



I D E N A

The first human-centric  
blockchain

## Executive summary

- Major use cases: Governance, bot-protected marketing, serverless messenger, decentralized publishing platform
- Idena's Big Dream: 100 mln people running mining nodes by 2025
- Tech roadmap: Sharding, smart contracts, private transactions, cryptoidentity sign-in
- Traction\*: 597 validated identities, >3000 community members, live since Aug'19

\* as of 26 Jan 2020

## Ikena's Big Dream

100 million people running Ikena nodes by 2025

Ikena is aimed to become an internet of people designed to revive human rights to freely and privately communicate, vote, share information, and exchange value



“

Ikena is the first human-centric blockchain based on [Proof-of-Person](#) consensus

Blockchains today are not truly decentralized:  
the ownership and power is concentrated in  
the hands of a few privileged actors

# Proof-of-Work mining is an exclusive club

Very few miners

**19**

mining pools

...in one area

**80%**

of the hashrate is in China

...control the network

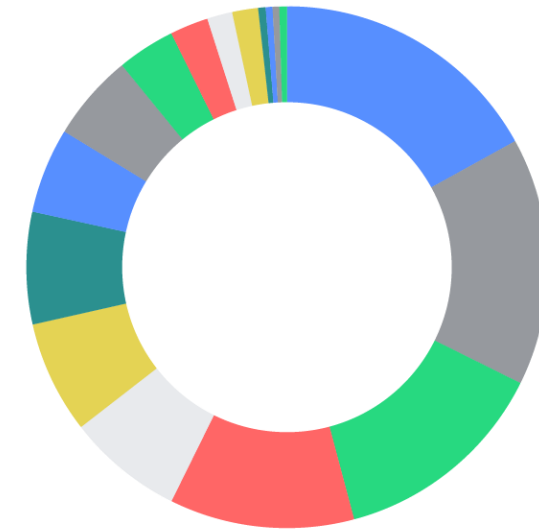
**3**

pools control 51% of the hashrate

High costs

**\$0.05**

breakeven cost per 1 KWh



16.9%	● BTC.com	5.4%	● SlushPool
15.3%	● F2Pool	3.7%	● BitFury
13.5%	● Poolin	2.3%	● BytePool
11.5%	● AntPool	1.6%	● NovaBlock
7.3%	● ViaBTC	1.6%	● AntPool
7%	● Huobi.pool	0.5%	● Bitcoin.com
6.9%	● unknown	0.4%	● BitClub
5.4%	● BTC.TOP	0.4%	● WAYI.CN

# Proof-of-Stake doesn't change the game

Initial wealth

**70%**

ethers are premined

...in a few hands

**53%**

owned by 400 wallets

Monopolized mining

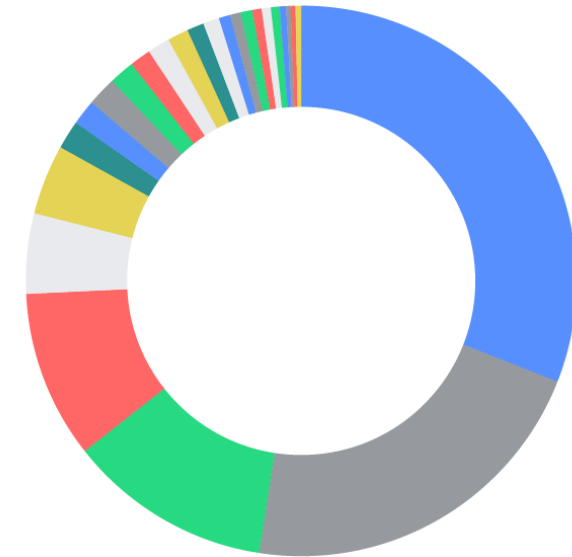
**2**

pools control 51% of the hashrate

Miniscule returns

**\$0.3**

daily earnings in PoS with 32 ETH min stake



- 30% Spark Pool
- 20.9% Ethermine
- 11.5% F2Pool 2
- 9.6% Nanopool
- 4.8% zhizhu.top
- 3.8% MiningPoolHub
- 1.6% UUPool
- 1.5% xnpool
- 1.5% PandaMiner
- 1.4% 13319d8ba1acf05e
- 1.3% BTC.com Pool
- 1.2% Huobi Mining Pool

