

# SPERO



*Discover the new gold standard*

## RESEARCH REPORT

I/O Coin

21/09/2017

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# 1. SPERO POWER RATING

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## Spero Power Rating Brief:

The Spero Power Rating indicates that the practicality of the coin is one of its strong suits and serves as a cornerstone for the Power Rating polygon. Whilst there are many competitors on the current market for IOC, the Power Rating depicts a broadly structured shape and healthy size, indicating that strengths outbalance weaknesses across the Power Rating criteria. This Power Rating should be read in conjunction with the remainder of the report for further nuanced detail.

### Spero Power Rating Criteria:

Criteria	Description
<b>Differentiated</b>	<b>The unique nature of the technology and the coin</b>

IOC as a package offers something entirely new in the cryptocurrency space. However, there are a range of up-and-coming competitors that offer discrete features available on IOC. It remains to be seen whether a competitor will be able to offer a similar package.

<b>Potential</b>	<b>The potential of the coin to last the next 5, 10, 20 years</b>
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The overall strength of the Power Rating indicates strong potential for this coin. The “Potential” ranking factors in long-term outlook, as I/O Digital’s business focus and strong advisory networks appear promising for future commercial adoption.

<b>Practical</b>	<b>The practical applications of the coin</b>
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The coin does not strive towards an over-reaching, idealist solution. Rather, IOC focuses on improving an existing need and problem in the business world, with a potential for broader applications. The I/O Digital Foundation aims to create a hybrid blockchain ecosystem where private blockchains and the I/O Digital Blockchain can interoperate, bringing the benefits of a public blockchain to the private sector. In the upcoming Chameleon project, the I/O Digital Foundation will implement smart contracts on top of DApp functionality.

The primary DApps to be announced for the Chameleon project on the IO blockchain relate to business messaging, file storage, and encrypted data management. These core DApps provide a solid, practical foundation for IOC. In addition to this, the versatility of the blockchain reflects the potential to develop DApps with global implications, such as the creation of a more secure, decentralized, value-based Twitter.

**Direction****Conviction, values, and clarity of direction**

Despite being in development since 2014, the team pursues a consistent goal and has steadily worked towards achieving it. The conviction of the team is evident through the sacrifices that the cofounders made to get I/O Digital to where it is today.

**Team****Quality of the team**

While the individual team members are compelling, I/O Digital Foundation faces potential weaknesses from the perspective of its ability to scale and move quickly. Much of this problem lies in the size of the team. As a not-for-profit foundation, I/O Digital does not yet have the resources to hire a large programming team and employ a range of specialists. This may be remedied with future rounds of funding and by DApp providers developing their own expertise. The team so far has remained ahead of the competition, despite its size, but this may slow development in the future. Despite this, this problem is not unique to IOC and all cutting-edge cryptography teams are having difficulty finding appropriately trained staff. The I/O Digital Foundation recently interviewed more than 30 different developers in an attempt to spread the workload, but was unable to find anyone who could meet their requirements.

**Quality****Quality of the technology**

The quality of the technology has been strong so far, with audits of the code base from reputable commentators touting a strong technological product. However, we are unable to fully endorse the quality of the technology, as much of it remains untested prior to the release of DIONS - the real test will come with public release.

## 2. SPERO CATALYST TABLE

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Time frame	Events
<b>Short term:</b>  <i>October – November 2017</i>	<ul style="list-style-type: none"> <li>▪ Release of DIONS</li> <li>▪ Increased marketing following DIONS</li> <li>▪ Announcement of upcoming DApps using the I/O blockchain (including from IOC Foundation members)</li> <li>▪ Release of Chameleon whitepaper</li> </ul>
<b>Long term:</b>  <i>November 2017 onwards</i>	<ul style="list-style-type: none"> <li>▪ Increased integration into commercial enterprises</li> <li>▪ DIONS v2 features and further roadmap implementation</li> <li>▪ Release of Chameleon (side chains, interoperability, smart contracts, governance, money transfers)</li> <li>▪ Integrated cloud storage</li> <li>▪ Development of unique DApps to take advantage of IOC's on-chain data storage and encryption</li> <li>▪ Disruption of existing encryption services</li> </ul>

### 3. EXECUTIVE SUMMARY

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*“We’re taking our time. We will focus on building the foundations of the skyscraper, then start building on top” – Joel Bosh*

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From interviewing Joel Bosh, I/O Coin founder, market research and coin analysis, Spero’s analysts expect widespread adoption and popular reception from the business community for I/O Coin. IOC is an open source project with the aim of creating a business-focused blockchain ecosystem. The ecosystem will emphasize security, commercial adoption, and scalability.

Since I/O Digital was founded in July 2014 by Joel, Richard Groen, and Derek Hatton (see profiles below), the IOC team has focused on constructing its technology and back-channel relationship building with businesses, rather than engaging in a broad public marketing campaign. While IOC has yet to gain traction with retail investors, the currency is finding recognition in the business community, spurred on by the fact that IOC was founded with no ICO and no pre-mine. Further, IOC recently won the “Blockchain” category in the European Fintech Awards in 2017, the Benzinga Fintech award in 2016, and was a finalist in the 2016 European Fintech Awards. With an advisory board including an ex-President of IBM and a Director at KPMG, there is growing support slowly building behind IOC.

As IOC is a technical concept that has not been broadly marketed, it has remained relatively low in market capitalization. Approximately 55% of IOC holders are staking their coins rather than holding them on exchange for short term trading, reflected in the relatively stable price.

