



# JSECOIN

## whitepaper








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JSEcoin is a cryptocurrency mined by webmasters and built for everyone

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-  Visit the live platform at <https://platform.jsecoin.com>
-  View public accounts at <https://jsecoin.com/category/accounts/>
-  Keep up-to-date with the latest from JSEcoin <https://jsecoin.com/blog/>
-  Blockchain explorer at <https://blockchain.jsecoin.com>
-  GitHub Source Code <https://github.com/jsecoin>
-  Telegram <https://t.me/jsetelegram>
-  CoinMarketCap <https://coinmarketcap.com/currencies/jsecoin/>

### Disclaimer

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JSEcoin Limited and all persons associated with the company are in no way arranging, dealing or advising on regulated financial investments.

JSEcoin is protected by the official UK Intellectual Property Office, the government body responsible for intellectual property (IP) rights including patents, designs, trademarks and copyright.

Full terms can be viewed at <https://jsecoin.com/terms/>

## Vision

In the next ten years cryptocurrencies will move from being mined by giant server farms to networks achieving consensus via ordinary votes from ordinary users using ordinary devices. The JSEcoin project has created an energy efficient cryptocurrency powered by surplus resources within web browsers and adopted globally by mainstream users.

Most major cryptocurrencies rely on miners to carry out cryptography hashing, which is the mathematical process key to securing a blockchain, enabling the secure storage and transfer of data. Generally this process consumes huge amounts of computing power and electricity due to its competitive nature as miners are rewarded for their efforts by receiving cryptocurrency payments.



However, it is possible to carry out this process on a standard PC or mobile device using surplus power. By embedding a javascript snippet on a website all visitors to the website could carry out the hashing encryption process, which when combined at scale **will replace the role of the miners**. Website owners would then be rewarded by the distribution of the currency.

By using surplus CPU power, huge energy and cost savings could be made over traditional cryptocurrency networks.

Problems & Solutions		
TRADITIONAL CRYPTO		JSECOIN
Excessive Power Consumption	→	Uses Surplus Resources
Limited Distribution Pools	→	Mined In A Standard Web Browser
Monopolies On Digital Advertising	→	New Website Monetization Methods
No Commercial Management	→	Growth & Adoption Systems In Place
Delayed Transactions	→	30 Second Fixed Block Times
Limiting Scaling Issues	→	Designed For Mainstream Adoption

## Environment

Do you know what Morocco, Ireland and Sri Lanka all have in common? They all consume less electrical power than the Bitcoin network (29.05 TW/hr as of November 2017 \*).

The electrical resources used for mining are increasing at an uncontrollable and unsustainable rate. The higher Bitcoin's price climbs, the more incentive there is for industrial mining corporations to open new server farms where their only variable cost is electricity.



JSEcoin is different, it is mined using background resources within a web browser tab. The additional power consumption when the device is in use is miniscule. The CPU usage for our hashing algorithm is **less resource demanding than the loading of a video advertisement**. By using surplus CPU availability within the browser we can efficiently hash data at scale to secure the JSE blockchain.



“In the future, all industries will need to move towards energy efficient technologies, including cryptocurrencies and fin-tech.”

## Market Size

The cryptocurrency market cap has now reached \$207 billion USD with 53% invested in Bitcoin and \$97 billion invested in upcoming altcoins.

The publisher mining platform which was released in August 2017 has given us exposure across 20,000+ websites. We have a huge supply-side live and ready to go when we launch the JSE ad-exchange in 2019.

Last year more than \$200 billion was spent on digital advertising. Much of this was inefficient due to fraud, ad blockers and outdated technology. We can add value on a huge scale and JSEcoin will be one of the few blockchain projects that is doing real business at high volumes.

Blockchain technology will be slowly adopted by traditional businesses over the next decade. Spend on blockchain solutions is expected to reach \$11.7 billion by 2022. JSE will ease this transition by providing simple to use enterprise solutions which will enable businesses to reap the benefits of blockchain, cryptography and enterprise grade API services.

Website owners have access to the JSE merchant tools which enable websites to sell products, services and subscriptions in exchange for cryptocurrency tokens. We believe the majority of online trade will be conducted with cryptocurrency within the next ten years. This will mean cryptocurrency is used to process \$4 trillion in transactions per year in the ecommerce sector alone. This is a huge opportunity for a web focused blockchain platform to gain a market leader in a industry that is set to change the world.

In our opinion no one has successfully made a cryptocurrency system that is built around consumers. Most of the current developments are built on top of an existing blockchain technology and compromises are made when it comes to ease of use.