# Federated blockchains are centralized

A small number

**21**

block producing nodes in EOS

...own the network

**91%**

Stellar XLM held by the founders

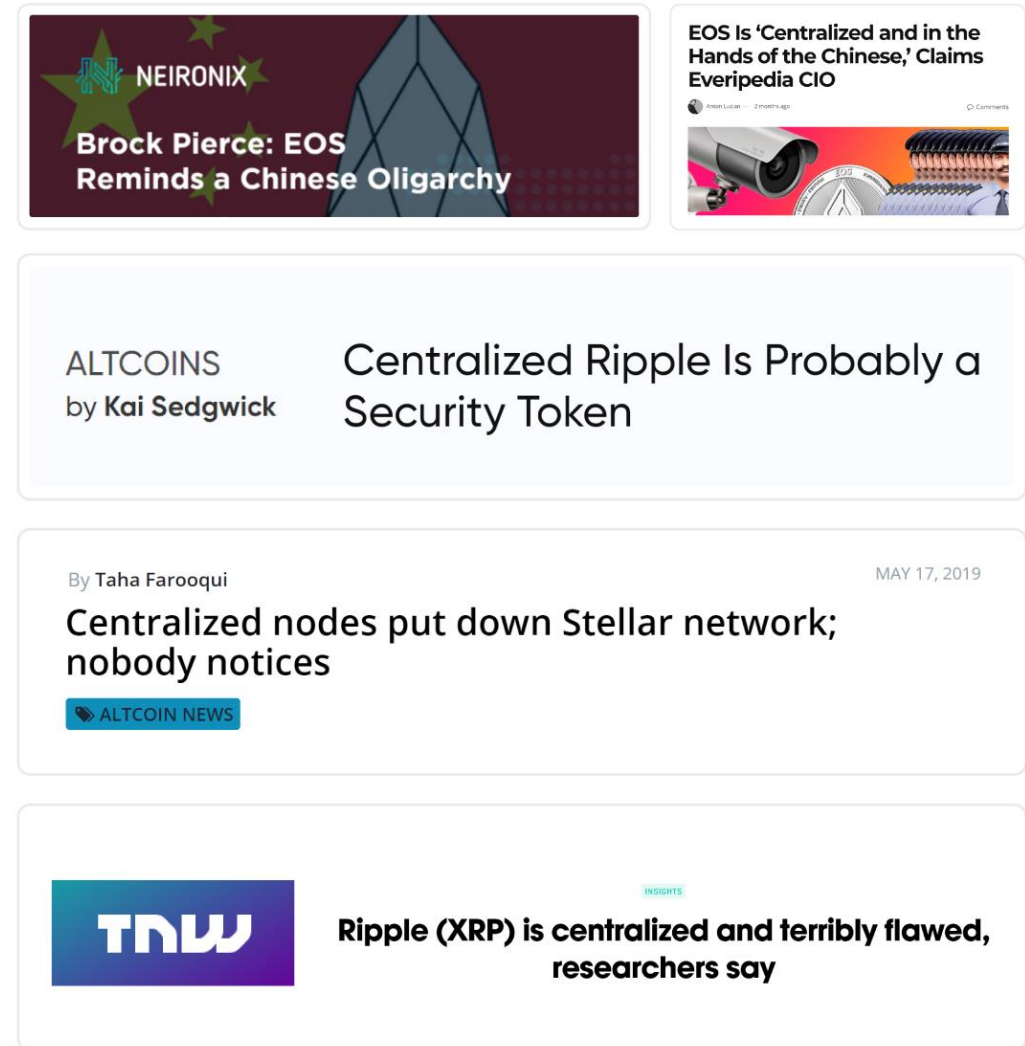
...of beneficiaries

**33**

validating nodes in Ripple

**80%**

Ripple XRP held by the founders



**NEIRONIX**  
Brock Pierce: EOS Reminds a Chinese Oligarchy

**EOS Is 'Centralized and in the Hands of the Chinese,' Claims Everipedia CIO**

**ALTCOINS**  
by Kai Sedgwick  
Centralized Ripple Is Probably a Security Token

By Taha Farooqui  
MAY 17, 2019  
Centralized nodes put down Stellar network; nobody notices  
ALTCOIN NEWS

**TRW**  
INSIGHTS  
Ripple (XRP) is centralized and terribly flawed, researchers say

## Why is mining concentrated?

- Proof-of-Work and Proof-of-Stake are based on capital
- Capital has heavy-tailed **Pareto distribution**
- Larger players enjoy **economy of scale** and adopt anti-competitive practices
- Smaller players vanish
- The rich **get richer**



“

Any system that formalizes ownership and property but does not formalize people will inherently tend to serve capital and ownership rather than people.

