



IOTA DIGITAL ASSET REPORT:

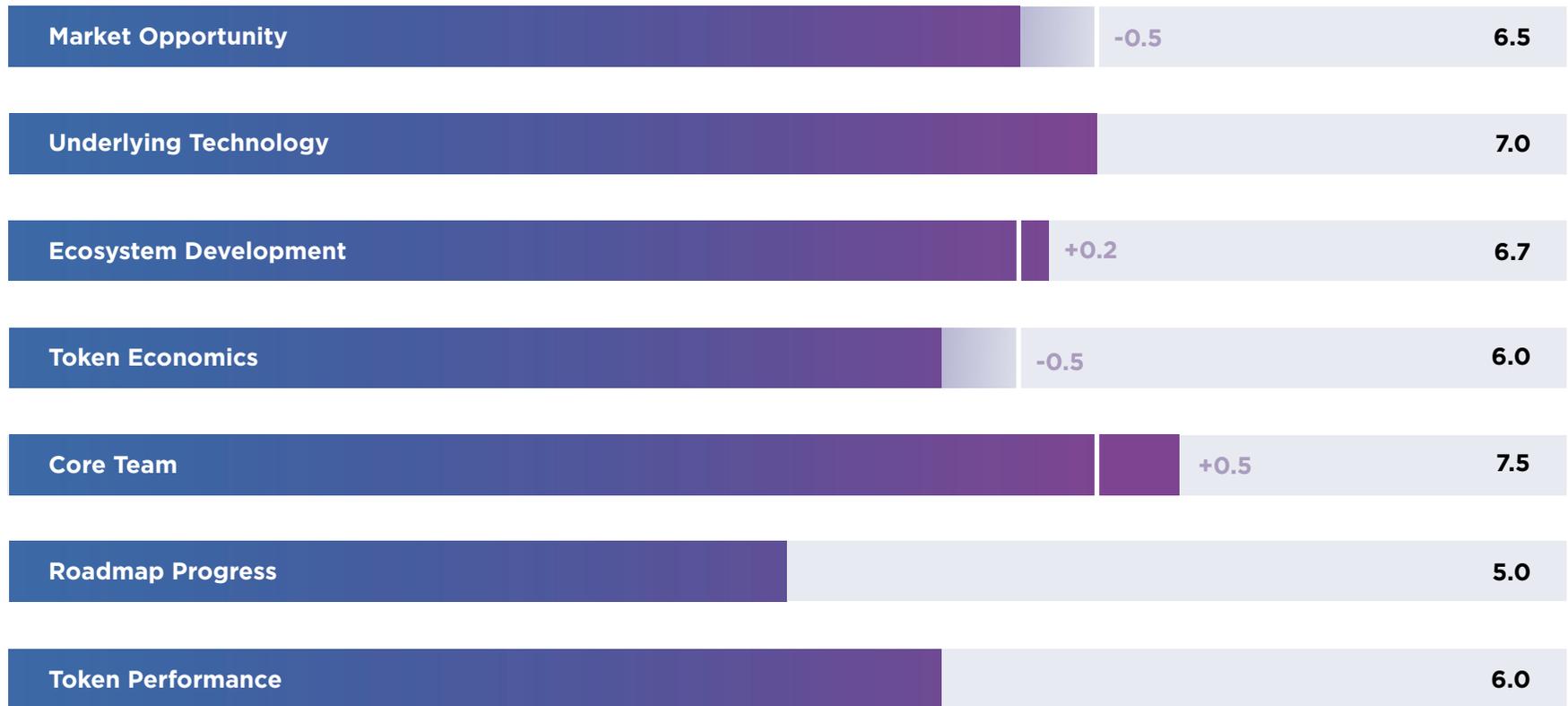
Update

Crypto Briefing Research Department
October 14, 2019

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Fundamental Factors



Update Combined Score: 6.4

Initiation Report Combined Score: 6.4

Grade

Project exhibits moderate indications of progress but still faces above average level of risk; token price is highly volatile, prospects for adoption are uncertain due to factors such as poor marketing, lack of developers or dApp projects, irrelevancy of tech, or critical governance issues.