The release of the Decentralized Input Output Name Server (DIONS) product in Q4 2017 will allow businesses to more actively develop enterprise-grade DApps, thereby driving greater recognition of IOC. In the weeks following the release of DIONS, we can expect the reveal of the Chameleon whitepaper, and announcements of a commercial company being started by the I/O

Digital Foundation founders, which will produce upcoming DApps and patents related to I/O Digital Blockchain projects.

IOC has been quietly developing for many years, and the upcoming release of DIONS, combined with increased marketing and a pipeline of news and releases will ensure that IOC is a coin to watch over both the short and long term.



## 4. INTERVIEWING JOEL BOSH

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*“Following the initial fair launch proof-of-work mining period, the IOC team is proud to say that all IOC team coins have been paid for on the market from our own savings.” – Joel Bosh*

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### Overview

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Joel was a pleasure to interview and whilst we initially planned a 20 minute interview, this quickly grew to 90 minutes as we engaged in the details of IOC and Joel’s personal journey. Joel was more than happy to take the time with us to fully discuss his vision - his passion for the success of cryptocurrency was evident. We also had the opportunity to speak with I/O Digital Foundation cofounder Richard Groen, who dialed in to update us on IOC’s community, business, and investor relations programs. Joel and Richard’s passion demonstrated that the team was committed to seeing the project through and held a genuine belief in their future roadmap. Interestingly, the main themes that Joel emphasized as important were **integrity**, **simplicity**, **security** and **longevity**.

### Integrity

In interviewing Joel and Richard, Spero was impressed with the integrity of IOC and its members. During the interview, a constant theme was the adherence to high ethical standards. Joel expressed that too many coins were attempting to progress too quickly as a result of the ICO “gold rush” and the demanding culture of short-term cryptocurrency traders. Contrastingly, Joel believed in taking his time, and pushing his team to not rush or feel pressured by these factors. Spero believes this is a key trait for IOC’s road to mainstream adoption and is a desirable quality for investors with a long term vision.

## **Simplicity**

Joel believes cryptocurrencies in their current form are too complex for “mom and pop” acceptance. He believes that for mainstream adoption to occur, they must be simple. IOC is pursuing simplicity through a range of avenues. This is clearest in the simple naming conventions of DIONS in the form of aliases – allowing for the transfer of IOC and value directly to simple business or personal names, which are vastly simpler than even the current banking system. In the long term, this is crucial for not only IOC, but cryptocurrencies as a whole.

## **Security**

Joel expressed strong views that cryptocurrencies must take their time to properly develop and ensure watertight security. After all, this is arguably a key selling point of blockchain technology. Joel believes that IOC’s differentiator is security, and implied that this is something other coins are not focusing enough on. Given the constant security flaws continually being discovered in various cryptocurrencies, Spero would tend to agree with his comments. A focus on security is a culture that is imbued in IOC and something that Joel personally enforces. This may be one of the many reasons why the team is taking extra time with IOC to ensure that the blockchain is secure:

*“We’re taking our time. We will focus on building the foundations of the skyscraper, then start building on top”*

## **Marketing**

Joel acknowledges that there is restlessness from investors and IOC observers due to a lack of marketing from the IOC team. Despite this, investors may be relieved to hear that I/O Digital has spent significant time behind the scenes building business relationships. Following the imminent release of DIONS, Joel intends to ramp up marketing, including the use of local ambassadors in various countries and the organization of local events and meet-ups.

## **Future of IOC**

Naturally, Joel is a firm believer of the future of the I/O Digital Foundation. While the organization is not new, his story is unique. Joel mentioned that individual members of the I/O Digital team have patents pending for DApps on the IOC platform, which are currently confidential until the patents are confirmed. He expects this to occur shortly after the release of DIONS.



## 5. OVERVIEW OF I/O COIN

*As at date of this report:*

	<b>Asset Name</b>	<b>I/O Coin</b>
	<b>Ticker Symbol</b>	<b>IOC</b>
	<b>Founding Date</b>	<b>24th July 2014</b>
	<b>Market Capitalization</b>	<b>\$37,000,000</b>
	<b>Volume</b>	<b>\$250,000</b>
	<b>Circulating Supply</b>	<b>16,360,066</b>
	<b>Inflation Rate</b>	<b>0.5-2% annually</b>
	<b>Hard Cap</b>	<b>22,000,000 IOC</b>
	<b>Exchanges</b>	<b>Bittrex</b>
	<b>Coin Technology</b>	<b>Proof-of-Stake</b>

## 6. I/O DIGITAL FOUNDATION

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IOC is supported and developed by the I/O Digital Foundation, a not-for-profit organization which strives to connect blockchain technology with consumers and businesses. Based and registered in the Netherlands, this organization is used as the platform from which IOC accepts donations, conduct charitable projects and establish partnerships with other organizations such as venture capitalists and business partners. The I/O Digital Foundation will not be releasing DApps based on the I/O blockchain itself, but will take on a consulting role to assist third party businesses who wish to work in the I/O ecosystem.

The I/O Digital Foundation product, DIONS, has been under development since late 2014 and its highly anticipated release is expected in October. I/O Digital are ramping up for a long awaited launch and there is strong market sentiment around this product. We will cover this in more detail below.