Glen Weyl,  
founder of Radical Markets

Human personhood is the most evenly distributed and scarce resource on Earth

We formalize human personhood on the blockchain in the form of **cryptoidentity** - a manifestation of a conscious human proven online without central authorities or revealing personal information

Cryptoidentity is your unique **avatar** in the digital world



**ARTICLE 1**

**All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.**

Universal Declaration  
of Human Rights

## Cryptoidentity is your avatar

- You **can not buy** it, but you can grow it
- It is **unique worldwide**: you can have only one at a time
- It has age and reputation, its **value grows** with the age
- It dies, if you abandon it
- You are free to destroy it and make a new one
- No one can take it from you, if your private key is safely stored



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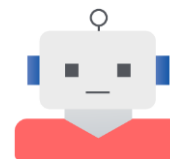
Cryptoidentity has unique fingerprint  
but does not refer to its owner: it's  
pseudonymous



# Prove your cryptoidentity with Idena online

1. **Humanness proof:** Candidates must solve a Turing test

2. **Uniqueness proof:** Candidates must appear online at the same time worldwide to complete the test



13:30 UTC

universal validation time

San Francisco, USA	5:30
New York, USA	8:30
London, UK	13:30
Berlin, Germany	14:30
Moscow, Russia	16:30
Beijing, China	21:30
Tokyo, Japan	22:30
Sydney, Australia	0:30

# Solving a Turing test

A **flip** is an AI-resistant CAPTCHA created by a person

Common sense is required to identify a **meaningful story** from two alternative sequences of images

Meaningful story



“The vase was knocked over by the cat, so the puddle had to be cleaned with a sponge.”

Meaningless story



This sequence conveys no discernible storyline.

