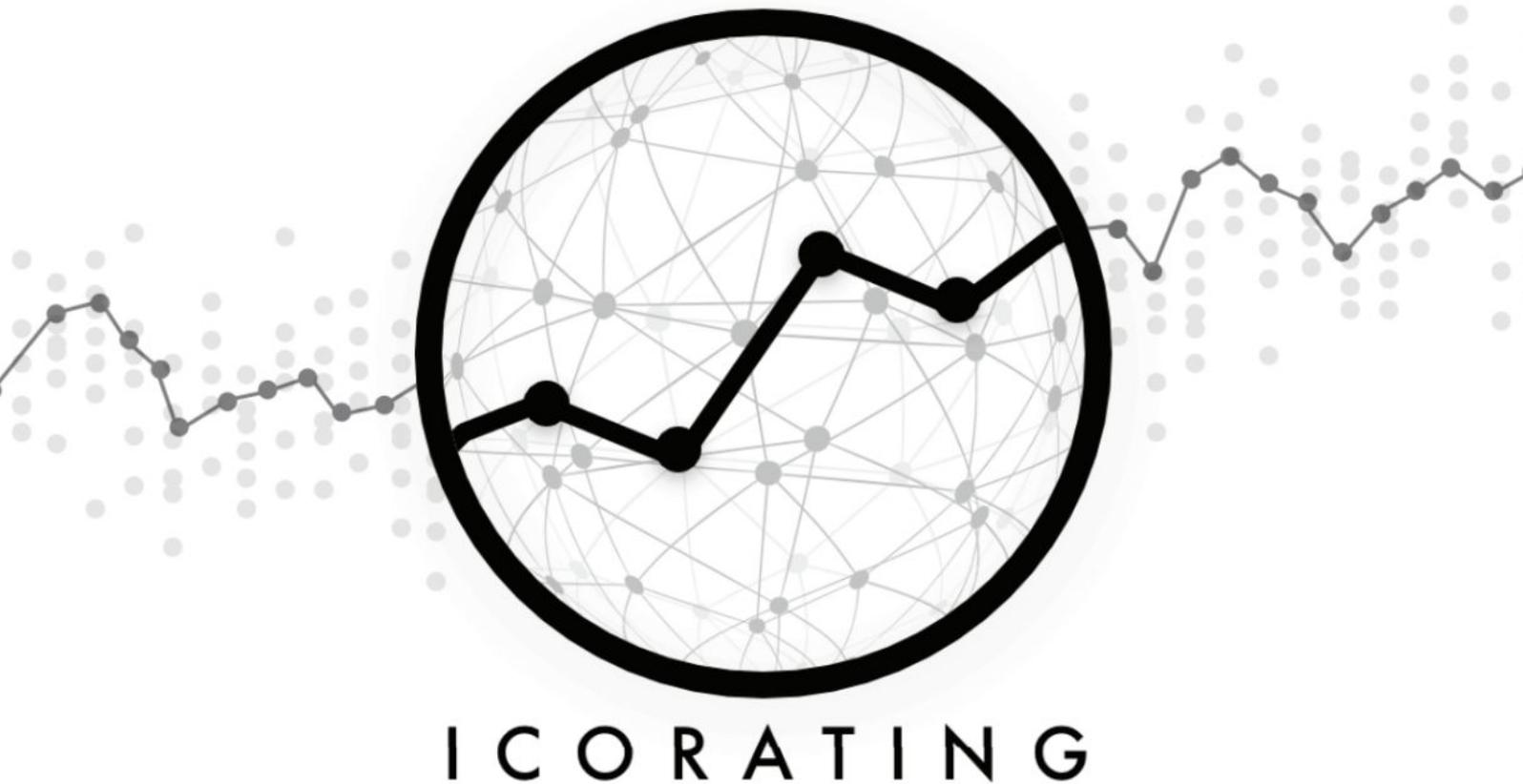


ICOrating

LEGOLAS EXCHANGE Rating Review (<https://legolas.exchange/>)

ICO dates (01.02.2018 — TBA)



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1. Ratings

We assign the Legolas Exchange a “Positive” rating.