I/O Digital Foundation has previously engaged in charitable endeavors. They have spent time in Indonesia to help clean beaches and preserve Mangrove plants. They have donated \$10,000 to rape and torture victims in Cuba to help fund lawyers. Spero was surprised that IOC was supported by such a community-conscious organization, especially since the I/O Digital Foundation has engaged in this charitable work with little reward or press coverage. This is a welcome change in light of the state of the cryptocurrency market and will help transform the image of cryptocurrency in the long term in promoting mainstream acceptance.

## 7. SIGNIFICANT FEATURES OF I/O COIN

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### 7.1 Quantum Resistant

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IOC offers inbuilt AES 256 Hardware Encryption, which is resistant to quantum computing developments. As the I/O blockchain is designed for commercial use, including the storage of critical documents and absolute privacy for messaging, the AES 256 encryption standard is necessary to ensure that the blockchain is viable as quantum computing develops.

AES 256 encryption is the only publicly available encryption standard which is endorsed by the NSA as suitable for Top Secret data transfer. AES is available in 128, 182, and 256 bit keys, with the I/O blockchain employing the highest level of security at 256 bit.

There have been no known significant weaknesses identified in AES 256, which means that brute force penetration is the only way of cracking the I/O blockchain. Working constantly, the fastest supercomputers in 2017 would be unable to crack the AES 256 encryption in thousands of years.

While quantum computing will dramatically change encryption, the I/O blockchain will remain secure even if hackers obtained significantly advanced quantum computing technology. When quantum technology is available, AES 256 will have the same security as AES 128 today.

### 7.2 Private Blockchains

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The I/O Digital Foundation is working on providing fully integrated functionality between the main I/O blockchain ecosystem and any number of sidechains through the future Chameleon stage of the project. While further details about Chameleon can be expected in the weeks following DIONS' release, Joel informed our analysts that it will be possible for businesses to implement private sidechains which ensure privacy and security of data, while still allowing for full functionality and use of the I/O blockchain. These sidechains will be able to remain private while retaining use of the features of the I/O Digital Blockchain and self-implemented smart contracts. Sidechains will ensure smoother integration into existing business compliance systems and allow the I/O Digital Foundation to promote the I/O blockchain as a safe ecosystem for companies to conduct business in.

### 7.3 De-centralized Messaging

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Social media and online messaging services have been one of the biggest booming industries in the last 10 years. This is a crucial feature for any ecosystem such as IOC. This offering is unique in that it targets an established messaging market in the commercial sector, which would benefit from distributed ledger technology and as yet, has not been penetrated by any big players in the cryptocurrency space. IOC offers a practical, secure method for businesses to adopt the technology. The primary hurdle here will be offering a product which is both simple and secure, and to encourage businesses to take the first-step in adopting the new technology. The advisory board of employees with experience at established industry titans such as IBM, KPMG, and TomTom will be invaluable here.

### 7.4 Low volatility

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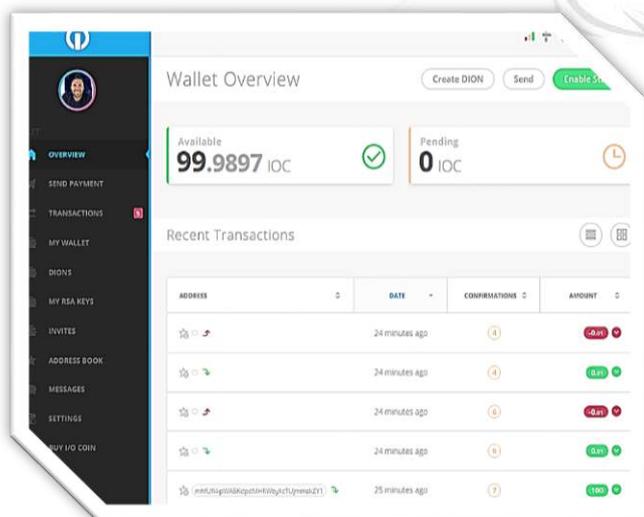
Historically, IOC has experienced low volatility, as the team has acted in a professional manner and have focused on the technology behind the project rather than short-term marketing. Speaking with Joel and viewing I/O Digital Foundation's marketing materials, there appears to be no evidence that the team is interested in short term price increases or undue hype around the coin's price. Joel has indicated that the team aims to provide a stable environment for business to operate in. Even if IOC's price does naturally increase, it will be possible to scale down the transaction fees required when using the I/O ecosystem, so that as IOC's price increases, businesses will still have certainty regarding their overhead costs. As there are significant network incentives for IOC holders to stake their coins and contribute to the stability of the system, as seen in the historically high levels of IOC staking, IOC shows potential for becoming a reliable operating system for a range of business purposes.

## 8. VALUE PROPOSITION

### 8.1 Ease of use of the blockchain

With a background as a technical contractor for Apple, Joel is aiming to produce a product which is **simplistic**, **functional**, and **beautiful**. In interviewing Joel, he noted that broad adoption of cryptocurrency is being hindered by the complexity of the technology, and high barriers to entry in purchasing and transacting with cryptocurrencies.

The imminent release of DIONS and the IOC wallet will reveal his vision for a more simplistic user interface which will allow clients to use the IOC wallet as a hub, where they can upload encrypted documents, transfer ownership of documents and files to others, accept payments via public and private aliases, send encrypted messages, and manage their cryptocurrency. The I/O Digital Foundation plans to make it possible to purchase IOC with other cryptocurrencies, or with fiat currency via credit card from directly within the wallet, eliminating significant barriers to entry in the widespread adoption of the currency.



In its current form, the wallet (adjacent) looks extremely promising, seemingly providing a more streamlined user experience with potential for uptake by businesses and public users.