For a full description of our methodology, please click on Grade icon or go to: simetri.cryptobriefing.com/methodology



Not Investable

Investable



Summary

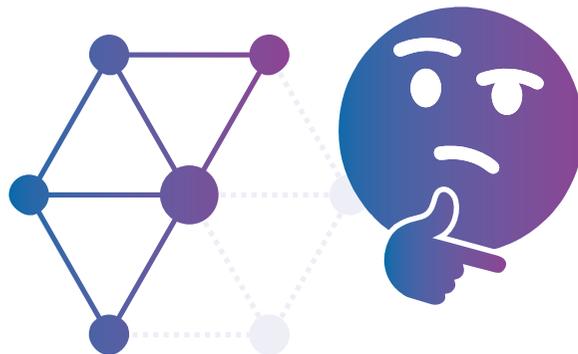
The IoT sector continues to advance at a steady rate and represents a growing potential for value capture. However, IOTA has been mostly focused on R&D, while the rate of adoption and ecosystem expansion remain slow.

Although the team has been active with partnership announcements, these have generally not resulted in significant usage of the Tangle.

In addition, while IOTA has published its plans to decentralize the network, these are still at a preliminary stage. Furthermore, the

roadmap's ambiguity raises concerns about when the network will be fully functional.

Overall, while the project continues to have real potential, especially regarding its unique technological design, the rate of adoption warrants serious concerns.



IOTA HAS BEEN MOSTLY FOCUSED ON R&D, WHILE THE RATE OF ADOPTION AND ECOSYSTEM EXPANSION REMAIN SLOW

Market Opportunity

Summary

- The IoT market still represents a large opportunity for IOTA, but the project is facing increasing pressure
- IOTA's partnerships so far have by and large not progressed beyond early stages
- Competition from within the blockchain space and legacy players has intensified

Although the IoT market continues to present a lucrative opportunity, IOTA's prospects have worsened over the past year. The project's technology is still not ready for mass adoption, while the competition has increased.

Analysts **expect** the number of IoT devices to rise at an increasing rate in the years ahead, reaching 21.5B in 2025.

However, this growth depends on progress regarding **5G coverage**.

IoT services also rely on high internet speeds, good bandwidth, and low latency, all of which are provided by 5G. However, the rollout of this technology is completely outside of IOTA's control and is facing increased pushback of late due to **espionage** and **public health concerns**. For now, there are significant impediments to the growth of IoT which represents IOTA's target market.

The project has however continued to make inroads in the enterprise

sector, having secured several partnerships. Unfortunately, few of these have progressed much beyond proofs of concepts (PoC) and memorandums of understanding (MoU). By nature of the enterprise lifecycle, these initiatives could take several years before they result in commercial products, which will slow down IOTA's pace of adoption.

At the same time, competition from within the crypto space has increased from projects such as **VeChain**, **IoTeX**, and **Waltonchain**. VeChain, in particular, has outshone IOTA, having secured **partnerships** resulting in more visible **usage**. IOTA is also starting to feel pressure in other areas such as privacy, something **IoTeX** has focused on in particular and represents a helpful **feature** for widespread IoT adoption.

