



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

Idena's Big Dream

100 million people running Idena nodes by 2025

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



“

Idena 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

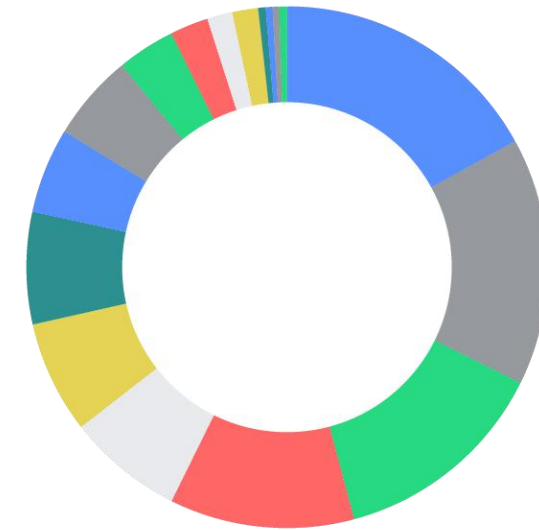
3

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

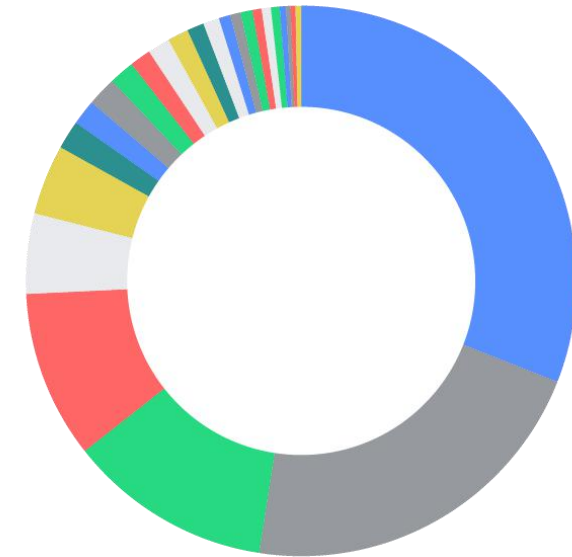
2

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

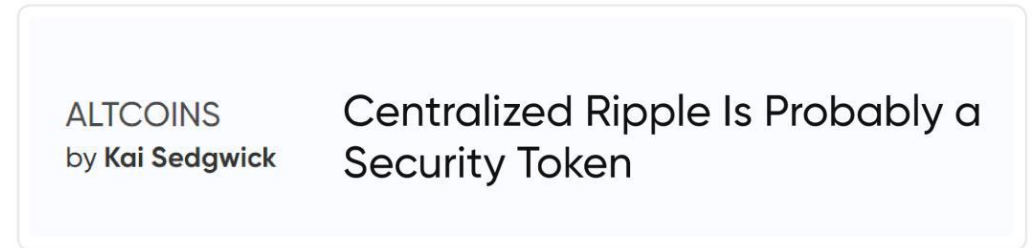
...of beneficiaries

33

validating nodes in Ripple

80%

Ripple XRP held by the founders



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



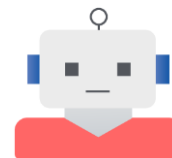
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Cryptoidentity has unique fingerprint
but does not refer to its owner: it's
pseudonymous