*Source: I/O Coin*

With the release of DIONS, the I/O Digital Foundation intends to release an updated DIONS wallet which will incorporate full version 1 functionality, allowing users to create public and private aliases, and to begin using the I/O ecosystem to implement DApps with encrypted messaging and file storage capability. The release of DIONS will be a significant public test of the IOC code base which the team has been working on for years. A successful launch will dramatically raise the profile of IOC and allow onboarding of businesses to IOC.

## 8.2 Spero Spotlight: DIONS

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DIONS aims to disrupt the PGP/GPG technology suite, which is a security hashing system developed in 1991, widely used today as a standard mode of end-to-end encryption among public and business users. The I/O Digital Foundation aims to bring the PGP functionality to the blockchain, with increased security, lower cost, and a broader range of functionality.

Spero sees DIONS as a game changer in the cryptocurrency world, offering a polished and fully functional product. The release of DIONS looks promising, with recent regression tests reporting zero bugs. There has been some concern of the code being private in the past, but as of June 2017, DIONS developments have been open source, with only the HTML 5 interface remaining private. By waiting to open source the code, IOC has retained its first-mover advantage in this area. While there has been positive feedback from the development community on the open sourced code thus far, the release of DIONS will be a critical public test for the business model.

DIONS adds multiple *novel* features to the I/O Digital Blockchain. These include:

- AES 256 Encrypted Document Storage;
- Encrypted Alias DNS System;
- AES 256 Encrypted Messaging System;
- 4MB Block Size
- 2MB for data storage; and
- 2MB for blockchain core features.

One of DIONS' core features is allowing registered aliases to replace payment addresses, arguably a key to the global adoption of cryptocurrency. DIONS aliases allow people to send or receive I/O Coin to registered usernames instead of the usual complex cryptographic identifiers connected to a wallet. This vastly simplifies the transfer of value with IOC, allowing customers to transact with businesses in a much more intuitive and user-friendly manner. Whilst the concept was novel when the I/O Digital Foundation began working on it, coins such as Status have since picked up this same idea. However, IOC will be one of the first coins to offer this functionality within its own ecosystem in the form of optional encryption in their fully decentralized blockchain.

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We see three features of the upcoming DIONS release which are likely to be of significant interest to the community. These include the:

1. Decentralized alias for payment address and accessible wallet UI;
  2. Decentralized Encrypted Messaging System; and
  3. On-chain document storage (Up to 2MB).
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There are other coins which offer decentralized messaging systems and on-chain storage as features, but none have released a working product - **IOC appears to be ahead in development.**

The I/O Digital Blockchain can carry up to 2MB data storage per 60 Second blocks while maintaining 4MB size blocks per IOC transaction, which is up to 20 times more transaction capacity than Bitcoin and Ethereum.

There remains concern that the 2MB file storage size will mean that DIONS is unlikely to encourage broad usage of the ecosystem by businesses. In this sense, the DIONS release will act as more of a proof-of-concept that the I/O Digital Foundation can provide on-chain storage, rather than a fully fledged enterprise product. Speaking to our analysts, Joel noted that the initial 2MB size will ensure that the main I/O chain will not become bloated and cumbersome, and that 2MB size will be sufficient for uploading smaller documents, identity verification information, messages, and other discrete data. With the successful launch of DIONS, the community will gain

greater confidence in the ability of the I/O Digital Foundation to address this storage size issue with data storage side chains via the Chameleon project. Nonetheless, it will be necessary to wait for the Chameleon release before the full functionality of on-chain storage can be implemented.

The highly anticipated DIONS release date is expected in October 2017, once the final testing is completed. IOC have confirmed with our analysts that they will call for the block number in due course. The coin will be forked to a new chain with coin holders retaining their IOC and DIONS will subsequently launch with full version 1 functionality.

### 8.3 Decentralization (PoW to PoS)

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This was an area that Joel was extremely passionate about, as he believed PoS (Proof-of-Stake) was the future: less vulnerable and far more sustainable. In the early stages of I/O Digital, Joel recognized this, and had IOC switch from PoW to PoS.

In PoW based blockchains, participating miners solve complex mathematical problems and publish the solutions. Through Bayes' theorem and the laws of thermodynamics, users can determine the amount of work that has been conducted by the particular miner, allowing the users to pick the longest valid chain with the highest amount of work done as the correct chain.

During this process, miners consume a substantial amount of energy which is very costly, and provides an incentive to centralize the hashing power. This creates a possibility of 51% attack and defeats the purpose of a decentralized blockchain.

On the other hand, PoS based blockchains reward forgers who must stake their assets to secure the network, which reduces stakers' incentives to attack the chain whilst remaining fully decentralized. This also decreases the volatility of the coin.

**IOC goes one step further than the standard PoS model** by offering an additional layer of reward atop the current and traditional staking system. IOC holders who stake their IOC will also receive a portion of the fees which network users pay to store their data. This will ultimately add greater value to stakeholders and network users, who benefit from additional network security.

## 8.4 Fair Launch

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In the early days of the blockchain development, the developers of IOC witnessed the boom and bust of multiple projects that attempted to make quick cash through pre-mining and ICOs. To differentiate themselves from scams and excessive valuations, the developers of IOC initiated a fair launch as a PoW based blockchain before switching to PoS after 2 weeks.