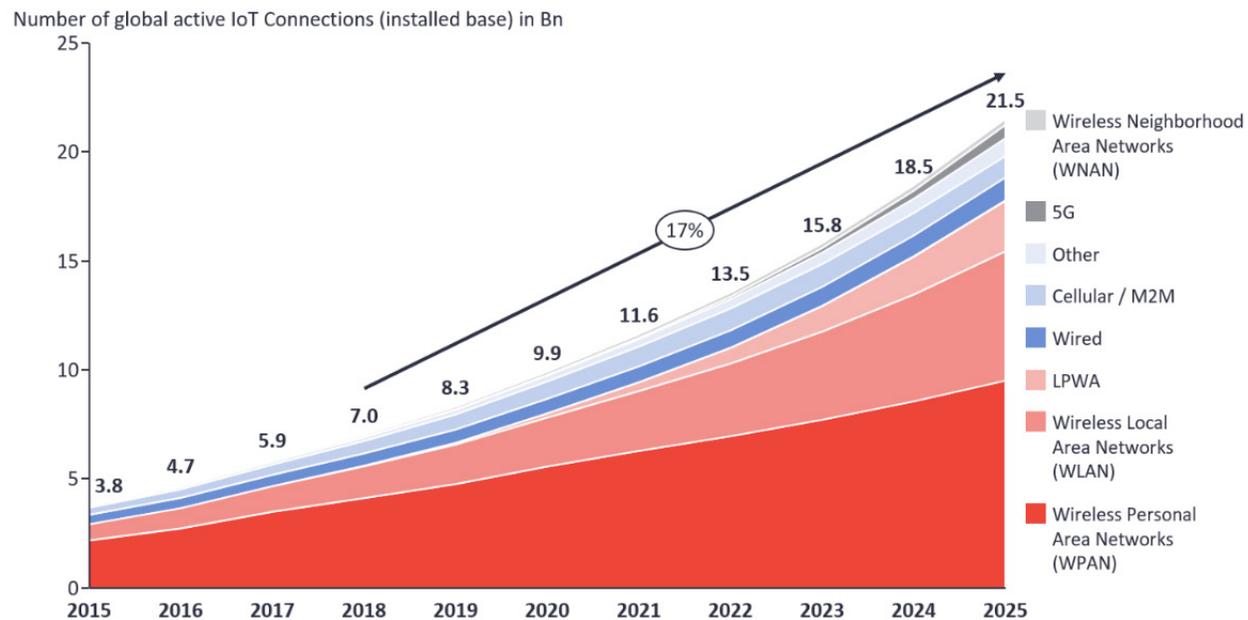
Furthermore, projects such as **Theta** that are not typically associated with IoT have started to target the niche. As the industry grows, more blockchain projects are likely to become IOTA's rivals.

Although the team seems to think that corporations are less interested in permissioned systems, legacy players such as **IBM** and **Oracle** have also continued to innovate and are now seeing adoption of their blockchain-IoT products. IBM, in particular, has started to pull ahead with **Hyperledger** and the **Watson IoT platform**. The company now represents the dominant enterprise competitor.

IOTA is particularly vulnerable to such competition given its

continued technological limitations, particularly in regards to its lack of readiness for integration into small devices as well as its **slow confirmation times**, both of which are conducive to IoT adoption.

Overall then, the IoT market continues to present a lucrative opportunity, despite increased headwinds. Unfortunately, IOTA's continued technical limitations and intensifying competition mean that its prospects have worsened.



Note: IoT Connections do not include any computers, laptops, fixed phones, cellphones or tablets. Counted are active nodes/devices or gateways that concentrate the end-sensors, not every sensor/actuator. Simple one-directional communications technology not considered (e.g., RFID, NFC). Wired includes Ethernet and Fieldbuses (eg., connected industrial PLCs or I/O modules); Cellular includes 2G, 3G, 4G; LPWAN includes unlicensed and licensed low-power networks; WPAN includes Bluetooth, Zigbee, Z-Wave or similar; WLAN includes Wi-fi and related protocols; WNAN includes non-short range mesh; Other includes satellite and unclassified proprietary networks with any range.

Source: IoT Analytics Research 2018

Global Number of Connected IoT Devices | Source: github.com

Underlying Technology

Summary

- The majority of IOTA's technology stack is either centralized or incomplete
- Coordicide could help solve confirmation time issues but the launch date is unspecified
- Abra's value proposition is questionable given existing industry standards
- Undefined timelines for Qubic make it hard to predict when smart contract functionality will be added

IOTA has remained an R&D-centric project and has been slow to deliver working solutions to the problems it set out to address.

In order to decentralize the network, IOTA has proposed a plan for **Coordicide**: the removal (suicide) of the Coordinator, a centralized agent controlled by the Foundation. IOTA has released the long-overdue Coordicide **whitepaper** in July 2019, although the date for its full integration is yet unknown.

Delays surrounding Coordicide also prevent IOTA from addressing its **1-2 minute** confirmation time problems. As part of Coordicide, IOTA will transition to **Shimmer**, a consensus-mechanism that will enable near-instant transaction finality.

One of the implementations of Shimmer being explored is **Fast Probabilistic Consensus (FPC)**, whereby nodes vote in subsets and every node queries the majority opinion of the subset. In late September, IOTA released an FPC simulator, a step in the right direction that engages the community.

