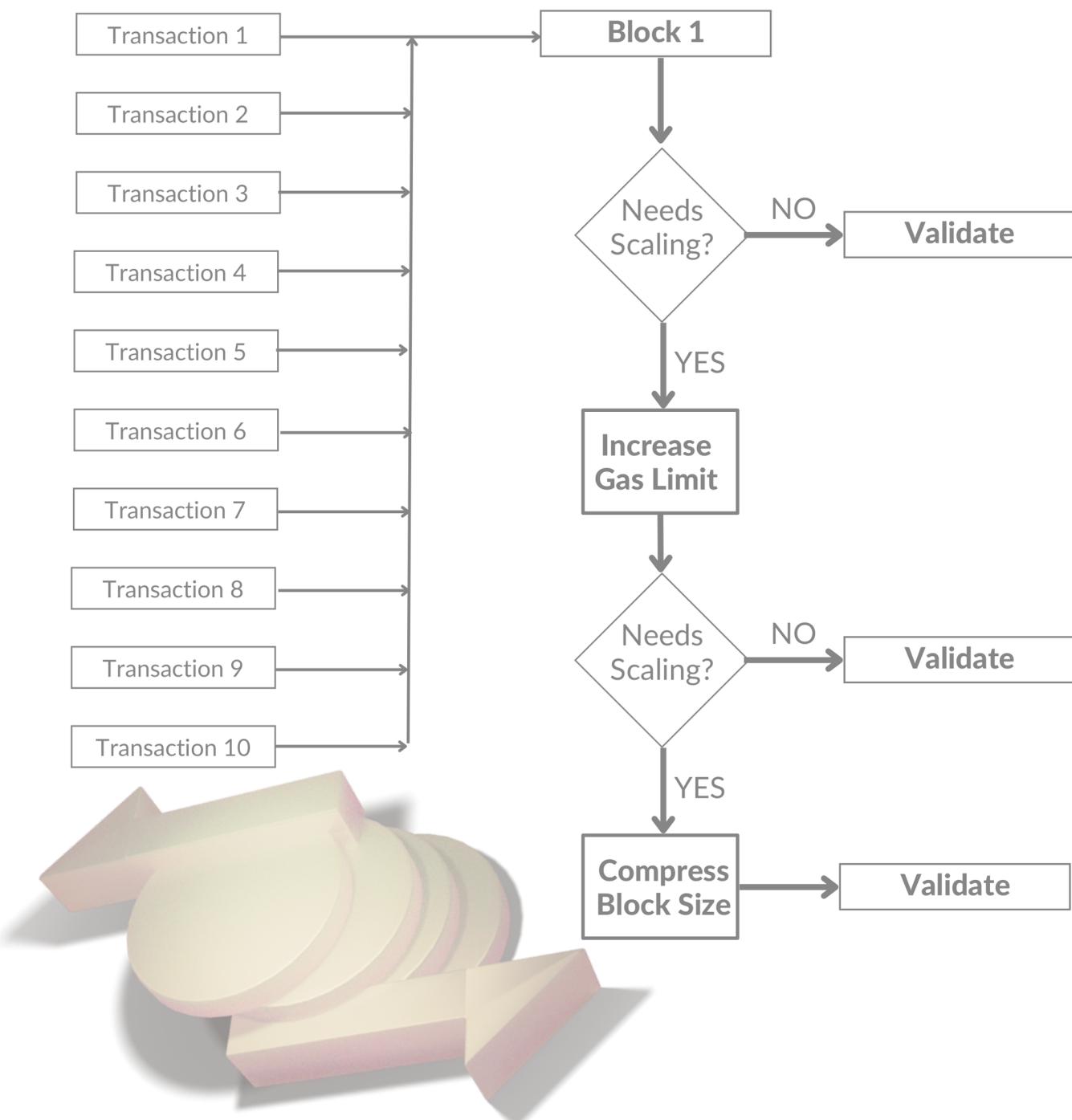
Kaichain, on the other hand, can handle more than 100,000 TPS, offering extremely fast movement of assets. Combined with an energy and economically efficient Proof of Authority, it is the logical choice for easy adoption and viability.