The Legolas Exchange project aims to create a hybrid crypto exchange combining centralized and decentralized elements, and to offer optimal access for trading crypto instruments to professional investors.

The idea of the project is a timely one and the services are likely to be in demand; the remarkable current growth rate of the market gives an excellent chance for its exponential development. The documentation is well structured, and the conditions for participation in the ICO do not carry serious risks.

The project team has an excellent track record and all the necessary skills for successful implementation of their ideas. Legolas has recruited some serious partners, which gives confidence that the project will develop successfully.

Based on current market dynamics we believe that the project's tokens have a good chance of price growth in both the medium and long term. To participate in the project ICO in order to obtain speculative profit makes sense only if there is a significant excess of demand from investors over an available supply.

2. General information about the Project and ICO

Legolas Exchange is a project for the creation of a hybrid exchange combining both centralized and decentralized elements, the combination of which is designed to achieve a reliable degree of security with fast operation. The founders also intend to optimize the process of buying cryptocurrency tools for fiat funds, which will attract institutional investors.

The company staging the ICO is registered in France under the name of Legolas SAS and, according to the white paper, is cooperating with KPMG and FieldFisher to comply with all necessary legislation. The project plans to focus funds collected during the token sale on accelerating the development of the product and hiring additional staff.

Tokens issued after the ICO will have an infrastructural role; they will be needed to complete all transactions on the exchange. A portion of the tokens charged by the platform as commission will be burned, which will lead to a decrease in their quantity in circulation and an increase in their value.

[Website](#)

[Whitepaper](#)

Token: LGO

Token distribution: for sale – 60%, reserve – 20%, team – 15%, advisors – 5%.

Round 0 (closed). Private pre-sale for advisors, partners and financial and cryptocurrency professionals:

Price: min 0.02% of all LGO for 1BTC

Cap: 461 BTC

Discount: approximately 35-40%

Minimum Buying Transaction: no data

Maximum Buying Transaction: no data

Round 1 (closed). Private pre-sale for Premium Buyers (Invited by founders or advisors):

Price: 1 LGO for 3,500 satoshi

Cap: 1043 BTC

Bonuses: no data

Minimum Buying Transaction: no data

Maximum Buying Transaction: no data

Round 2: Public sale:

Start: 01/02/2018

End: no data

Soft Cap: \$4m (successfully reached)

Hard Cap: 2000 BTC

Price: 1 LGO for 5,000 satoshi

Bonuses: no

Minimum Buying Transaction: -

Maximum Buying Transaction: -

Accepted currencies: BTC

Funds allocation: no data

Token Issue Date: 2 weeks after ICO ends

Vesting:

- Founders: blocked 1 year, then released the second year, 1/12 per month.
- Advisors: progressively released during 1st year, 1/12 per month.
- Employees: 25% released after 1 year. 25% after 2 years, and 50% after 3 years.

Escrow: To redeem ICO funds, the signature of a minimum of 2 founders is required.

5% of the initial issuance will be made every 6 months over 2 years (20% in total). Each time, the tokens will be distributed to LGO holders who have not sold any LGOs, to the address where they first received tokens. The token will be distributed pro rata between LGO holders who have respected this rule.

To participate in the ICO you must register and undergo the KYC / AML procedure. US citizens will not be able to participate in the ICO.

3. Description of the services and scope of the project

The main objective for Legolas Exchange is to create a convenient trading platform able to meet transparency requirements and security for institutional and other large investors. There are two components for achieving this goal: blockchain technology that guarantees transparency of operations, and a partnership with a successful brokerage company, Makor Securities, which involves expanding the client base and providing ready-made solutions for customers. Thus, the Legolas exchange will be able to cover all types of exchange transaction: fiat/crypto, intra-chain and cross-chain.