Until there is tangible progress on the Coordicide front though, the current confirmation times make the network less attractive for its main value proposition of IoT and embedded devices.

Other layers of the IOTA stack, such as **Abra and Qubic** are also under development at this stage.

The dataflow-oriented ternary language Abra is still missing technical specifications and a standard library. Moreover, it is beyond the realm of currently used technology. **Promises** of theoretical improvements and energy reductions are at odds with **practical considerations of hardware**. There is no industry-wide consensus on whether ternary-logic processors will catch on. As such, IOTA is heavily invested into a thesis that hinges on a revolution in hardware design, which is a considerable source of risk.

While some **further details** about the end goals of Qubic, IOTA's smart-contract layer, have been revealed, there is still no specificity about deadlines. Since November 2018, development of QubicLite

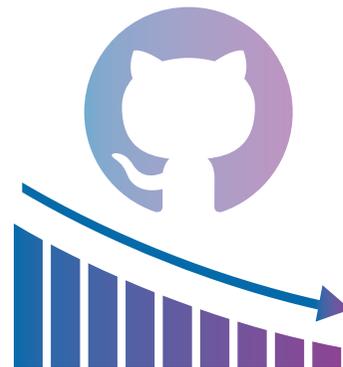
(a third-party implementation of Qubic) has been **terminated**. Its developer has joined IOTA to work on the in-house development of Qubic. While it is good to see the onboarding of a serious ecosystem contributor, it is still hard to forecast when smart contract functionality will be implemented on IOTA.

Moreover, IOTA's Jinn ternary processor also remains under development, with extremely sparse progress updates. As with other ternary based elements, much depends on the commercial adoption of the paradigm.

On the positive side, the monthly progress reports have become more comprehensive, offering an overview of the team's progress in all development tracks. With the IOTA stack expanding, it is crucial to maintain a level of transparency about ongoing development.

Beyond that, IOTA's Trinity wallet was **released** in full on July 2nd. It received an **audit** from Sixgen, who assigned it an overall low-risk rating. IOTA has fixed the main issues such as **automating** the address-generation process, which mitigates the risk of users losing funds. The issue with "out of sync nodes", a major **deal-breaker** for beta version users, was also taken care of. Still, the release of Trinity wallet v2 is likely a long way out.

In terms of **GitHub** development, there has been a decline in activity for the IOTA reference implementation in the past months. Meanwhile, the Trinity wallet **repository** has seen a moderate level of contributions, while **Shimmer** has experienced an uptick in activity. These stats reflect the team's Coordicide-centric priorities of late.



IN TERMS OF GITHUB DEVELOPMENT, THERE HAS BEEN A DECLINE IN ACTIVITY FOR THE IOTA REFERENCE IMPLEMENTATION IN THE PAST MONTHS

Overall, IOTA's complex technology stack is likely to take a long time to deliver. Since the initiation report, the team has made some advancements although most of it continues to be R&D.

clients. This approach is set to continue, which will continue to slow down product roll-out.