## Do flips work?

People are good

**12**

seconds to solve

...at solving flips

**95%**

average accuracy

AI can't replicate

**79%**

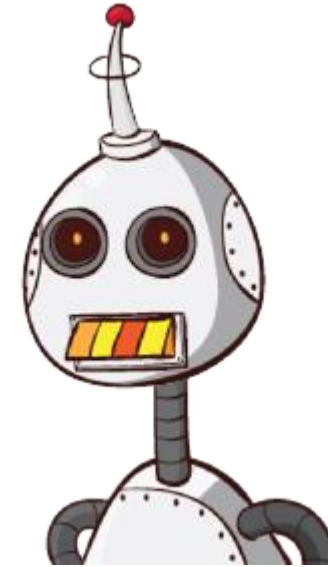
highest AI score in WinoGrande test

...common sense

**67%**

highest AI score in Visual Common Sense test

**The biggest problem in AI?  
Machines have no common sense.**



Idea Flip Challenge: **\$25,000** prize for AI team to reach **80%** accuracy





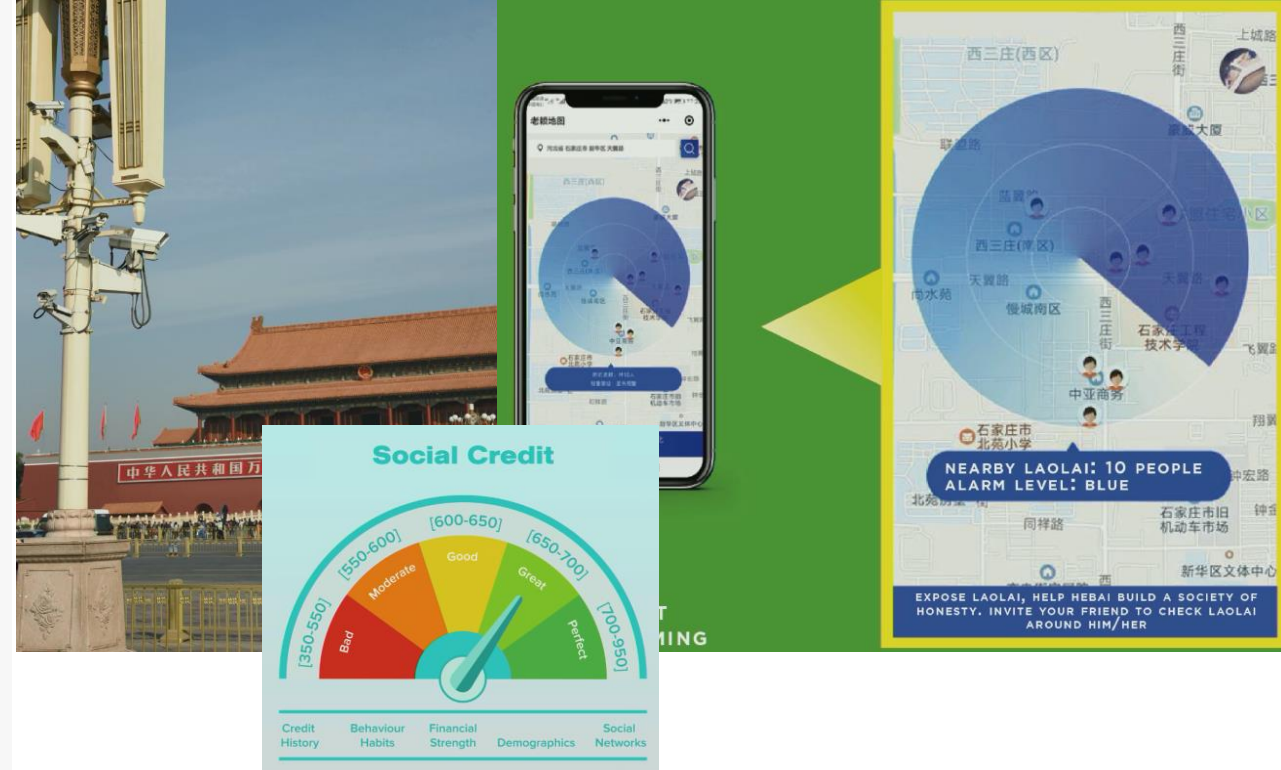
# WeChat

1 billion people are using every day

Shopping, messaging friends, planning all in one app

Very fast and convenient

But when you trade your privacy and freedom for your convenience you feed your data to growing Big Brother



“

WeChat warns you that there are people with a low social score around you so you may lose your own social credit if you interact with them

## WeChat-isation is the way to the George Orwell's world

### Trends and technology:

- Social engineering technology
- Facial recognition
- Street level surveillance gear
- Big data processing
- Privacy becomes illegal
- Cash transactions limited
- Targeted propaganda



“

Countries in red are using or purchasing Chinese surveillance technology

People are fragmented and disjointed across the globe

Internet was born in 1983 but since then it did not unite people around a single subject.

Various languages, countries, mindsets and religions, borders and governments make us disconnected despite the richness of communication channels.



“

Divide et impera (divide and conquer)  
Philip II of Macedon

Gaining and maintaining power by breaking up larger concentrations of power into pieces that individually have less power than the one implementing the strategy



The '3.5% rule': small minority can change the world

No government can withstand a challenge of 3.5% of its population without either accommodating the movement or (in extreme cases) disintegrating.

Think of what can 3.5% of the world population change?



“

Nonviolent protests are twice as likely to succeed as armed conflicts – and those engaging a threshold of 3.5% of the population have never failed to bring about change

## Missing elements to join people

There is no single place in the internet where every voice can be heard (counted)

1. Open: anyone can join
2. Decentralized and private: no trusted parties in the middle
3. Sybil-protected: system can not be spoofed/gamed
4. Funded: people are empowered to create common goods



“

We are all citizens of Google and Apple  
We are happier, fitter, more productive, but...  
dependent, monetized, surveilled



## Pseudonymity: No KYC!



Cryptoidentity is associated with a person who owns the address

No reference to personally identifiable information



Cryptoidentity is owned directly with a private key

No trusted third party is needed for safekeeping



Cryptoidentity is globally validated by human intelligence

No government ID is required to authenticate



## Global consensus: **No censorship!**



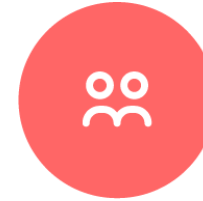
Cryptoidentity validation is supported by global network consensus

All nodes agree about the same registry of valid persons: the single source of truth



There is no central issuer of cryptoidentity

It can not be banned, restricted or censored. It's unstoppable!



Anyone has a right of cryptoidentity

It does not matter which country they live in or what citizenship they have



## Democratic mining: **No elite!**



### No power concentration

The Idena network is truly decentralized, since every node is owned by a single person



### Easy access to mining

No expensive mining hardware or money to stake are needed, but rather an average laptop with an Internet connection



### Equal voting rights

Every validated participant has an equal voting power in the network to produce blocks and validate transactions

## Use cases

- Voting
- Governance
- Electronic democracies
- Global universal basic income
- Serverless messenger
- Decentralized publishing platform
- Bot-protected marketing

What is bot-protected  
marketing?

## Fake Internet

Bots account for **56%** of overall website traffic

Facebook took down **2.2 billion** fake accounts in **Q1 2019**



“

How much of the Internet is fake?  
According to some researchers, a  
healthy majority of it is bots

## Ad fraud

Ad fraud takes **\$1** for every **\$3** spent on digital ads

Advertiser losses to reach **\$42 billion** of ad spend in **2019** to fraudulent activities committed via online, mobile and in-app advertising

Total advertiser loss to fraud will rise to **\$100 billion** by **2023**



“

Fake people with fake cookies and fake social-media accounts, fake-moving their fake cursors, fake-clicking on fake websites

# Fake news

3,841 Twitter bot accounts originating in Russia targeted the 2016 U.S. presidential election

It costs only \$150 to promote hashtag on Twitter by bots

## 'Russian trolls' promoted California independence



By BBC Trending  
In-depth stories on social media

© 4 November 2017



Social media accounts with ties to Russia pushed a huge Twitter trend in favour of an independent California on US election night 2016, BBC Trending has learned. The campaign was one of at least two popular online independence drives with links to the Kremlin.