# KaiChain – A Sustainable Solution

## HOW SCALING WORKS

Kaichain has an adjustable block size and gas limit can be increased. To counter the increase of block sizes uploaded to the network, Kaichain compresses the block size, thus increasing the transactions that can fit in one block. This boosts the capacity of KaiChain.



# KaiChain Features

**Quick & Fast Transaction**

Designed to bolster speed more than 1000x than Ethereum.

**Cheap & Low Cost Fees**

Transact anything with almost free fees...EVERYTIME.

**Eco-Friendly Blockchain**

No carbon footprint for every transaction.

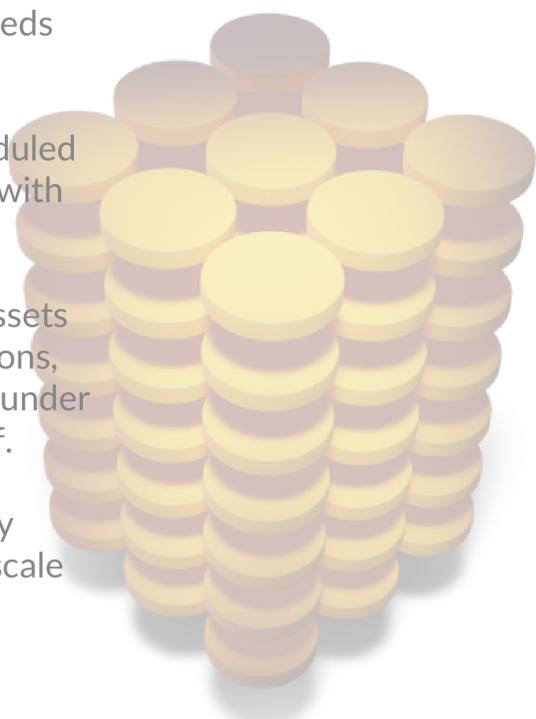
**EVM Compatible**

Less to None learning for new line of codes...deploy what's available.

Blockchain alone is already enough. However, the team is going beyond what blockchain offers. The community needs something to interact with blockchain.

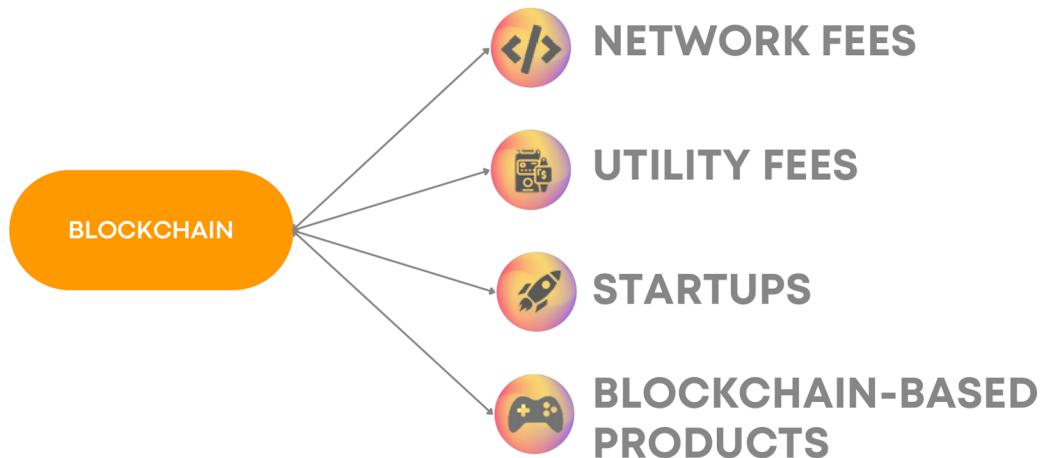
Kaichain is also developing upcoming dAPPs that is scheduled or expected to be presented/released in the near future with targets to achieve:

- Flawless Transactions - will connect fiat and digital assets and removes any middleman and centralized institutions, thus providing much faster and secured transactions under your control. The transactions are also inflation proof.
- Fast and Private - will ensure your activity and history including your information are private. Kaichain can scale up to more than 1000x times the current speed of Ethereum.