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

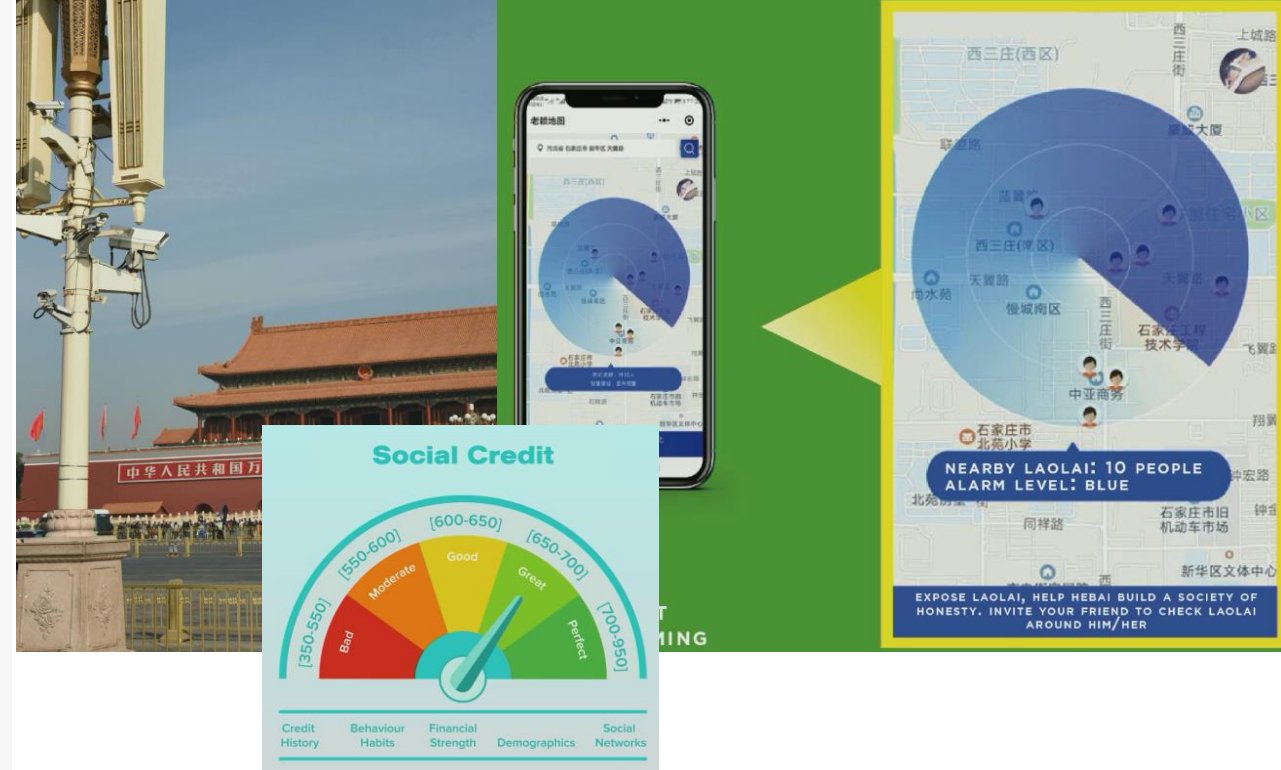
WeChat

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



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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



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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



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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!**



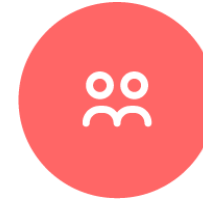
Cryptoidentity validation is supported by global network consensus

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



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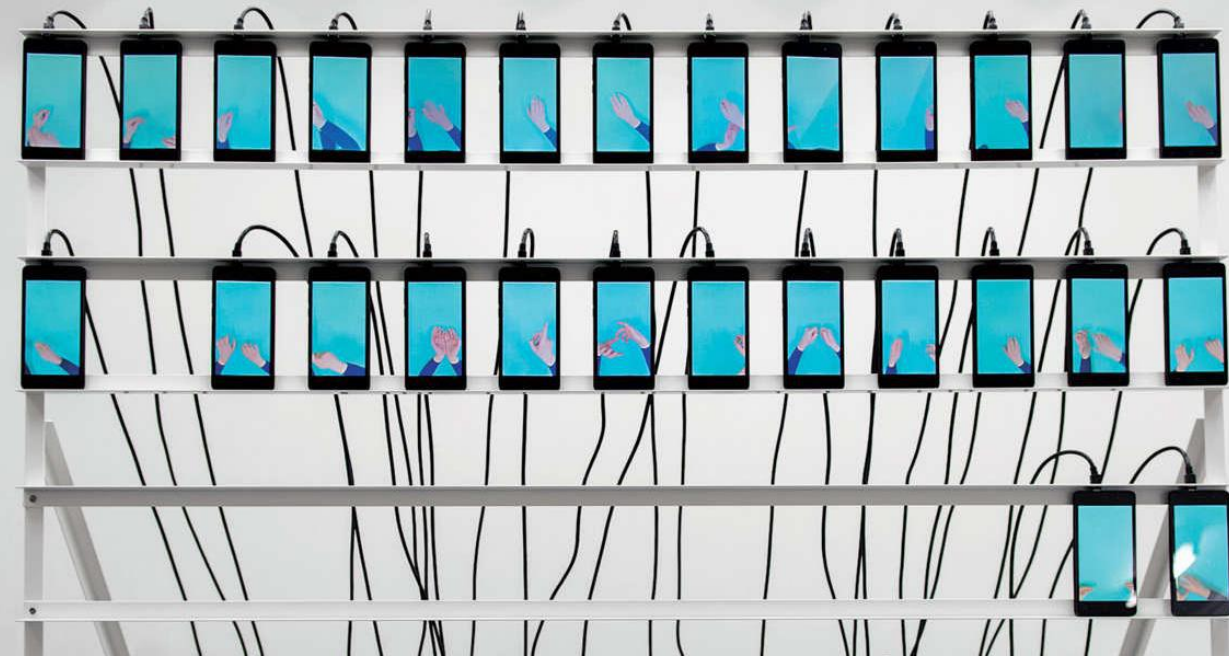
How much of the Internet is fake?
According to some researchers, a
healthy majority of it is bots