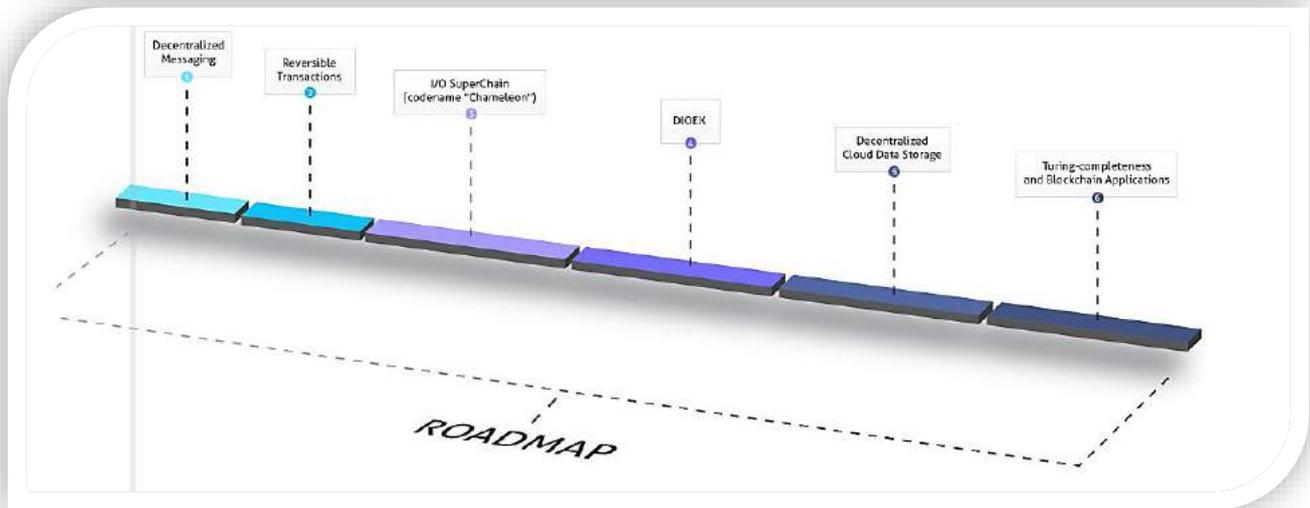
The following table illustrates a balanced distribution of the coins between IOC users and holders.

### Wealth Distribution

Top N addresses	Holdings (IOC)	Percentage
● <b>Top 10</b>	3,515,057	21.49%
● <b>Top 100</b>	12,283,749	75.10%
● <b>Top 1000</b>	16,335,821	100.00%
● <b>All 1935</b>	16,356,078	100.00%

Source: <https://chainz.cryptoid.info/ioc/#!/rich>

## 9. THE FUTURE - ROADMAP



Source: I/O Digital Foundation website

### Overview

The I/O Digital Foundation aims for IOC to be a token that is usable as a medium of exchange and a key to unlock significant features on the platform. Whilst Spero would have liked to see a dated timeline of the above roadmap, we appreciate that timelines give way to speculation and unnecessary pressures. The vision of the roadmap is promising - though it leads to the question - can the team deliver? With the careful approach and patience that Joel and his team has taken, Spero is optimistic.

### Reversible Transactions

This will prove to be a key feature in the world of e-commerce. While cryptocurrency has the benefit of sending money conveniently, it has a vital flaw as a medium of exchange. There is no way to formally issue refunds, which is a crucial part of business. This is the issue IOC will be tackling in the next year and we will eagerly await to see its development and use.

## **I/O SuperChain “Chameleon”**

Chameleon will give enterprises full use of the I/O suite of applications and services, while being able to privately manage their own blockchains and encrypted data. This provides flexibility around the use cases of I/O coin. Naturally, this is important as all businesses are different and will require versatility from the I/O suite. Chameleon will also allow the implementation of smart contracts. While this functionality exists within many blockchain ecosystems, I/O is unique in that it has a business focus and will initially focus on integration with businesses via targeted problem-solving DApps and functions. This means that I/O has a greater potential to integrate smart contracts into existing business environments than other ecosystem currencies.

## **DIOEX (Decentralized I/O Exchange)**

I/O coin is looking to ultimately provide its own decentralized exchange, challenging established market exchange providers where IOC is currently traded. The I/O Digital Foundation seeks to create currency-agnostic gateways to allow customers to change their IOC with fiat or cryptocurrency and with minimal fees. The base currency on this exchange would be IOC.

## **Turing Completeness and Blockchain Applications**

This will likely be a turning point for I/O coin, especially if there is significant interest from developers. I/O will face the established players competing in this space, such as the behemoth Ethereum. This is a development to watch, especially since we are in the early days of DApp technology and there remains significant uncertainty around the capability and practicality of distributed ledger technology.

## 10. CORE DEVELOPMENT TEAM

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### **Joel Bosh**

Founder, Developer, Project Manager

[Linkedin](#)

Starting out as a bitcoin enthusiast, Joel has made IOC his life. From speaking with Joel, it is clear that he has made large sacrifices, including selling his previous business, in order to pursue this venture. Joel has a vision of bringing IOC to the mainstream and has taken a fiscally conservative approach to his operations. Much of the development has been self-funded and whilst there are plans for a potential ICO in the future, the team's mind is not set on money but instead is focused on creating a secure and easy-to-use blockchain for broad commercial and public adoption.