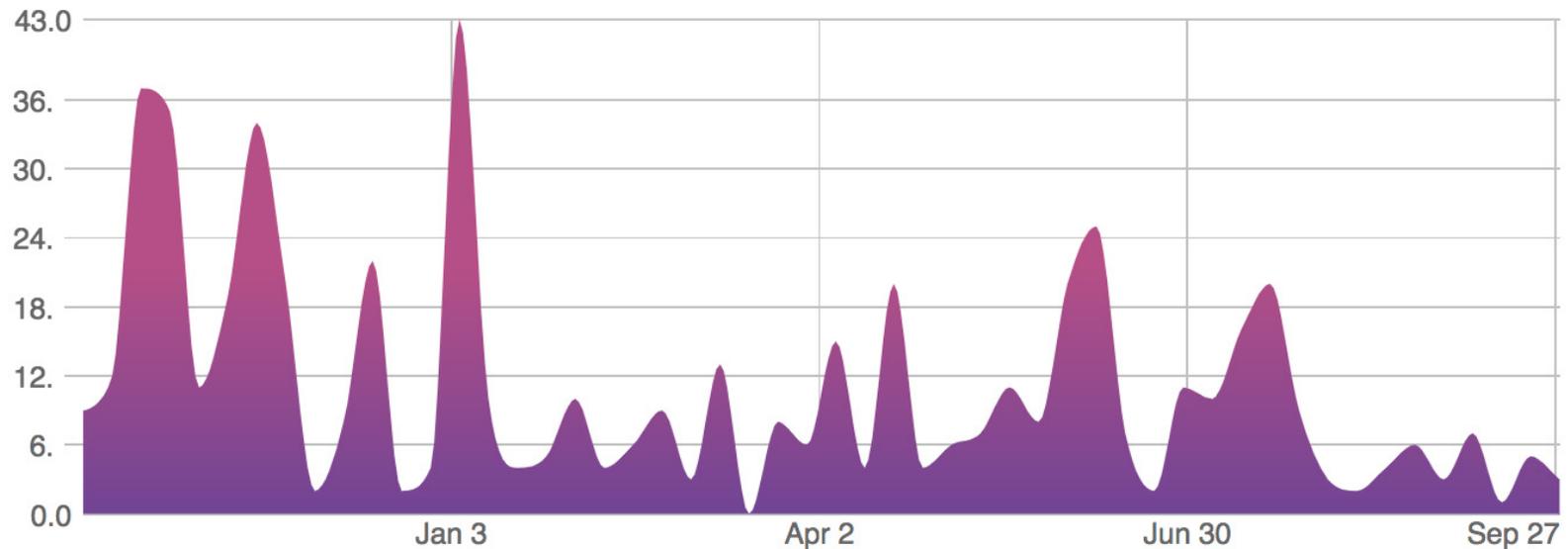
Taking an enterprise approach has slowed IOTA's progress due to the extensive testing and internal processes required for these

69. IOTA · MIOTA

Internet-of-things payments

565 commits

57 contributors



Created: 2016/10/24 · Updated: 2019/10/04 · Language: Java · Watchers: 1168 · Top contributor: alon-e

GitHub Activity | Source: cryptomiso.com

Ecosystem Development

Summary

- IOTA has been making partnerships with enterprises and regulators to create and promote joint projects, but their effect is muted by the lack of tangible products
- The project is still centralized, which brings risks of negative impact from IOTA Foundation's possible internal issues and financial instability

The team has been active with various initiatives to expand the ecosystem. However, this has not led to any significant progress since the initiation report.

Earlier in the year, IOTA demonstrated proofs-of-concept for its technology with large companies like **Fujitsu** and **Volkswagen**. More recently, the project has also secured partnerships with entities, like **Jaguar Land Rover (JLR)**, **Bosch**, **Linux Foundation** and several smaller organizations.

One of the most celebrated was the partnership with JLR, which focused on integrating 'Smart Wallet' that enables earning points while driving and then spending them on products and services. However, it resulted in just a small implementation in some car models, and for the most part still remains a proof of concept. Similarly, other projects have not got any major updates, which has muted their impact on IOTA's ecosystem.

The project has also been making inroads with governments. For instance, IOTA recently **joined** the International Association

for Trusted Blockchain Applications, an organization focused on establishing communication between blockchain projects and regulators. Also, the IOTA Foundation recently **partnered** with the transportation authorities of Austin, Texas. These initiatives, however, have not led to much on-the-ground adoption of IOTA.

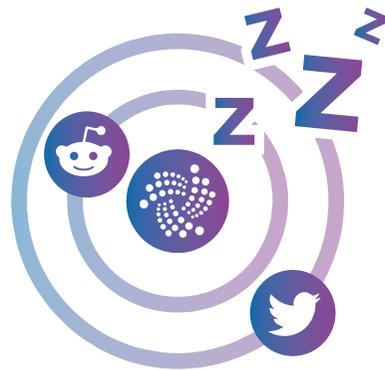
IOTA's products and services also largely remain in development. According to the team, the IoT microprocessor **Jinn** is still in the prototype stage and has not yet been launched commercially. Furthermore, the project's smart contract layer, **Qubic**, is still not released, making IOTA more of an afterthought for dApp developers.