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**



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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

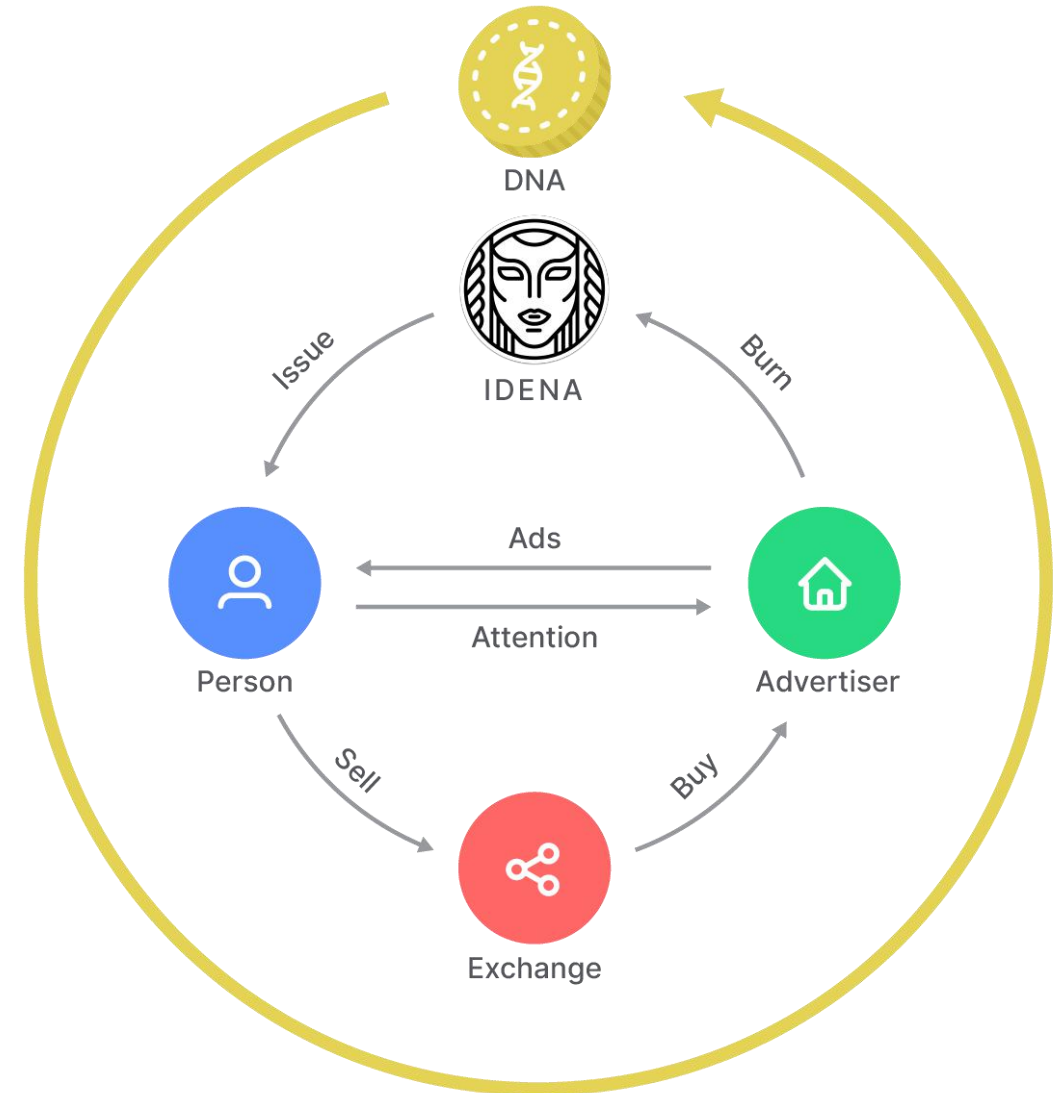


Advertising revenue sharing

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

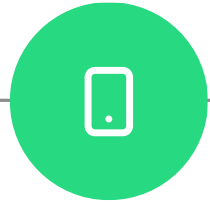
Advertisers face shortage of coins and have to buy them on the exchange



Closed tokenomics fuels demand for the Idena coin

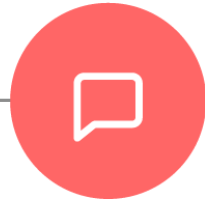
Roadmap and vision

Roadmap



Mobile node

Lightweight node to run Idena on a mobile phone