### **Richard Groen**

Partnership and Investor Relations Director

[Linkedin](#)

Richard has been recently employed by IOC as the Partnerships and Investor Relations Director. From conversations with him, he has extensive insight and a working knowledge of IOC, having been with IOC since 2014. Previously, he retained the role of Community Manager. He will be attending the Euro FinTech Awards in late September to pitch I/O Digital in front of a range of parties including attendees from various banks and members of the European Parliament.



**Derek Hatton**

Lead Developer and Security Specialist

As Derek is involved with highly classified work with CERN, his online presence aside from published work is minimal.

Derek is a physicist and IT security consultant who has worked across a broad range of industry sectors since 1998, ranging from Telecommunications to scientific research.

Most recently, he worked at the DESY and CERN high energy physics research establishments developing real time control and data acquisition software for particle physics experiments.

Derek has worked in extremely technical programming environments, and his published work is available online in relation to the run control systems of the Compact Muon Solenoid collaboration at CERN's Large Hadron Collider (LHC), among other areas.

*Additions to the I/O Digital Foundation team are available at [iodigital.io/management](http://iodigital.io/management). The page was recently updated to include a new web developer, wallet developer, and designer, which reflects increased emphasis on faster time to market.*

## 10.1 Advisory Board

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IOC boasts a balanced and experienced advisory board from corporate backgrounds. This speaks volumes of IOC's target market and the traction it is gaining from the corporate world. From our research, it appears that these advisors play an important link in connecting IOC to businesses. We suspect that as IOC grows, the advisors will play greater roles in leveraging their positions to potentially bring IOC to the mainstream.



**Alexander Noordeloos**

Global Alliance Director at KPMG

[LinkedIn](#)

Alexander is the Microsoft Global Alliance Director at KPMG, based in the Netherlands, home of the I/O Digital Foundation.

According to his KPMG biography, Alexander is responsible for global go-to-market activities for the KPMG Microsoft alliance as well as the development, management, and implementation of the global KPMG Microsoft alliance strategy. Prior to this role, Alexander was Microsoft Alliance Director for the Netherlands and worked closely with the global alliance team in business development activities and various large cross-country projects. He achieved a substantial increase in both pipeline and revenue by driving and executing local strategy and demand generation.

As such, Alex serves as an invaluable advisor with his experience but also as a direct link to a vast corporate network that IOC will hopefully leverage in the near future.



**Nadal Antonioni**

Former IBM Mexico President

Antonioni's role will be to actively advise the I/O Digital Team on strategic partnerships and global expansion. Having worked with IBM for 25 years in management, operations, and executive positions. Antonioni became founder and CEO of Southern Cone Advisors Inc in 1997, which specialized in advising on business opportunities in Latin America and partnerships with US businesses.

There had previously been rumors of IBM approaching IOC with an offer to incorporate the I/O Digital Blockchain into Hyperledger. However, this was rejected by the IOC team due to unwillingness from the team to be subject to IBM's influence. Despite this, Nadal's interest in IOC and his links to IBM should provide comfort that IOC are well positioned in the blockchain space and that there is confidence amongst the large players in the technology industry in the coin.



**Marco Houweling**

Senior Vice President Finance TomTom

[LinkedIn](#)

Houweling played a prominent role in the successful IPO of TomTom and its successful growth in the European technology markets. As Senior Vice President Finance of the Consumer Division at TomTom, which itself faces the need to constantly innovate in the face of industry disruption, Houweling will be well placed to advise the I/O Digital Foundation on gaining market share in Europe.

## 10.2 Community Support

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IOC has a small but dedicated following in the community. Developers and relationship managers alike are active on social media channels, providing updates on the progress of the I/O Digital Foundation and the goals of the coin. Live streams with the developers have added credibility to the project and demonstrated to the community that IOC is progressing steadily. As IOC is a technologically unique project, Joel discussed with our analysts the need for the development team to write a significant amount of the code from scratch, which has led to long periods of silence from the development team while they worked on the DIONS product. With DIONS expected to be released in October, there has been renewed interest from the community. IOC can indeed be distinguished from other prominent coins, which are more community focused and have active Github repositories and contributors. In contrast, IOC has only recently open sourced and is arguably more focused on business networks. The composition of the Advisory Board demonstrates a desire on the part of I/O Digital to forge links with the business community, rather than a more public focus which has been seen in some other coins and ICOs.

Metric / Channel	Size / Growth
<b>Reddit</b>	276 Readers
<b>Slack</b>	1000 Members
<b>Telegram</b>	188 Members
<b>Twitter</b>	5700 Followers
<b>Facebook</b>	1800 Followers

# 11. TECHNICAL AND QUANTITATIVE ANALYSIS (HISTORIC)\*^



The following chart analysis is provided by our strategic partners at **BullBear Analytics**. This analysis is not to be taken as investment advice and is provided for informational purposes only. Clients seeking investment should consult professional investment advice.

For more information on BullBear Analytics, please visit <https://www.bullbearanalytics.com/altcoin-pro.html>.