Cryptoidentity is a solution to  
online fakes

## Strong bot protection: **No fake accounts!**



One person can not have multiple accounts, because the validation session starts at the same time globally



Account can not be bought due to cryptoeconomic incentives introduced by the protocol



100% protection from automated generation of fake accounts by bots





## Network effect

Advertising is the major source of revenue for Internet giants like Google, Facebook, Twitter

Fake impressions and clicks is the key risk for advertisers causing the loss of budgets

**Globally verified unique users** is what makes Idena network valuable

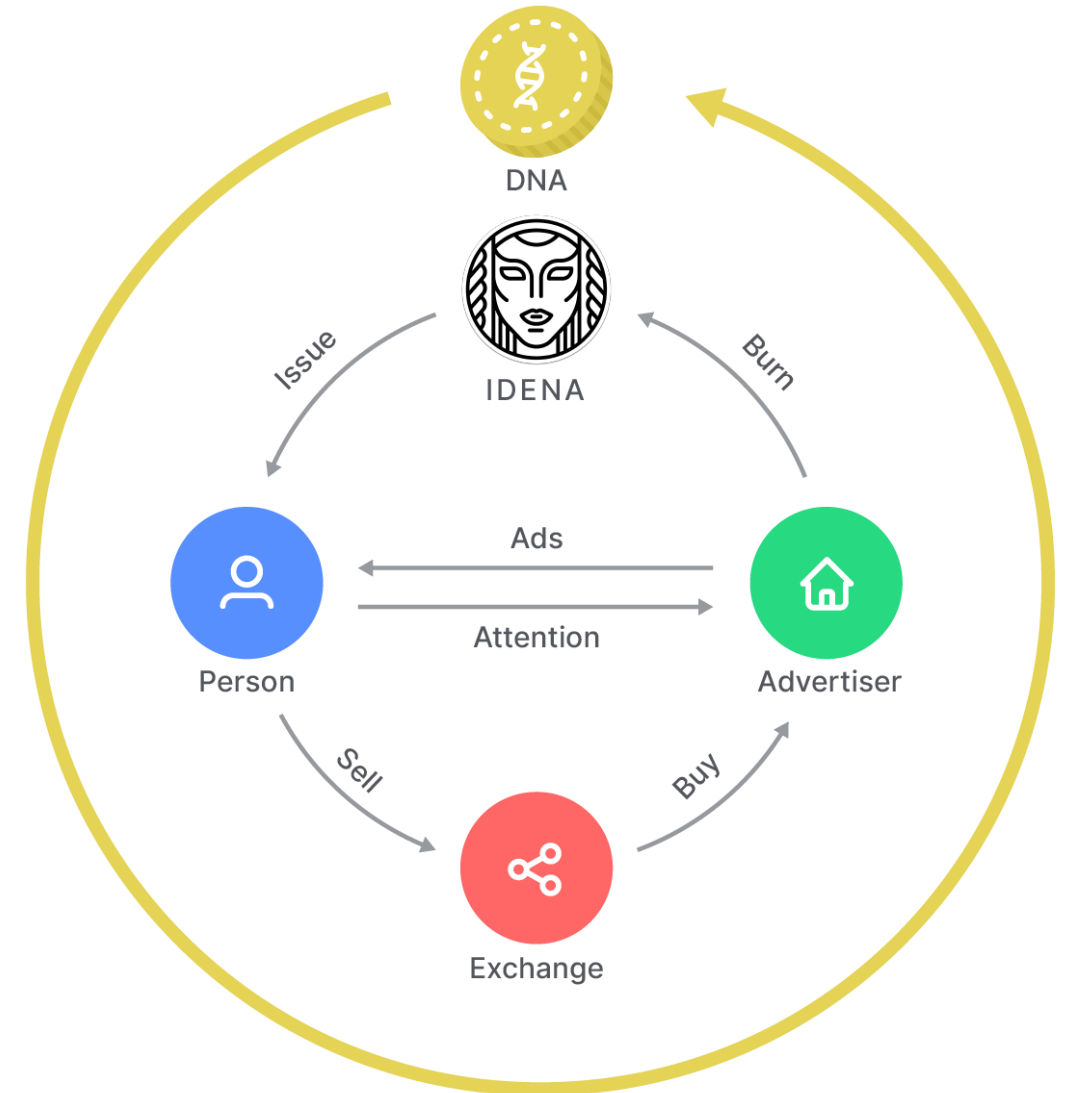


## Advertising revenue sharing

Advertisers have to **burn coins** to reach users' attention in an onchain real time auction

Newly minted coins are equally **distributed over the network** incentivizing people to keep their cryptoidentity