The key advantage of Legolas Exchange is its unique combination of the strengths of decentralized and centralized systems, with which the project intends to solve the following problems:

1. Low levels of security on crypto exchanges and the subsequent lack of trust on the part of institutional investors. The Legolas Exchange promises to provide an unprecedentedly high level of platform security by implementing the following solutions:

- advanced multisig and secure terminals - absolute control of active and cold wallets, multi-signature; cooperation with Ledger in the creation of cold wallets.
- segregated storage of cryptocurrency.
- enhanced two-factor authentication with support for FIDO U2F or client certificates.
- storage of client keys in Ledger cold wallets, enabling access to funds if a client loses the key.
- Legolas will also provide access control solutions for customers with special requirements.
- web service security - protection from DDoS, XSS attacks; use of HSTS to strengthen encryption.
- company security policy - strict access control.
- audit and security certification - encryption of orders is carried out using keys from CertEurope (PKI-on-blockchain). Regular external audits and ANSSI certification are planned.

2. Market manipulations in the absence of a regulator, and front-running: Using blockchain technology will make it impossible to change ordering, which will enable Legolas to meet the highest financial standards.

3. The impossibility of using fiat funds and/or restrictions on the volume of such transactions, as well as overvalued exchange rates. In cooperation with Makor, it will be possible to make deposits and withdrawals at reasonable fees in any amount, as well as carry out the free conversion of fiat to cryptocurrency and vice versa.

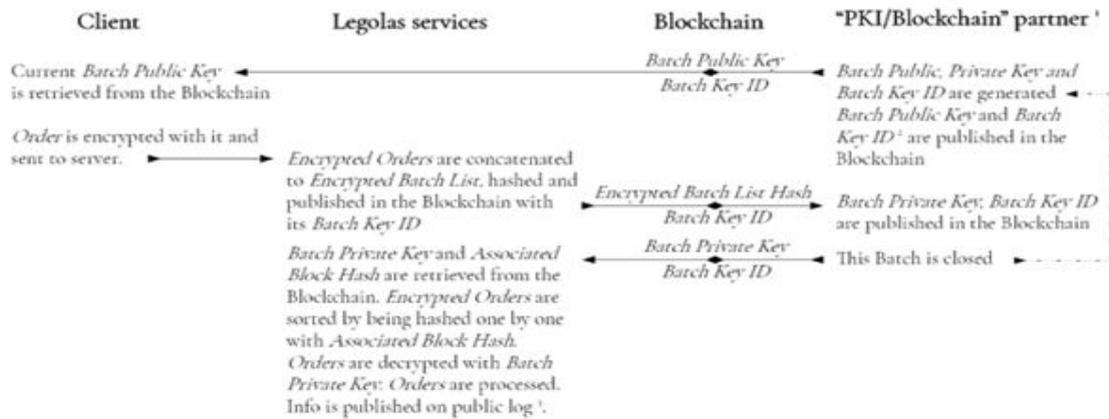
4. Lack of transparency in crypto exchanges' operations. Legolas Exchange will be transparent to all interested parties. All transactions, including the history of movement of deposit funds via Makor, are stored in blockchain. Thus Legolas Exchange's activities will be ready for audit by the regulator at any time.

5. The problem of latency in the execution of orders, giving an advantage to those traders who are physically located closer to the exchange servers. Due to the fact that assembly of the unit takes time, even if a short time, this step eliminates the distance between traders and the exchange server as a factor affecting ordering, which also helps to get rid of the problem of front-running.

Legolas Exchange is designed in such a way that the main protocol can operate on the basis of any blockchain. Initially, a beta version of the platform will use the Ethereum network but the development team is exploring the possibility of using faster solutions - Byzantine fault tolerant.

Unfortunately there are no open code components; all the development is done in closed mode. On the GitHub page only the smart contract code is available - <https://github.com/LegolasExchange/LegolasToken>.