While the Foundation strives to incentivize the project's growth through grants, the projects they have funded are at an early stage of development and have not moved the ecosystem forward. For instance, Bytes.io, a p2p internet access marketplace that received around **\$30,000** from the Ecosystem Development Fund, has had **no recent updates**. Furthermore, the **XDKMAM** project that received **\$28,000** currently has only **a single access point**

implementation available on IOTA's **data marketplace**. Hence, the team's spending has not provided meaningful results so far.

The fact that the marketplace intended for storing and selling data for sensors across the globe already has a few access points available is encouraging. Still, as it is in the early stages, it does not make much contribution to adoption.

Ultimately, while IOTA's ecosystem has added growth prospects, it is largely stagnant without tangible use cases and meaningful updates that may lead to adoption.



LACK OF VALUABLE PRODUCTS AND OFFERINGS HAS LED TO A SLOWDOWN IN USERS' ACTIVITY AND STAGNATION OF THE ECOSYSTEM

Core Team

Summary

- The IOTA Foundation has stated that their internal personnel issues have been resolved

In the initiation report, we mentioned the fallout between founding members Sergey Ivancheglo and Dominik Schiener, which was publicized as a result of a **transcript leak**. Even though the issue was resolved at the time, Sergey **departed** from the Foundation in July this year.

According to Ivancheglo, the work environment has become **‘too rigid’** for his preference. Despite Ivancheglo’s resignation, the Foundation has reassured the community that the overarching IOTA vision will be unaffected and that Sergey will continue his contributions to IOTA independently.

Sergey continues to support IOTA’s ecosystem by working on **Paracosm**, a VR gaming platform. Although the project uses another version of Tangle, it plans to be interoperable with IOTA and according to the developers will be able to support MIOTA.

Another change on the HR front was the arrival of new Foundation members. For example, the **onboarding** of **Lukas Tassanyi** shows

- The team has expanded to over 120 members, partly by onboarding active ecosystem participants

that the Foundation is willing to forge strong relations with active ecosystem participants and welcome new talent to the team.

Despite a past record of **PR issues**, the team seems to have matured since, and issued a formal **public apology**. After adjusting their style of communication there have been no further concerns raised by community members.

Generally speaking, the team now boasts over 120 members, which should be enough human capital to deliver on the project’s goals.

Overall, while the team’s growth has yet to translate to an increase in production speeds, Sergey Ivancheglo’s departure may at least bring more long-term stability within IOTA’s leadership.

Roadmap Progress

Summary

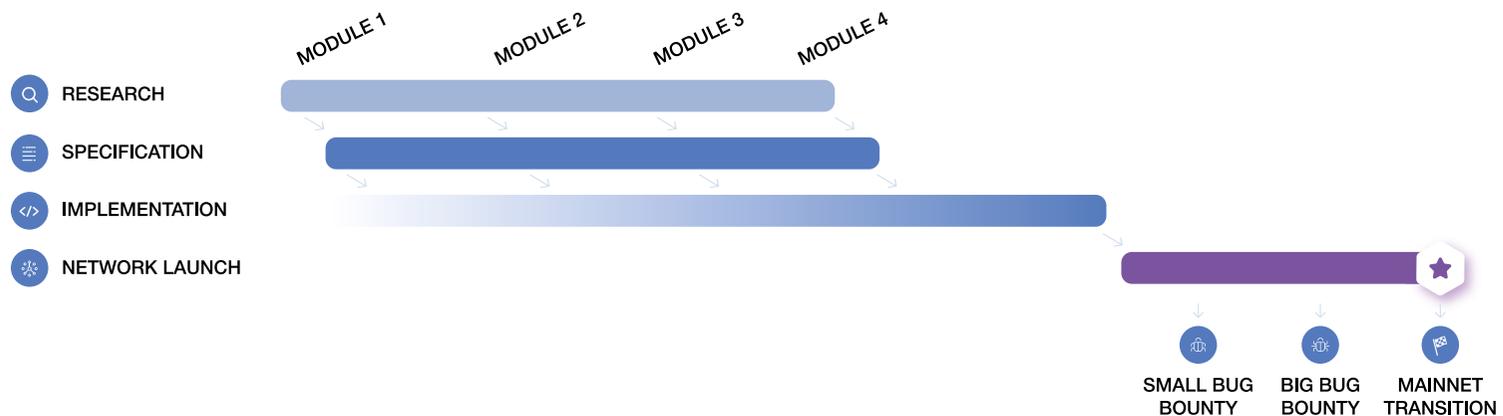
- Despite the release of the whitepaper, Coordicide is still in its early research phase
- The roadmap for the Qubic layer lacks specificity in terms of production deadlines