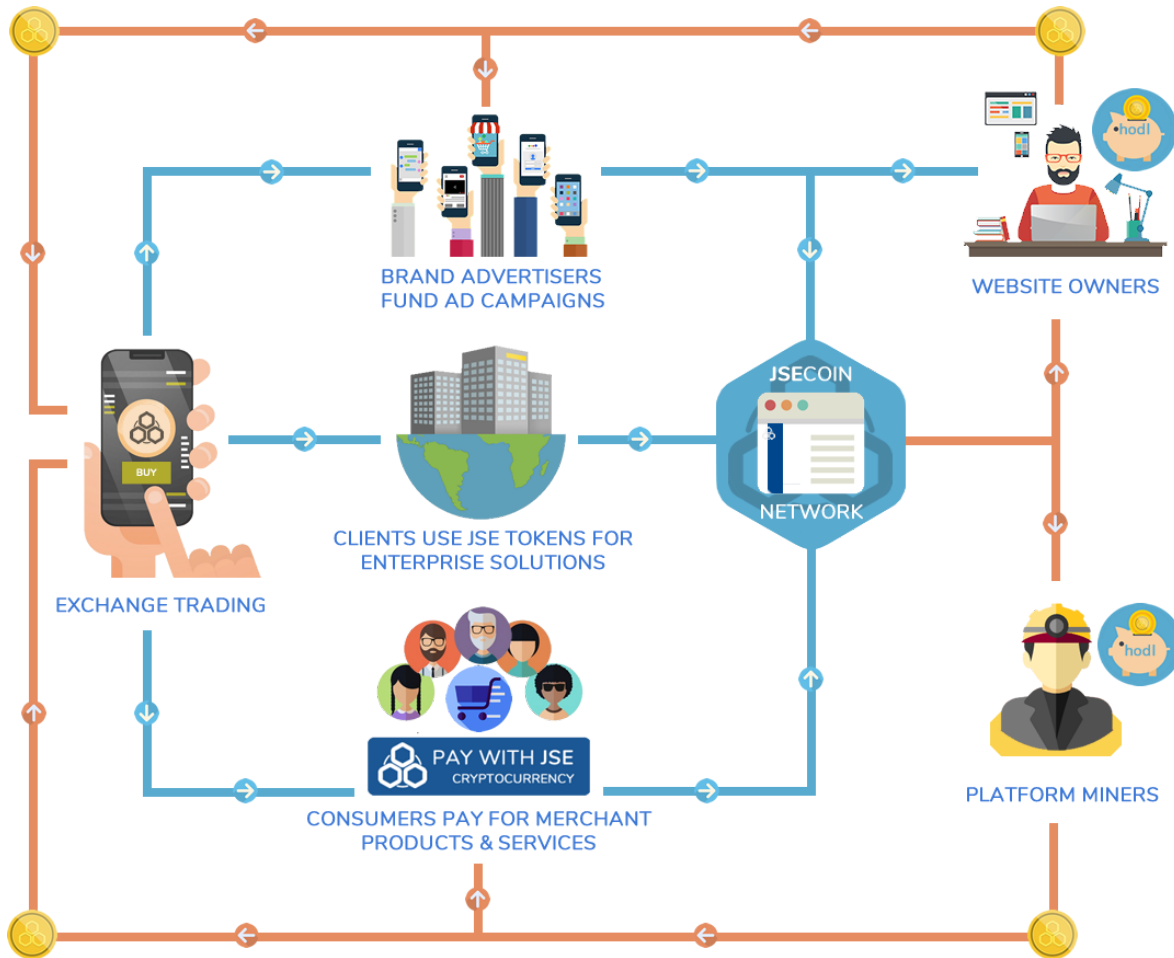
JSEcoin was built, first and foremost, as a consumer platform. We developed a system that we believe is how cryptocurrencies should operate in the future. The result is an intuitive, simple and user friendly system for transferring and storing digital funds.

If executed well, the JSEcoin project has a chance to become the world's first mainstream cryptocurrency.



## JSE Ecosystem

JSE tokens will form the future economy of web based payments, digital advertising and content monetization.



Demand on exchanges will be generated by demand from advertisers, enterprise clients and consumers. Advertisers will buy tokens on exchange to fund their advertising campaigns. Enterprise clients will purchase tokens to pay for Enterprise API and subchain solutions on a per query basis. Consumers will purchase or mine JSE to pay for consumer goods, services and subscriptions on the web.

Mining distribution will be to the website owners and platform miners. A percentage of who will distribute tokens back to the exchange and a percentage will hold tokens in their wallets creating an imbalance in supply and demand benefiting all stakeholders in the project.

The JSE token is a digital, transferable store of value that will form an economy of cryptocurrency trade on the world wide web.

## Website Owners

The JSE network provides new ways for website owners to **monetize their content** as an alternative to displaying ads. This may be preferable for sites where space is at a premium or banner advertising is not appropriate. It could also be used in conjunction with existing traditional advertising methods as an additional revenue stream.

The code snippet is copied and pasted from the platform on to a publishers website(s).

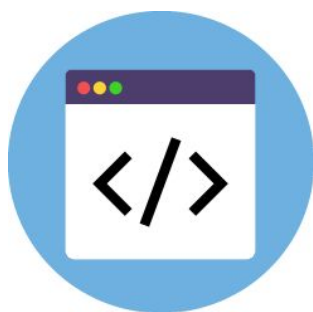
JSEcoin is a 100% opt-in only platform. No mining is carried out without the end users consent. **Our project never has and never will partake in hidden background mining.**

The javascript is loaded as a post-page-load async process so it will not disrupt website performance and the user experience is not affected.