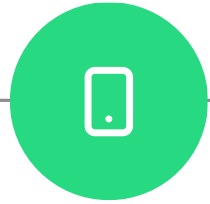
Advertisers face shortage of coins and have to buy them on the exchange



Closed tokenomics fuels demand for the Idena coin

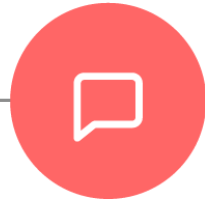
# Roadmap and vision

# Roadmap



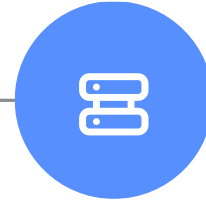
## Mobile node

Lightweight node to run Idena on a mobile phone



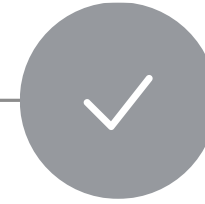
## Messenger

Serverless messenger with end-to-end encryption



## Marketing

Onchain auction for advertisers to compete for ad spaces



## Sharding

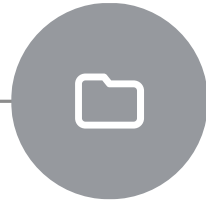
Running multiple shards in parallel to securely scale throughput

## Roadmap (continued)



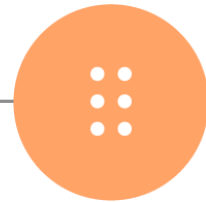
### Publishing platform

Decentralized publishing platform with consensus-based editorial



### Light smart contracts

Stateless smart contracts with dynamic state loading



### Personal privacy

Non traceable transactions based on micro-mixers



### DEX with non-custodial gateways

Onchain decentralized exchange supported by micro gateways



## Running mobile node

Mobile Idena app to create and solve flips, send payments and messages **anytime anywhere**

Millions of smartphones around the globe **mining while charging**



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Mine coins while you sleep



## Serverless messenger

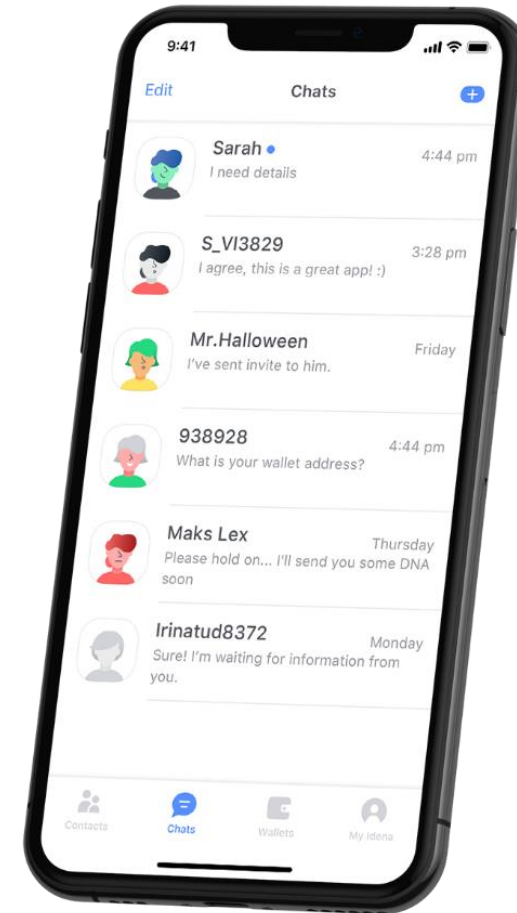
Idena as a delivery network for end-to-end encrypted messages:  
**no server in the middle**