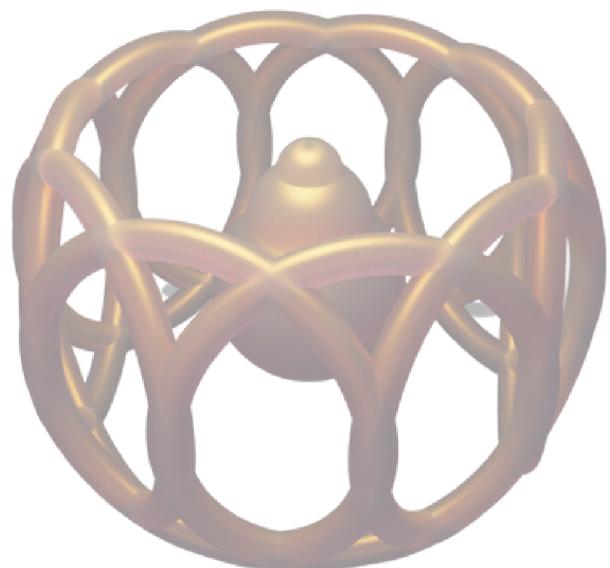


# Business Model

In order for the KaiChain to sustain its operation, several income streaming avenues will be considered. The diagram below will be where the income are generated.



- Network Fees - KaiChain project earns from every transaction on the blockchain. It also earns from using dApps like Multisender, Multisig, Kai Audit and KaiBridge
- Utility Fees - the project earns from the DEX, p2p transactions and Kai Pay
- Startups - the project earns from every blockchain startups that will be deployed on the chain
- Blockchain-Based Products - the project earns from its own blockchain apps created in-house.



# KaiChain In-House DAPPS

Kaichain in-house dApps ensures that the blockchain is reachable. It offers useful features for an average Joe.

These dApps will play a big part of the entire KaiChain ecosystem.