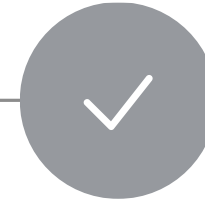
Messenger

Serverless messenger with end-to-end encryption



Marketing

Onchain auction for advertisers to compete for ad spaces



Sharding

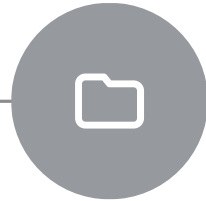
Running multiple shards in parallel to securely scale throughput

Roadmap (continued)



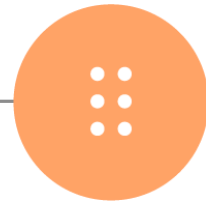
Publishing platform

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

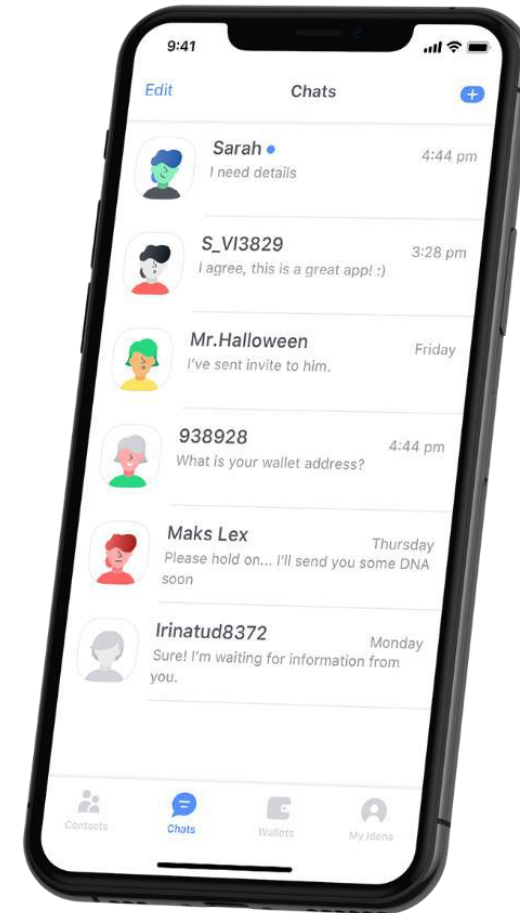
Idena as a delivery network for end-to-end encrypted messages:
no server in the middle