“Poor Quality” traffic which doesn’t earn ad revenue such as visitors from remote regions can also be monetized effectively for the first time. This provides a foot in the door opportunity to test the program with larger media companies.

Webmasters can earn additional revenue through the affiliate program and integrate cryptocurrency payments and subscriptions on their sites with the merchant tools. Our self-serve ad platform will launch in 2019 adding further monetization options.

Webmaster registers on the platform and copies a code snippet on to their website



Website visitors opt-in and carry out mining in the background while browsing the website



Webmaster is rewarded in JSE tokens for helping secure the network



**“As of August 2018 we have more than 23,000 websites setup with around 40 million opted-in miners”**

## Ad-Exchange

An ad exchange is a marketplace where buyers and sellers trade digital advertising space. In 2018 more than \$200 billion USD will be traded via ad exchanges around the world. Many of these exchanges are interlinked and reselling each others inventory. Google is the largest player in the field with a huge network of publisher websites via their AdSense and DoubleClick platforms.

There are other blockchain projects also targeting this space but to our knowledge these are mainly reselling inventory and no other project we are aware of has a publisher base as large as JSEcoin which at time of writing stands at 22,000 publisher websites and 15,000,000 impressions per day.

This publisher base has been built via the publisher mining platform and 81% of publishers are also opted-in to display advertising when available in 2019. This provides a huge established direct supply-side for the network which is already in place and ready to go.

Demand for the advertising will come from brand advertisers, media buyers, affiliate marketers, resellers and direct response marketers. These are large clients who will be technically and financially capable of purchasing JSE tokens on exchange to fund their advertising campaigns.

The JSE team has existing contacts in the ad-tech industry and a marketing budget will be provided to launch the exchange to both new publishers and advertisers.

Advertising will be in the form of a multi-channel system with the publisher being able to enable/disable each channel to suit their sites audience and monetization requirements.

- Banner ads
- Interstitial/Pop Under Ads
- Video ads
- Text/link monetization
- Redirect/shortlink ads

When any single transaction takes place the advertiser will be required to purchase the full amount of JSE on exchange. A percentage of the publishers receiving tokens will sell immediately and a percentage will hold their tokens creating an imbalance in supply and demand which could benefit all stakeholders in the project.



## Enterprise Solutions

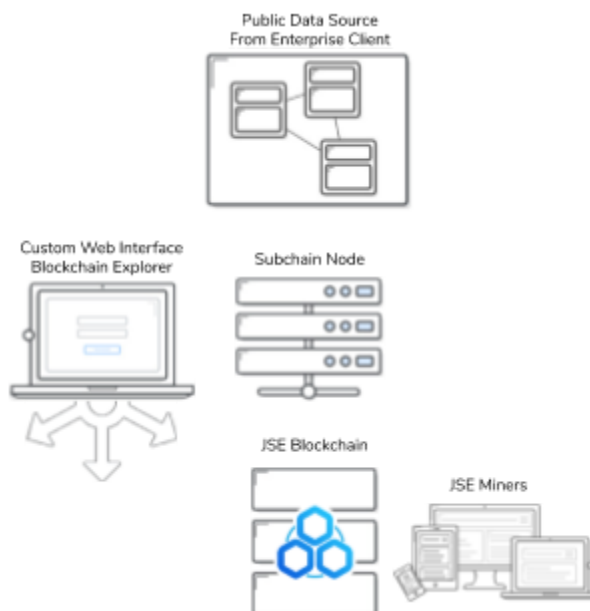
### Sub-chains

The JSEcoin network can be used to validate hashes on 3rd party sub-chains.

Public data will be collected from a standard database or via API calls. Reformatting the data using a subchain node in to a chronologically ordered real time blockchain.

Subchain block data will be hashed and the hash stored in the JSEcoin main chain for verification and validation purposes. There are no mining requirements as this is carried out on the JSEcoin network.

From a clients perspective they only have to provide read level access to their public data and the result is a custom blockchain explorer, viewable on the web which provides a platform for further development and internal innovation.



### Bot/Fraud Detection

The JSEcoin project has world class fraud and bot detection software. Ever since launching the platform in August 2017 we have constantly been the target of attempts at referral and publisher fraud. It's been a steep learning curve along the way but we have always stayed ahead of the problems and in doing so now have a very valuable asset.