The Legolas Exchange founders have presented the functioning of the protocol regulating the placing and closing of applications from exchange users as follows:



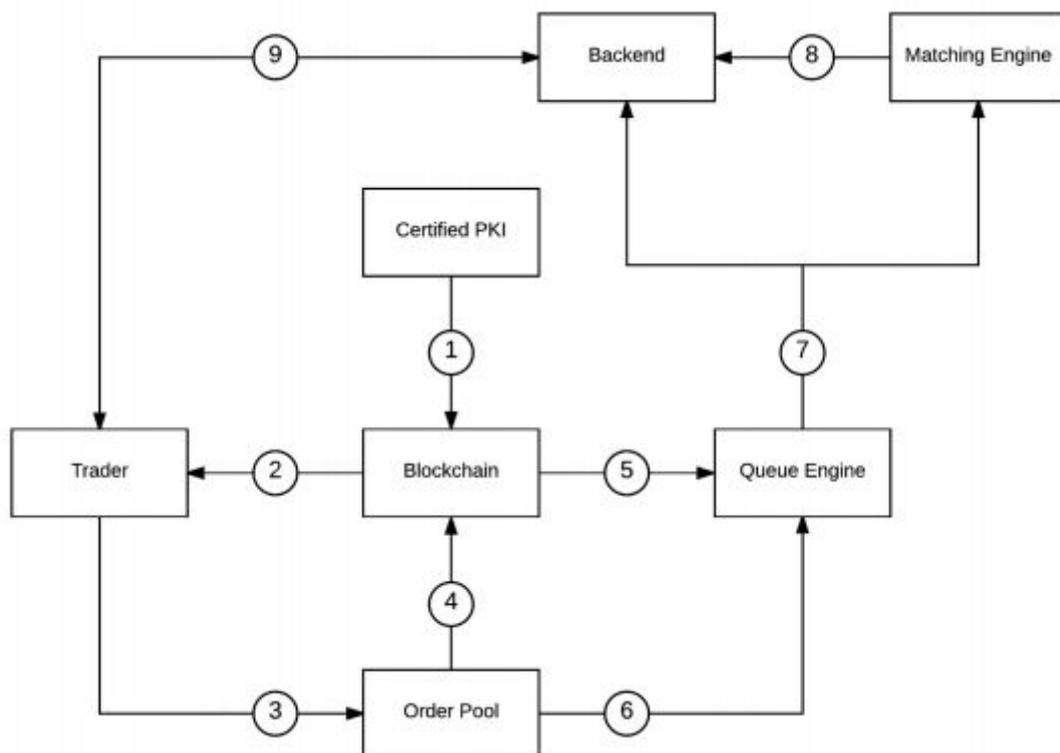
¹ This partner will be an already identified independent Professional PKI provider, an existing Certification Authority (e.g. CertEurope)

² ECC.256 public key is 65 bytes long, private key 32 bytes long.

³ Public log displays *Batch Key ID*, *Batch Public Key*, *Batch Private Key*, *Associated Block Hash*, *Encrypted/Decrypted Batch List*, *Decrypted sorted Orders*, *Orders Processed Times*

Incoming orders and transactions are placed and encrypted into blockchain; the coordination of orders passes outside the chain. This decentralization provides transparent pricing, operational reliability and the absence of front-running. Centralization of processes increases efficiency and allows scaling to increase the capacity of the chain.