While the team did shed some light on the future direction of Coordicide in **July**, there are no hard dates to accompany it. IOTA calls this the 'next stage in the network's evolution', but in the absence of a timeline, these claims are vague.

As far as the Qubic track, Abra documentation, a standard library,

and the Qubic protocol are the **next steps**. Without the quorum-based computation layer, dApps are impossible on IOTA.

If the team fails to demonstrate reasonable progress with Coordicide and Qubic, questions about IOTA's sustainability will be raised more acutely than ever.



Coordicide Roadmap | Source: blog.iota.org

Token Performance

Summary

- MIOTA has underperformed in terms of both price and market cap, relative to the rest of the altcoin sector

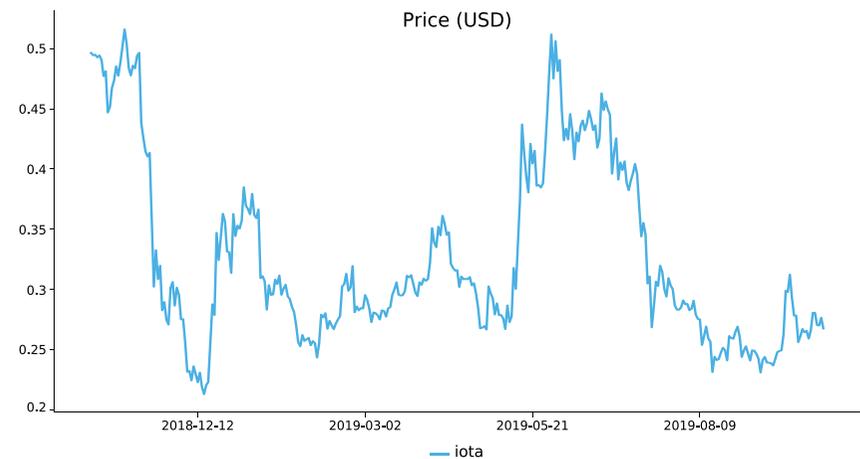
Since the initiation report, MIOTA has not performed well.

The token is down by approximately **45%** since October 2018 and has significantly underperformed the rest of the **altcoin sector**. As a consequence, MIOTA has dropped five places in terms of CoinMarketCap rank, from **12th** to **17th**.

MIOTA has seen strong price moves up and down. These movements initially mirrored the rest of the market, but since March 2019, the token has been noticeably weaker.

Overall then, MIOTA's lackluster performance has reflected the project's slow growth and worsening fundamental picture.

- This underperformance is reflective of IOTA's worsening value proposition



MIOTA Price Graph | Source: coingecko.com

Conclusion

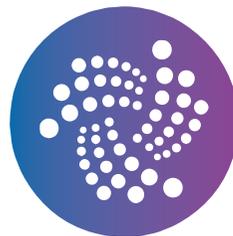
All things considered, IOTA remains a pure R&D play for the time being. In the absence of tangible adoption the project's technological expertise has not translated to significant ecosystem growth.

As the competitive landscape gets more intense, IOTA's centralized and incomplete technology stack will not be met with high market demand, at least in the medium-term. On top of that, despite multiple partnership announcements, the project has yet to convert them into meaningful use-cases.

The project's accomplished team of over 120 is struggling to push long-awaited tech over the finish line, and the timeline for

the road ahead remains ambiguous. IOTA does, however, have a unique technological proposition and some promising enterprise partnerships. Both of these factors lend the project potential for success. For these reasons, IOTA maintains its C+ grade.

The author(s) of this report is/are invested in the following coins: MIOTA, THETA.



**IOTA
MAINTAINS
GRADE
C+**

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