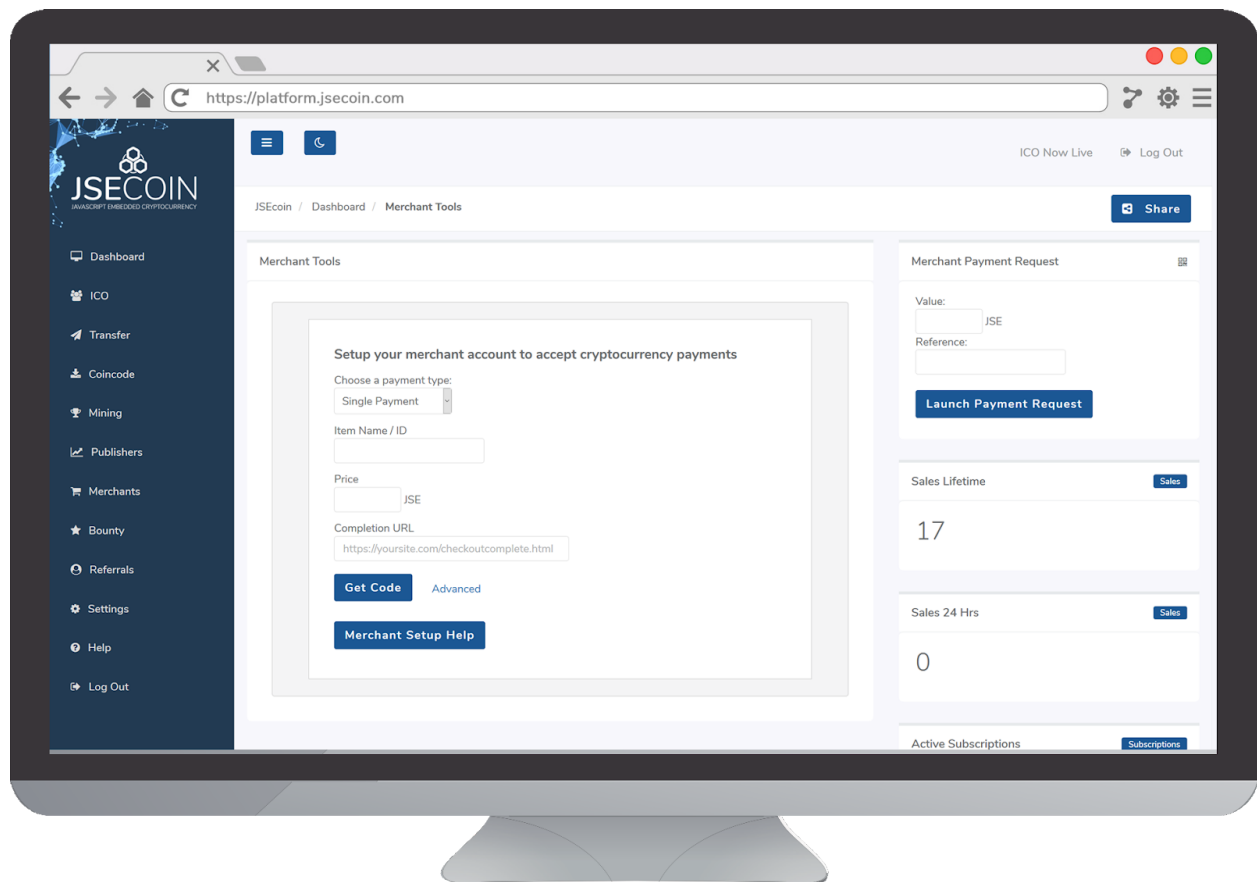
The ability to detect whether a website visitor is real or not is extremely valuable. It will be critical to the project to prevent 51% attacks from botnets when consensus is reached via the client-side network. It is also very valuable in the ad-tech and ecommerce industry.

Ad-fraud is a billion dollar industry and a constantly evolving threat. JSEcoin can provide 3rd parties with access to our data and systems to help prevent fraud on a global scale.

Enterprise solutions enable the project to establish revenue streams in JSE tokens which will not only increase demand on exchanges but also provide a viable long-term solution to provide mining rewards past the ten year runway.

## Merchant Tools

The merchant tools enable both single payment and subscription payments to be made via the web. This provides website owners with a new way to monetise content and generate revenue streams. Subscription models were important to integrate from the start because SaaS companies, membership sites, private forums all generate steady income using merchant rebilling facilities.



We have ensured consumers are protected by making it as easy as possible to cancel a subscription at any time from the dashboard.