Untraceable communications

Guaranteed delivery

Group public chats

Users can pay fees from mined coins



Idena mobile messenger



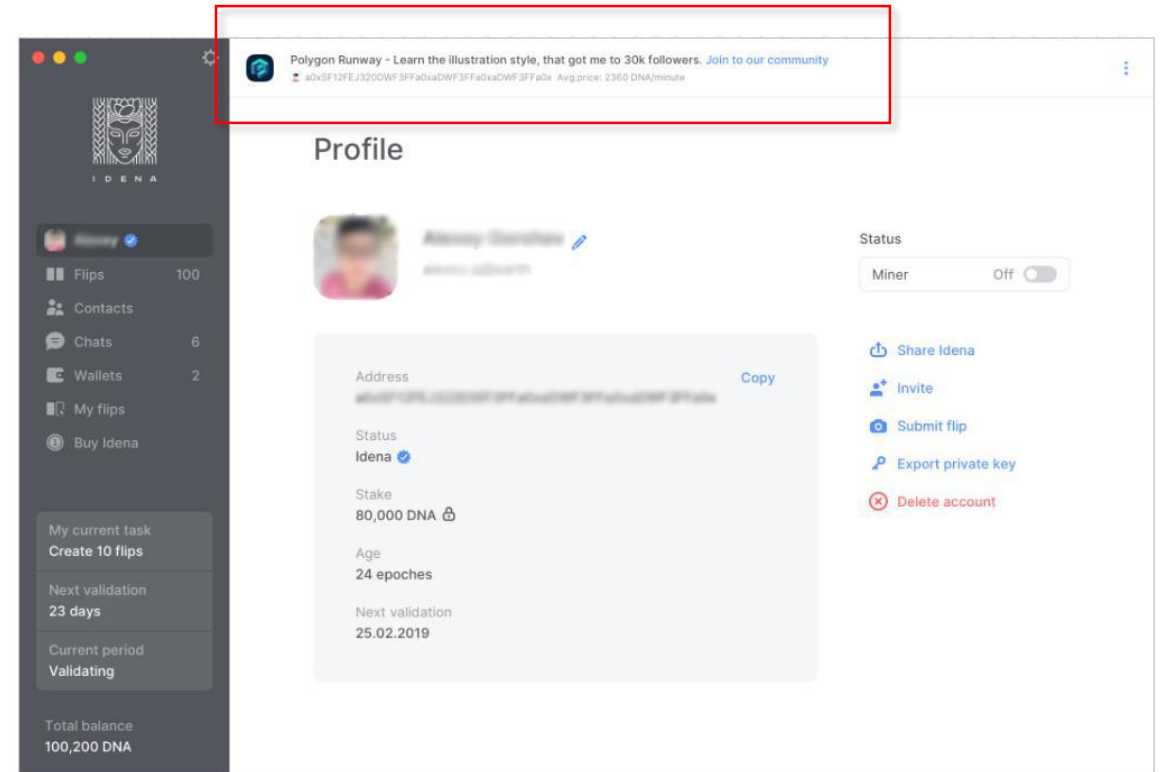
Onchain marketing

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

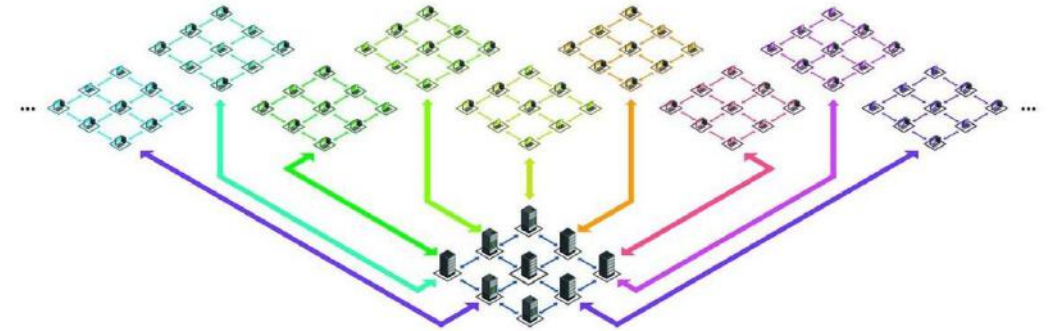


Sharding

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



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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