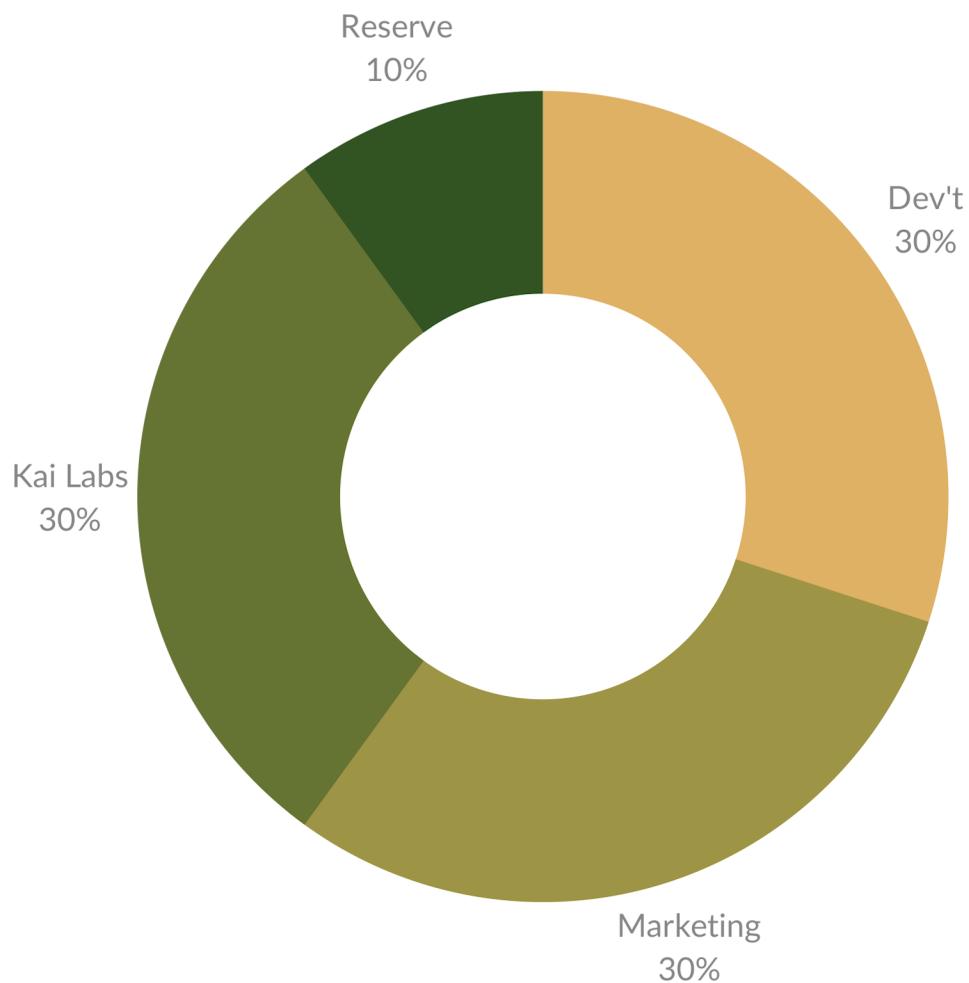


The development of these dApps started in Q4 of 2022. Some dApps will be launched first before kaiChain is officially launched.

Big dApps like Smart Payment System which will be renamed to KaiPay will start the development by Q1 of 2023.

# Funding Model

Collected funds from initial sales are allocated on 4 major areas of the business.