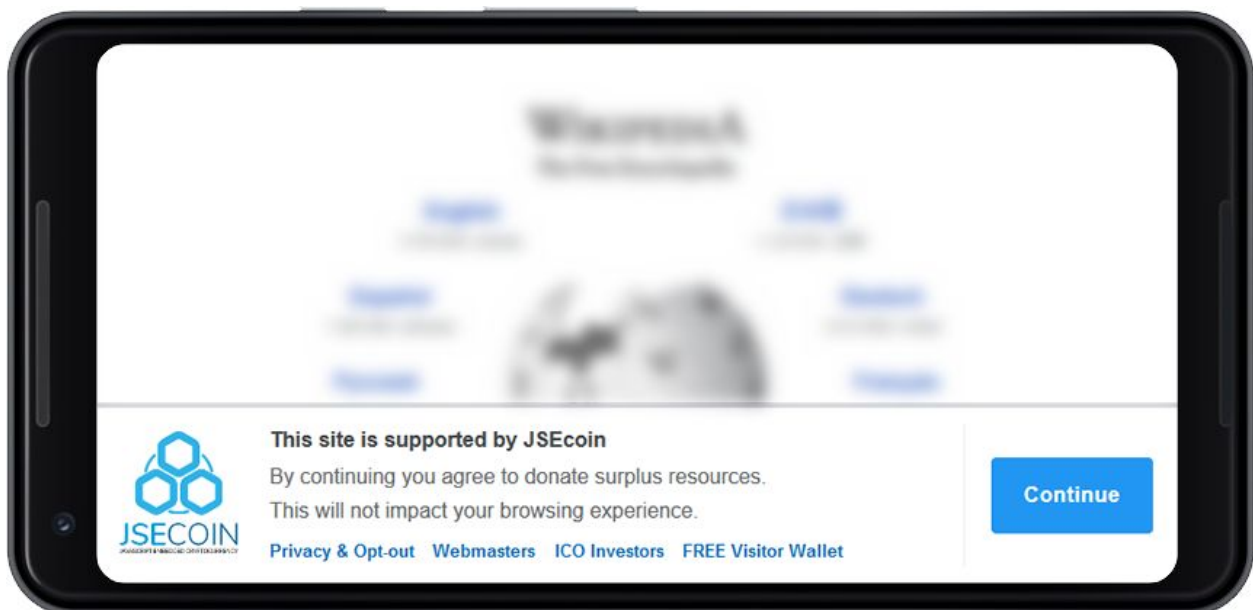
Prices can be set in 20+ fiat and cryptocurrencies and then converted to JSE using live exchange rates at checkout. This provides ecommerce stores some protection over volatility in the cryptocurrency markets.

Ecommerce is set to grow to a four trillion dollar industry by 2021. We expect cryptocurrency to take over as the most popular payment method for the web. JSEcoin will position the platform as the cryptocurrency of choice for website owners.

## Transparency

Transparency is paramount to our future success. JSEcoin has never carried out hidden background cryptocurrency mining. It is essential to inform users that the mathematical hashing process is running and the website is monetized via cryptography. For this reason we run an opt-in only mining system.

A notification is displayed at the bottom of the web page and a user must give consent before any mining starts.



*We are the first and largest opt-in only browser mining platform*

An additional benefit to displaying the privacy message is that it puts the JSEcoin logo in front of millions of unique visitors per day. This could help lead to exponential growth in the project.

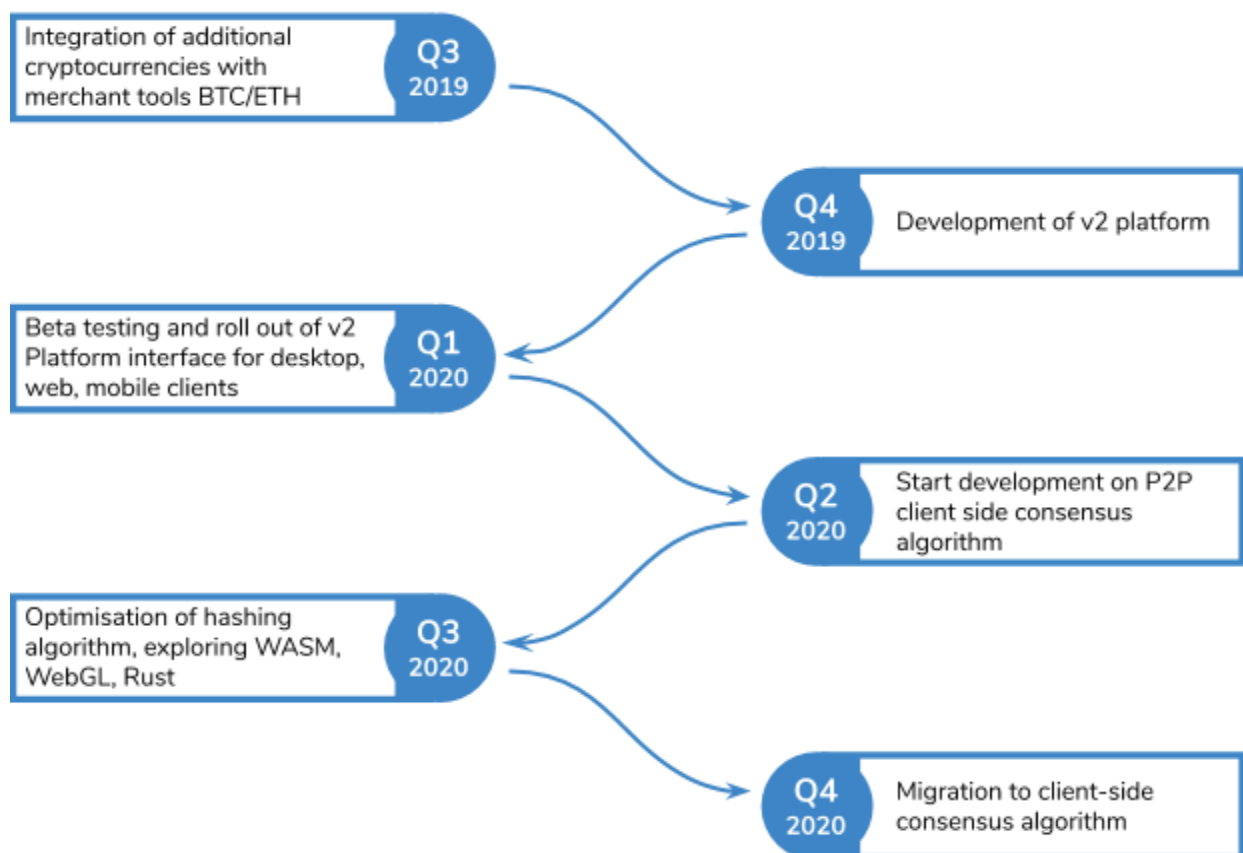
The code running on the users browser is not resource intensive in the same manner as traditional GPU and CPU mining programmes. The additional CPU usage and power consumption will be negligible because the code only consumes excess CPU power available to the browser.