## 11.1 Technical Chart Interpretation

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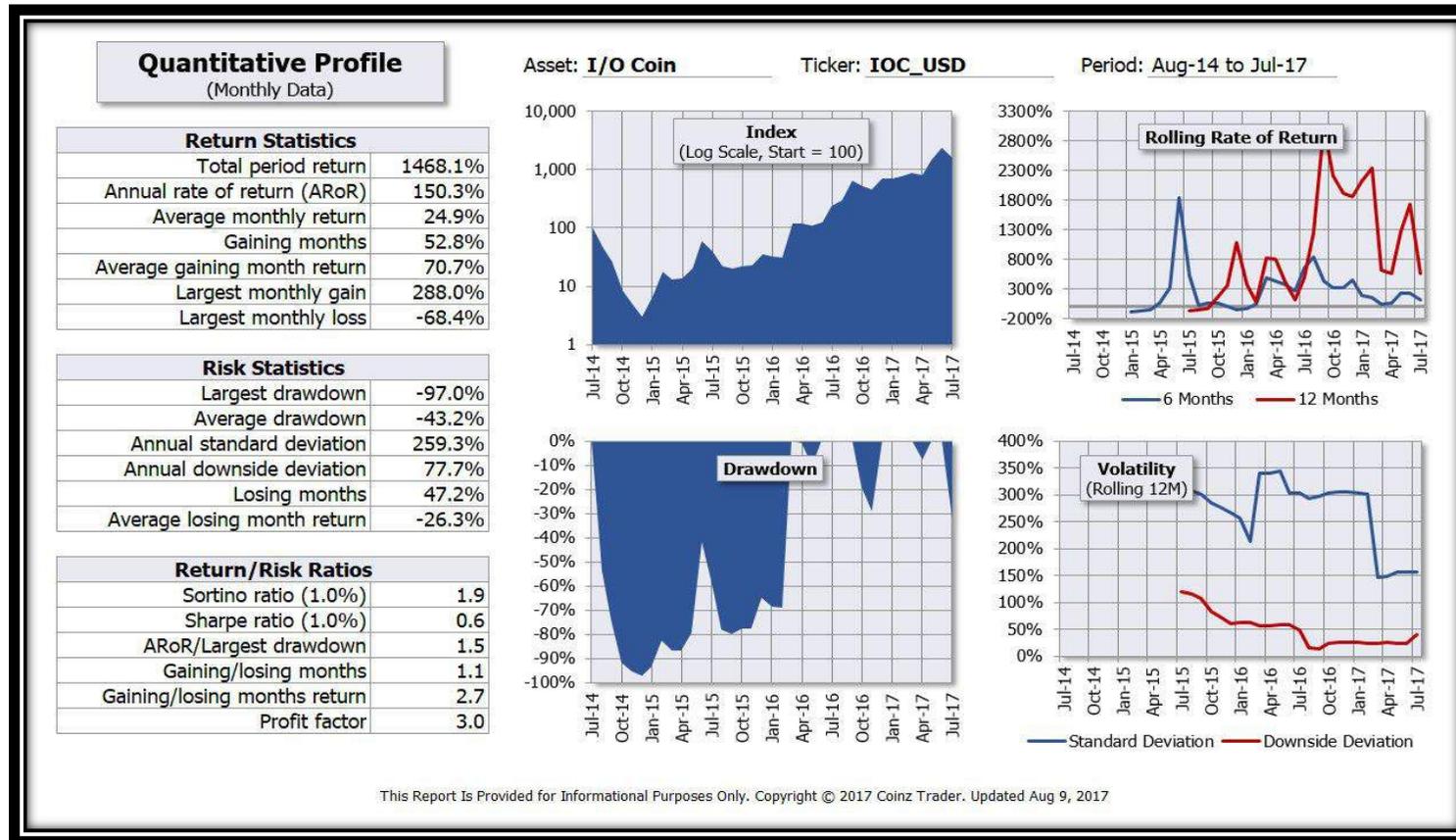
From the price action we can see a great example of a bull market which is defined by higher highs and higher lows. The first breakout occurred following a period of consolidation leading up to when IO Digital released the first upgrade to the I/O Digital Blockchain in 2015. We are now in the fourth and longest period of consolidation with 28,000 sats providing a strong level of support, having been tested multiple times while remaining above the 200 day moving average the entire time. The price hit above the 200% extension target during the peak of the previous rally. After this amount of consolidation, it is not unreasonable to expect price to move above the 200% extension during the next breakout due to such a long period of accumulation/consolidation. Currently the 200% extension target is at 0.001274.

The volume profile is most encouraging, clearly the buyers from the first three phases of accumulation known as the long term holders, or so called strong hands are yet to redistribute. This can also be confirmed by the On Balance Volume indicator (OBV). From a momentum perspective we have had a bullish MACD crossed below the 0 line and William %R moving higher from an oversold position higher suggesting there is plenty of room to the upside before we find the indicator in an overbought position.

*\*Disclaimer: This chart interpretation does not constitute or represent investing advice and has been provided for informational purposes only. We never provide trading advice or recommendations. Please always do your own due diligence, and consult your financial advisor. The author owns and trades cryptocurrencies and other financial markets mentioned in this communication. Trading remains at your own risk and never invest more than you can afford to lose.*

*^Technical analysis has been provided courtesy of @cryptoelite from BullBear Analytics.*

## 11.2 Quantitative Historic Price Analysis\*^



\* This chart does not constitute or represent investment advice and has been included for informational purposes only.

^This quantitative analysis has been provided courtesy of Spero community member @CoinzTrader (Twitter). The facts and figures have been verified by Spero.

## 12. SWOT ANALYSIS

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The SWOT analysis has been conducted to give the community a brief internal and external assessment of the conditions and status of IOC. This analysis allows Spero to identify that IOC is a standout from a fundamentals perspective amongst other blockchain technologies in the market.