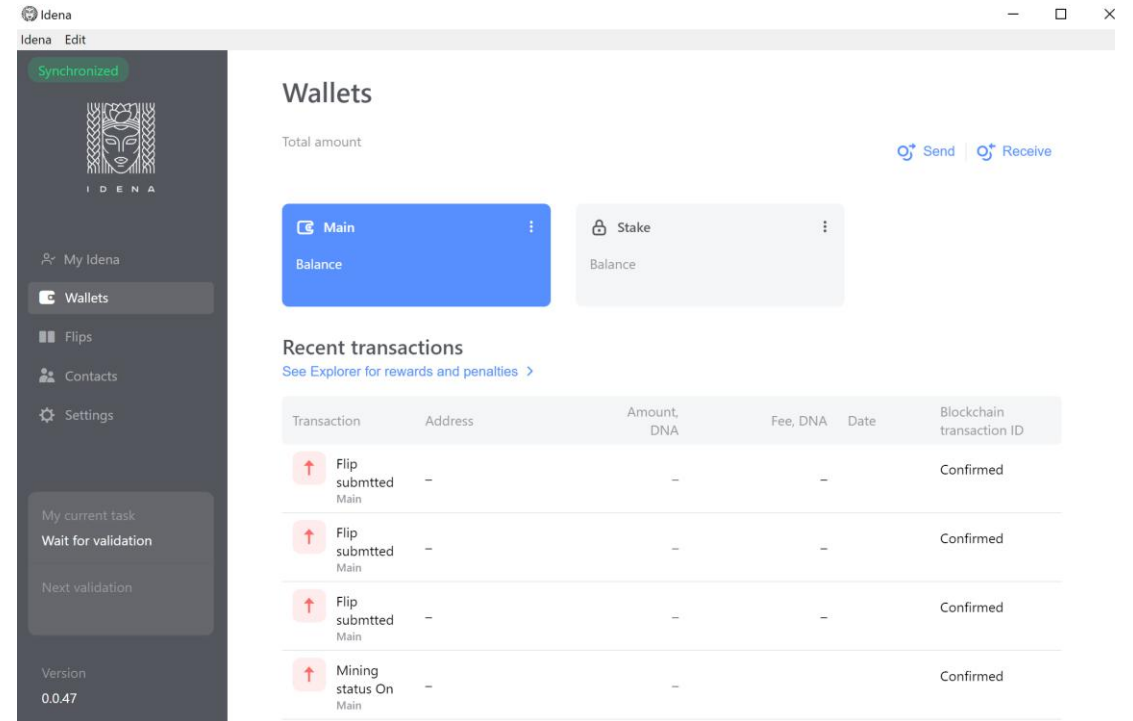
Idena now

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

I dena team

I dena 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/idena-network>

DNA coin minting

DNA is a native coin of the Idena blockchain

51,840 DNA

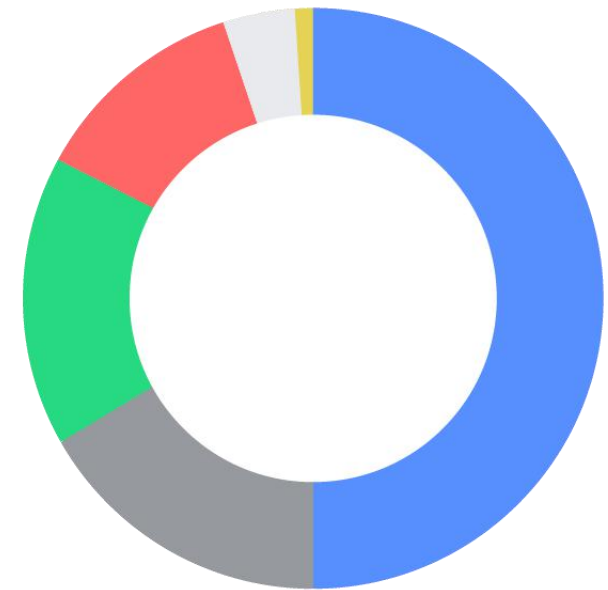
Minting cap per day

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

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