The project is governed by a UK registered business and transparency is paramount to building trust with our users. This is why we publish monthly accounts on our website and uphold the highest ethical standards in everything we do.

## Timeline

For the remainder of 2019 and 2020 we will be looking at improving our current platform and creating a client side consensus algorithm. Our end goal is to have a blockchain dataset stored across a network of p2p clients that can be accessed from any web browser. A website or app will provide the software and network discovery to join and participate. Consensus will be achieved via a voted system from the majority of connected, validated nodes/browsers.

For the latest detailed timeline please visit: <https://jsecoin.com/timeline>



## Funding

During this period we will be looking for an angel/seed investor to come on board. With increased funding we can accelerate growth and improve the current client offerings.

## Product

The cryptocurrencies that achieve long-term success will be ones focused around the users.

**Fee free fast transfers** - utilizing client side ECDSA signatures, fixed block cycles and a summarized account ledger we have been able to get the transaction block time down to 30 seconds.

**Consumer Focused** - The user interface for the platform and apps are intuitively designed for non-technical users.

**Publisher-Mining** - Website owners can place the JSE code snippet on their site to leverage visitors who opt-in via their websites, providing a new non-intrusive monetization method.

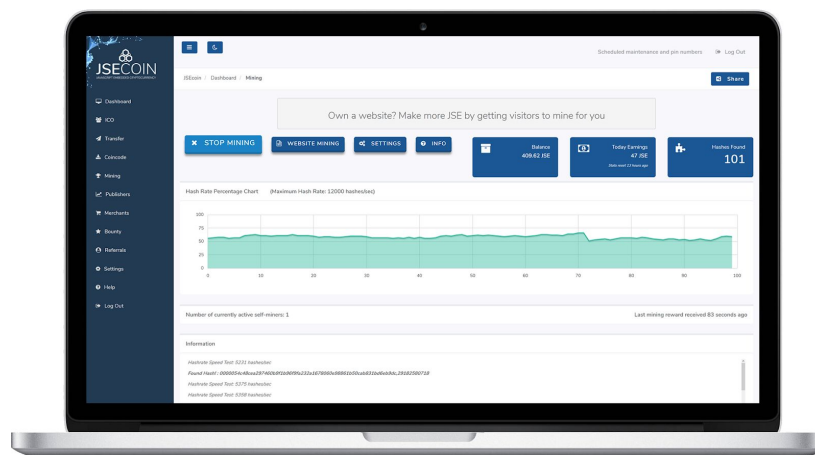
**Platform-Mining** - Registered users can log into their control panel and click the start mining button. Their browser will then be left to mine tokens in the background. A dedicated mining pool means anyone with a web connection can go online and earn their fair share of the digital currency. This pushes the platform past just being for site owners and app developers.

**Ad Exchange** - Over 80% of publisher miners opt-in to display JSE advertising. This will go live with a self-serve demand-side platform in 2019. Already as of August 2018 we estimate to have \$1.5m USD / month of traffic on the network (based on a conservative 10m impressions/day @ \$5 CPM).

**Enterprise Solutions** - Leveraging subchains will enable us to build partnerships and long-term revenue streams: <https://jsecoin.com/downloads/JSEcoinEnterpriseSolutions.pdf>

**Merchant Tools** - Available via the platform allowing website owners to take payments for goods, services and subscriptions in JSE cryptocurrency tokens.

JSEcoin has the unique opportunity to leverage our first mover advantage in the most exciting space within the blockchain sector.



Setup an account at <https://platform.jsecoin.com>

## Technology

The code snippet that website owners can install is an embedded external javascript file similar to common codes used for website analytics and advertising. Wordpress and Joomla plugins are also available, which makes it really easy to install JSEcoin on a website.

The javascript code loads at a set time after the page has finished loading preventing any performance delay and SEO page speed penalties. The public block data is sent to the website visitors browser and will be processed while they are reading the page, the most accurate hashes sent back to the JSE network and used to secure the blockchain.

As soon as a website visitor leaves a publisher's site, the code stops immediately. Nothing is downloaded onto the visitors PC or run after the visit to the website.