### Strengths

- Positive philosophy on development
- Unique capabilities and DApp development potential

### Weaknesses

- Absence of initial funding
- Block size
- Limited business uptake

### Opportunities

- Purchasing and trading aliases
- Staking reward and fee distribution

### Threats

- Open source
- Competing coins

## 12.1 Strengths

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### ***The I/O Digital Foundation has a positive philosophy on development***

While Joel did not comment on other cryptocurrency projects, he talked our analysts through his initial exposure to cryptocurrency. This was through a client who had told him of Bitcoin in 2013, leading him to research further and invest in a number of different coins. The experience of investing in a string of well-marketed and seemingly promising projects which then disappeared with investor money overnight, means that Joel brings a cautious and honest technology-first approach to IOC's development.

In line with this philosophy, I/O Coin launched with no premine and as a proof of work coin. A few weeks after its initial launch, it switched to proof of stake. I/O Coin has been fair in its coin distribution, which reduces the risk of developers flooding the market.

### ***Unique capabilities and DApp development potential***

As with all upcoming technological ecosystems and platforms, it is difficult to generate widespread excitement about the platform itself. Some potential key aspects for the I/O Digital blockchain include:

- Encrypted workplace messaging is an existing market ripe for disruption – regulation forces companies to maintain records, internal messages, and external emails for substantial amounts of time, often requiring onsite storage or a trusted third party;
- Regulation requires keeping receipts and records for substantial amounts of time – DIONS will allow these records to be stored as permanent, uneditable transactions on the I/O blockchain, significantly reducing compliance costs for companies;
- A decentralized form of Twitter – this combines the reward elements of Steemit with IOC's AES encryption, messaging, file upload, and accessible wallet functionality. Joel is an advocate of the decentralized libertarian nature of blockchain. For example, it

would be possible to permit whistle-blowers in oppressive regimes to post via a social media platform on the I/O Digital blockchain; and

- Verification of identity based on DIONS aliases and the ability to upload identifying information.

## 12.2 Weaknesses

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### *The absence of initial funding acts as a restraint to development*

A widely acknowledged concern is the lack of human capital within the development team stemming from the lack of initial funding. The team is constantly under pressure to work under very limited budget, which has mostly been self-funded. Coupled with a strong emphasis on the security and stability of the I/O platform, the team has been performing rather slowly, relative to other projects. Consequently, it has also not been feasible to conduct major marketing activities to create awareness around the coin. Currently, the team relies on the community to add exposure to the public, though Spero notes that the team does plan on ramping up marketing in the future.

These fundamentals are unlikely to change until the team finally decides to conduct fundraising activities. During our interview, the team has hinted at upcoming fundraising, via both venture capital and a potential ICO. In light of this, it was stressed that the stability of the current DIONS project does take precedence.

### *Storage space scaling issue will linger*

The 2MB storage size prevents widespread uptake at the DIONS stage due to a lack of ability to upload significant documents, images, and other large files. While this is planned to be upgraded at the Chameleon stage, the cryptocurrency market moves extremely swiftly and there has been a new push toward crowd-sourced storage. The I/O blockchain is promising as it has a focus on security, which has been the “achilles heel” of many of the recent storage coins. However, other market players may grow to dominate this space due to IOC’s small

team and relatively slow development. It is possible though that this development will speed up as I/O gains more funding. Despite all this, another significant issue facing the team has been the ability to find relevant talent to hire, regardless of the price. As IOC is not a derivative of any other currency and the implementation of unique features has been a result of a code that has been written from scratch. Given the novel skills required to implement these features using distributed ledger technology, slow development is likely to be noticed by IOC's competitors.

### ***Limited business uptake***

This is ultimately a business focused coin. While many of the current coins are aimed at public adoption, I/O will merely offer optimization for many businesses, rather than radical disruption. This means that uptake may be slower, though there is the potential for this to be offset via IOC's business relationships. In saying this, we note the strong advisory board and their responsibility for promoting business partnerships.

## **12.3 Opportunities**

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### ***Purchasing and trading DIONS aliases***

DIONS addresses in the form of aliases can be sold by users, likened to selling domain names for internet websites. This may be used as an opportunity for an IOC user to be the first to register potential aliases, and sell it later once more late adopters start using the I/O blockchain.

### ***Staking reward and fee distribution***

Currently, staking IOC will yield approximately 1% annual interest. The DIONS update will allow the staking returns see remarkable growth, with a correlation to the growth of IOC.

After the DIONS release, various services in the I/O platform will require small fees. For example, the creation of new DIONS aliases, usage of the encrypted messaging service, and

uploading documents to the blockchain will all be subject to a new fee structure. These fees however, will be distributed to IOC stakers.

## 12.4 Threats

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### ***Open sourced code presents a vulnerability to code theft***

With more than 2 years of work, I/O Digital's code was created from scratch by the development team. Since June 2017, the code has been open source, and this presents vulnerabilities from new entrants and competitors to copy the code. In order to minimize the impact from a wide adoption of DIONS from the competitors, the IOC team must secure their first mover advantage.

### ***Competing coins with overlapping capabilities***

IOC retains several key unique features and a focus on security. There is no single coin that seeks to implement the whole suite of features that the I/O ecosystem promises. Nevertheless, there are a number of coins which may emulate some of the opportunities that IOC are hoping to explore. For example:

- *Factom* may play a similar function to IOC in respects of record keeping;
- *Status* have been touted to be developing encrypted messaging;
- *Nexus* is developing similar functionality in respect of reversible transactions;
- Chameleon may have similar purpose to the SmartBridge technology being developed by *Ark*; and
- Various coins have proposed to build their own DEX including *WAVES*.

## 13. DISCLOSURE

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### Summary

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