Untraceable communications

Guaranteed delivery

Group public chats

Users can pay fees from mined coins



Idena mobile messenger





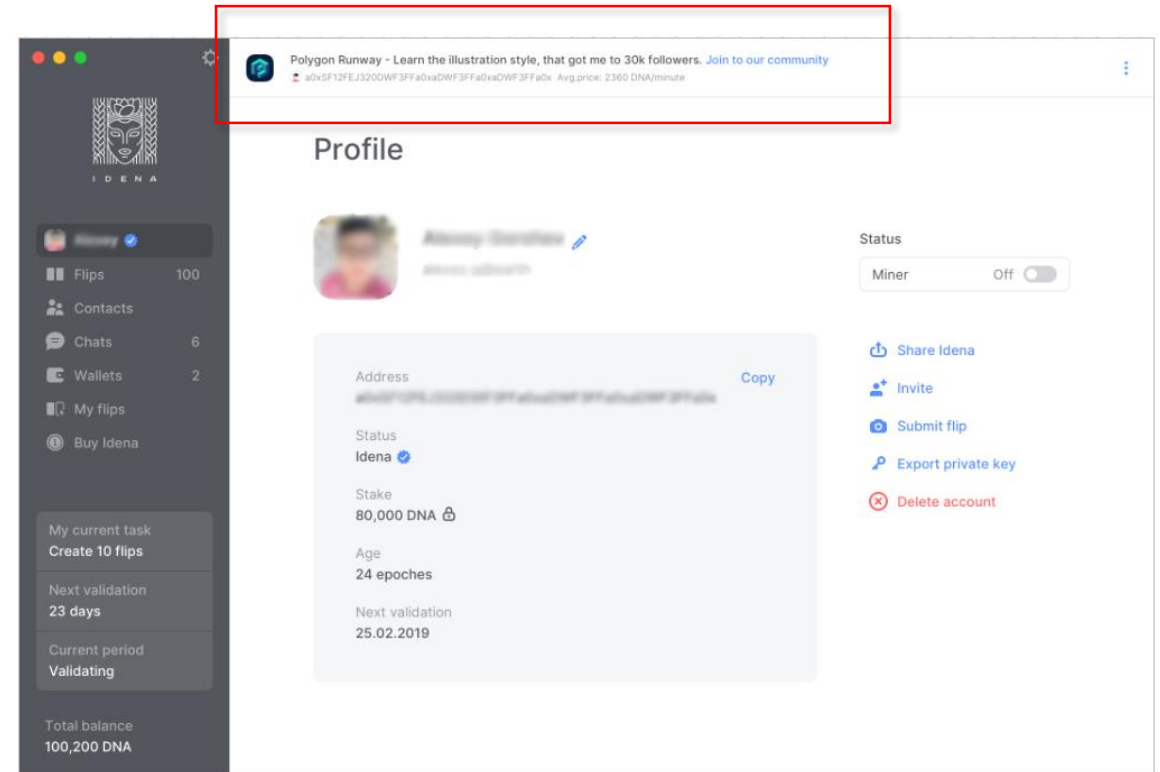
## Onchain marketing

### Advertisers:

1. Specify a target audience among verified Idena users
2. Burn coins to get attention
3. Compete with others in onchain real time auction

### Users:

1. Reading relevant ads with the highest burn rate (self targeting)
2. No personal data is shared



Ads displayed inside Idena application

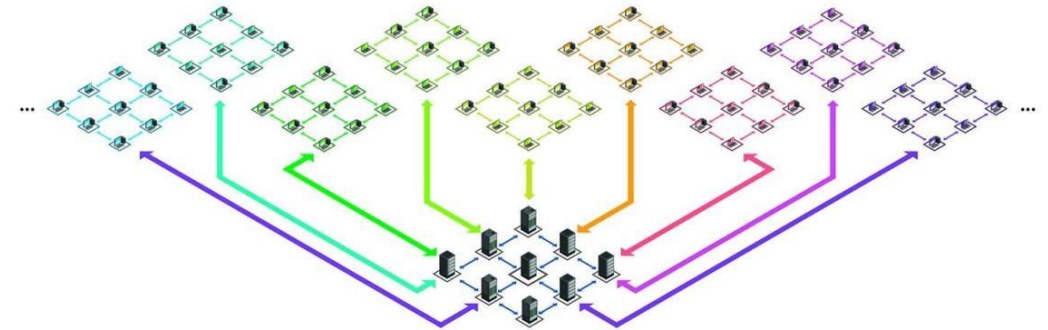


## Sharding

Fragmenting the network into shards allows the network to function **as the sum of its parts**

**Security:** One person can not validate multiple shards

**Scalability:** Each shard is running its own shard-chain in parallel



“

The more people are validated  
the more shards are allocated  
the higher the total throughput

## Vision 2025

- 100 million persons validated by 2025
- Validation session every 3 months
- Each session is a global event to celebrate basic human rights, equality, and freedom
- People all over the world are paid a universal basic income in DNA sufficient to cover their bills in local currency