In our speed tests the crypto.subtle browser API performed very well. Hash rates exceeded 30,000 hp/s in a single browser, while this is not comparable to ASIC hardware it is more than sufficient for what we need. Further increases could be made possible using custom WASM modules in the future. SHA256 is used as the main hashing algorithm.

Elliptical curve secp256k1 cryptography is used for signing and verification. A transaction via the platform is signed in the browser and then sent to the nodes for verification. It is also possible to carry out transactions and other functions via the API.

API documentation is available on our developer portal at <https://developer.jsecoin.com>

Server-side code is written in Node.js meaning all code for the entire system is javascript.

The system is currently centralized with all nodes being operated by JSEcoin Limited and hosted on the Google Cloud Network. It is possible to download and compile a node from the source at github but we are currently using ECDSA signatures to check for authorized nodes when reaching consensus.

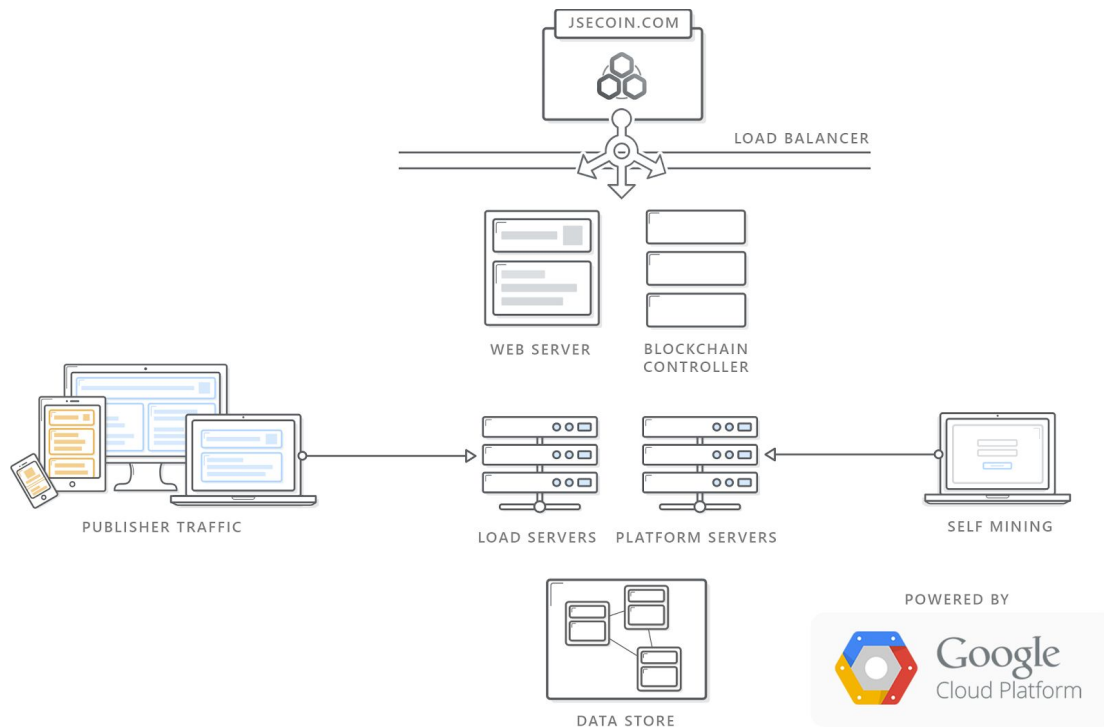
We have a unique opportunity in the project that already there are more than 10,000 active mining connections at any one time. As awareness and volumes grow to a point where a 51% attack becomes infeasible we will leverage browsers to create a consensus based decentralized network with one vote per IP subnet.

The user platform integrates with the JSE network as a client providing a simple point of entry for everyday users.

The hardened lighttpd web server runs the website at jsecoin.com and also a blockchain explorer which is available at <https://blockchain.jsecoin.com>

A blockchain controller is installed to carry out maintenance and do essential tasks to the blockchain, such as carrying out backups, selecting hashes and completing data and verification checks. This is only accessible from the internal network and does not have a web interface.

### Network Diagram



The current system introduced in April 2018 has been tested at high volumes and we expect it to scale well in the future as the user base grows.

For the ICO we have integrated an ERC20/223 Ethereum smart contract. This will enable deposits and withdrawals between the JSE platform and the ERC20 token. The benefit of this is it opens up an entire industry of 3rd party applications and developments. You will be able to hold tokens in 3rd party wallets such as MyEtherWallet and Metamask. Exchange integration will be smoother and more efficient as the majority of listings will already be with ERC20 based tokens. ERC20 compatible hardware wallets make offline storage possible. A 3rd party security audit has been carried out on the smart contract.

**The code base is open-sourced and available via GitHub at:**

<https://Github.com/jsecoin>

## Exchanges and Token Information

JSE is currently listed on the following 3rd party exchanges.