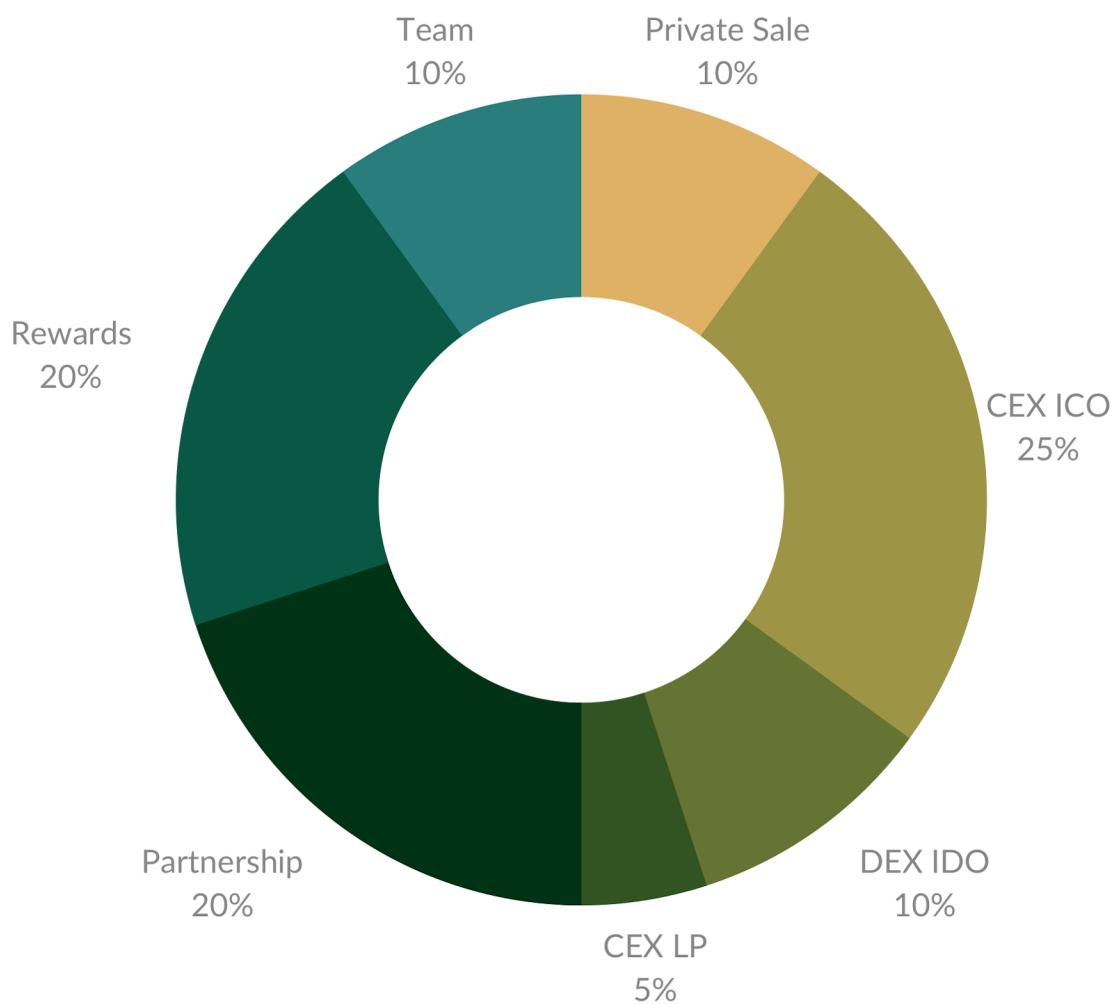


- Development - 30% of the fund is allocated on development. This ensures a continuous improvement of the entire KaiChain ecosystem.
- Kai Labs - this will go to grants offered to developers, project owners or startups to maintain a good number of projects running on chain.
- Marketing - this ensures broadcasting what KaiChain can do in order to attract masses to use the blockchain
- Reserve - this is to backup the first 3 fund allocations in case any of them needs more funding.

# Coin Distribution

Total supply is fixed to 1 Billion coins. All coins were pre-minted so no more coins to be produced ever.

The native coin will be distributed to 4 main areas.



- 45% on Coin Sales on different stages and platforms
- 10% on Personnel
- 20% on Community
- 25% Reserve (Partnership and CEX LP)

# Network Status

Mainnet, Testnet and Faucet were all deployed at the end of Q2, 2022.

Both the mainnet and the testnet are scanned every 24 hours using an Active Blockchain Monitoring Tool scanner to make sure that the operation of nodes are in good status.



## Mainnet: Good

## Testnet: Good

As of Q4 of 2022



### Mainnet

Fully deployed, scanned more than 50x as of Oct 2022. From November, it will be scanned every 24 hours.

*[explorer.kaichain.net](http://explorer.kaichain.net)*



### Faucet

Fully deployed and running well. Faucet was already beta-tested by the community 2x as of October. Those who joined the testing will be rewarded.

*[faucet.kaichain.net](http://faucet.kaichain.net)*



### Testnet

Fully deployed and running well. Faucet was already beta-tested by the community 2x as of October. Those who joined the testing will be rewarded.

*[testnet-explorer.kaichain.net](http://testnet-explorer.kaichain.net)*

# About the Team



Kaichain is a team of passionate individuals from different parts of the globe. They came from different backgrounds specializing in different areas from management, finance, AI technology, blockchain and engineering.

Together, they want create a different future for the community and with the community.

For the safety of the users, the team was doxxed through a 3rd party KYC checker.

## Organization and Management

**Rod**

CEO

**Alex**

PM

**Wingo**

CTO

**Walter**

CM

**Top**BLOCKCHAIN  
DEV TEAM 1**Vin Team**BLOCKCHAIN  
DEV TEAM 2

@Kaichain1



admin@kaichain.net