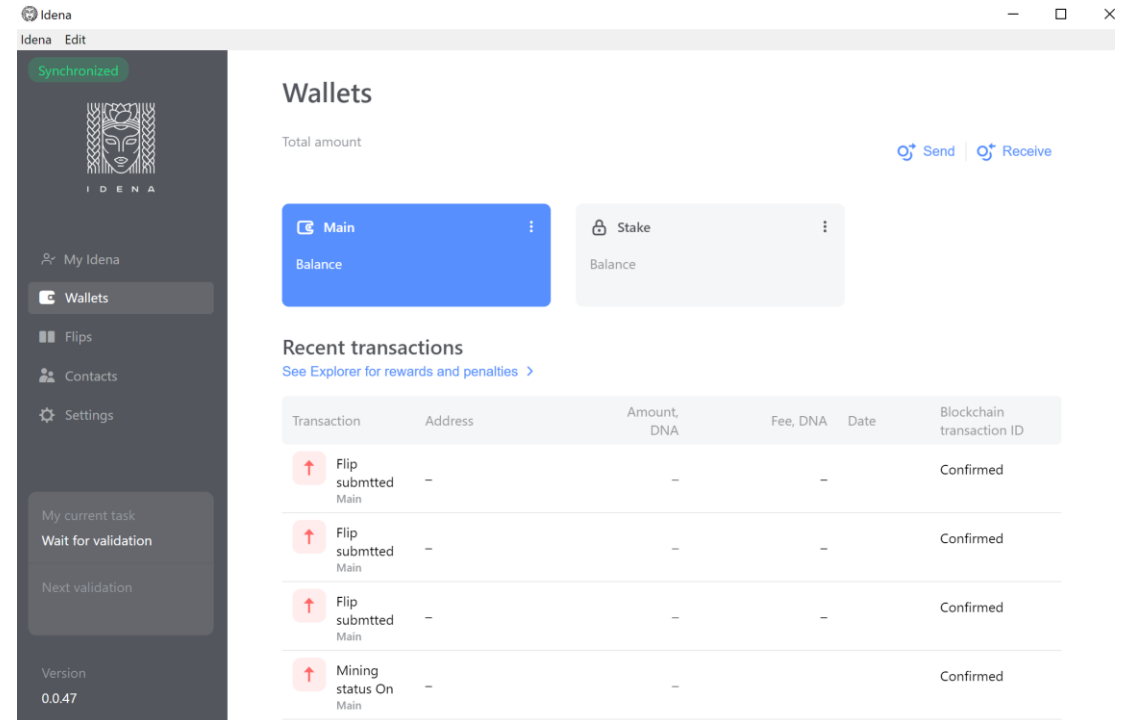
# Idena now

Idena node available for:

- macOS
- Windows
- Linux

Idena client available for:

- macOS
- Windows



Idena desktop client

<https://idena.io/?view=download>

## Idena now

(as of 26 Jan 2020)

Testnet live	210 days
Validated identities	597
Flips created and solved	>13500
Average human accuracy	95%
Community members	>3000

# DNA supply

(as of 26 Jan 2020)

Coins minted	48,700K
Coins staked	1,138K
Coins burnt	675K
Zero wallet fund	91K

## Idena team

Idena is built by a diverse group of highly professional engineers and computer scientists with extensive experience in launching large-scale [blockchain infrastructure](#) projects

The project is fully open source: You can check the quality of the code and activity of the team members on the github page:

<https://github.com/idenanetwork>





## DNA coin minting

**DNA** is a native coin of the Idena blockchain

**51,840 DNA**

Minting cap per day

**25,920 DNA**

Mining reward per day

**25,920 DNA**

Validation reward per day



- 50% ● Block rewards
- 16% ● Invitation rewards
- 16% ● Flip rewards
- 12% ● Validation rewards
- 5% ● Foundation wallet
- 1% ● Zero wallet

## Mining reward

- Mining reward cap per day: 25,920 DNA
- Minimum block time: 20 sec
- Maximum number of blocks per minute: 3
- Maximum number of blocks per day: 4,320
- Block proposer reward (per block): 2 DNA
- Block committee reward (per block): 4 DNA

## Validation reward

- Validation reward cap per day: 25,920 DNA
- Validation rewards: 24%
- Flip rewards: 32%
- Valid invitation rewards: 32%
- Idena foundation payouts: 10%
- Zero wallet fund: 2%

## Supply utilization

- Minted coins frozen in stakes: 20%
- Minted coins frozen in a zero wallet: 1%
- Transaction fees burnt: 90%
- Stake of non-validated identities burnt: 100%
- Mining penalties burnt: 100%
- Ad payments burnt: 100%

## Premint structure

- Total premint size: 36,000,000 DNA
- Core team allocation: 17,250,000 DNA
- Early investors allocation: 7,065,000 DNA
- Ambassadors fund: 365,000 DNA
- 2020 runway funding: 3,000,000 DNA
- 2021–2022 runway funding: 8,320,000 DNA

## Vesting

### Core team fund:

- 1/3 vested for 3 years: 5,750,000 DNA
- 1/3 vested for 5 years: 5,750,000 DNA

### Early investors:

- 1/3 vested for 1 year: 2,355,000 DNA
- 1/3 vested for 2 years: 2,355,000 DNA

## More details

Website <https://idena.io>

Explorer <https://scan.idena.io>

Twitter <https://twitter.com/idenanetwork>

Blog <https://medium.com/idena>





Participate in the first  
human-centric blockchain

[info@idena.io](mailto:info@idena.io)