### CoinMarketCap Data

<https://coinmarketcap.com/currencies/jsecoin/>

### CoinGecko Data

<https://www.coingecko.com/en/coins/jsecoin>

### ERC20 Token Contract Address

0x2d184014b5658C453443AA87c8e9C4D57285620b

### EtherScan

<https://etherscan.io/address/0x2d184014b5658C453443AA87c8e9C4D57285620b>



## Traction

Since we opened the platform up to the public on the 15th August 2017 the adoption and feedback from the community has been incredible.

### Stats From June 2019

**Registered Users:** 155,000

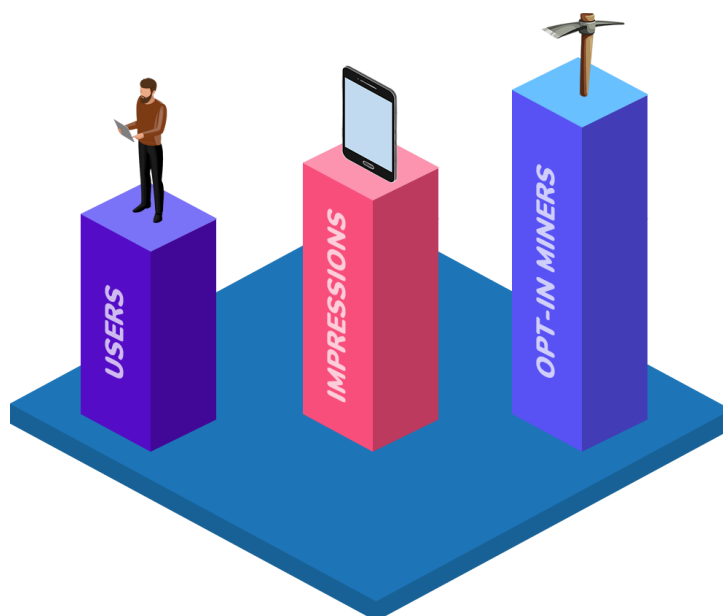
**Publisher Sites:** 26,000

**Daily Impressions:** 5,000,000

**Daily New Opt-Ins:** 250,000

**Opt-In Miners:** 100,000,000

Live stats & charts available at:  
<https://blockchain.jsecoin.com>



The traction the project has gained so far, before exchange listing and before the token has tradeable value, proves the demand for web based cryptocurrency solutions. Over one hundred thousand users have already registered and set up accounts on the platform. Our code has been set up on more than twenty thousand websites providing global reach of eleven million impressions per day. The opt-in miner network has now reached forty five million users and is growing fast.

The platform has scaled well and there is huge opportunity for further growth.

**August 2018 Update** - JSEcoin is now the most popular opt-in publisher mining platform in the world. Full details: <https://jsecoin.com/global-publisher-mining-analysis/>

## The Company

JSEcoin Ltd is a UK registered business, company number: 10940920

We publish monthly accounts on our websites at <https://jsecoin.com/category/accounts/>

Our accounts will be audited annually by an accredited independent UK accountancy company.

## Core Team Members



**James Bachini**  
CEO

Previously started two successful ad-tech startups, building them to multi-million pound businesses.



**John Sim**  
CTO

Presents regularly on development, innovation, UX and cloud architectures at key global tech conferences.



**David Mallett**  
COO

Technical support and social channels where he provides technical knowledge, patience and assistance to our users.



**Tracey Howard**  
CFO

MAAT accredited accountant. 20 years experience in the financial management and accountancy.



**Amr Gawish**  
Blockchain Developer

Lead developer on the ERC20 contract and web3 integration for the ICO and exchange integration



**Matthew Vallis**  
CSO

CAIA charter holder with 10 years experience across the finance industry.



Meet the full team at: <https://jsecoin.com/about/meetTheTeam/>

## SWOT Analysis

### Strengths

- Live platform since August 2017
- First and now largest opt-in only browser mined blockchain
- Never partaken in hidden browser mining
- Structured UK Business
- Teams ad-tech, data management and financial experience

### Weaknesses

- UK business environment difficult for cryptocurrency startups
- Hybrid network and governing company not truly decentralized
- Small team, reliance on individuals
- Negative preconceptions about cryptocurrency mining

### Opportunities

- Energy efficient mining will become increasingly important
- Strong demand for the technology from webmasters
- Sub-Chain & API Enterprise Solutions
- Discontent in ad-tech sector
- Increasing demand for web based crypto payments

### Threats

- Antivirus and ad blocking companies targeting browser based mining
- Competitors unethical hidden mining hurting JSEcoin reputation and public relations
- Cryptocurrency legislation and regulation
- Hackers targeting cryptocurrency networks
- Tackling fraud will be a constant challenge

## Next Steps

Potential investors should get whitelisted as early as possible at <https://jsecoin.com/whitelisting>

The platform is live and open to the public. While we still consider it to be in beta the ledger will be carried forwards on all future updates.

If you have taken the time to read this entire whitepaper then please spend the next five minutes trying out the platform. You can test the mining inside your own web browser, try making a transfer and see for yourself what we are building.

Setup your account at

<https://platform.jsecoin.com>