The transaction procedure is described by the following scheme:

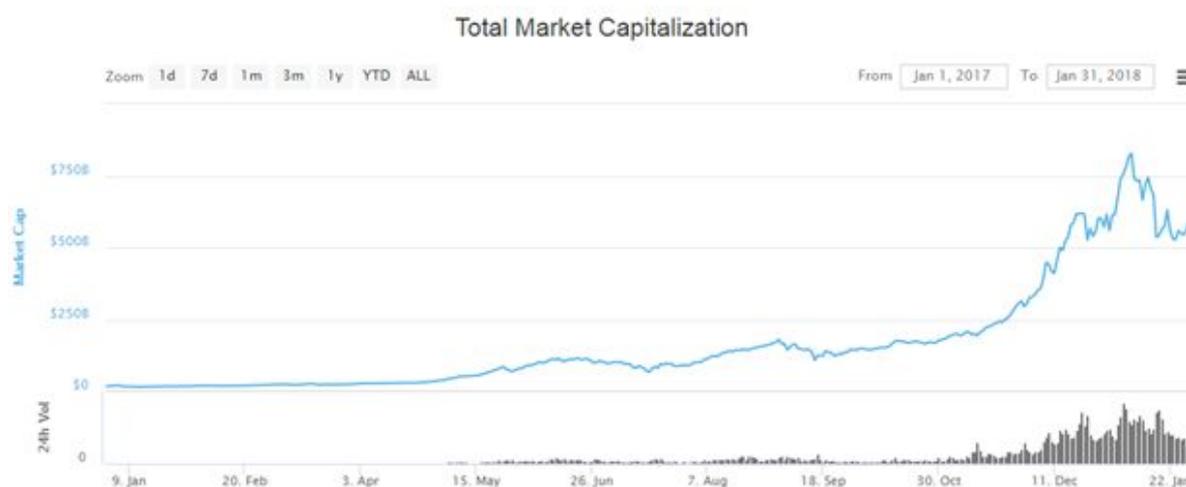


1. PKI publishes public and private keys on the blockchain. Keys can be used by anyone: open - to encrypt and publish data in the next batch; closed - to decrypt the previous one.
2. The trader uses a public key.
3. The trader encrypts his order and a random number with a public key and places the order in the order pool.
4. All orders in the pool are hashed and placed in blockchain.
5. Order Queue Engine retrieves the private key.
6. Order Queue Engine requests the order pool of this hash.
7. Order Queue Engine decodes the orders and sends them to Matching Engine and Backend.
8. Matching Engine sends completed transactions to Backend. Trading logs are sent to Blockchain, where they are safely stored.
9. The user interface interacts with Backend to display all the transaction information.

In our opinion, the chosen technology will be optimal and effective. Its implementation, not bound to a particular type of blockchain, will ensure Legolas Exchange's uninterrupted operation and the instant execution of transactions.

4. Market Review

The crypto market in which the project will operate passed into a phase of active growth in 2017. According to coinmarketcap.com, at the end of January 2018 the total capitalization of the segment is more than \$500 billion, a 25-fold increase since early 2017. The daily turnover of trades exceeds \$27 billion; the number of instruments has exceeded 1,500 and their number is increasing daily.



The number of crypto exchanges is also growing and, according to various estimates, it ranges from [125](#) to [179](#) platforms. The 10 largest exchanges, including [OKEx](#), [Binance](#), [Bitfinex](#) and others, have approximately 45% of the total market, calculated on the basis of their trade turnover; but all of them are purely centralized solutions. The share of decentralized exchange systems is still extremely small - its largest representative is [Etherdelta](#), whose turnover does not exceed 0.1% of total trading volume.

Market experts differ in assessing the future prospects of the crypto industry in general, and bitcoin as its main representative in particular. Saxo Bank's analyst Kay Van-Petersen, having successfully predicted [the growth of bitcoin rate](#) to \$2,000 in 2016, now states that its price can rise to a level from \$50,000 to [\\$100,000](#) in 2018. Warren Buffett and Jamie Dimon (CEO of J.P. Morgan) held a different view; they predict a "bad end" for cryptocurrency [[CNBC](#)], [[Bloomberg](#)].

Nevertheless, this segment of the market attracts increasing attention from both private and professional investors worldwide [[Cointelegraph](#)]. The CEO of Binance,

Zhao Changpeng, recently [reported](#) that the exchange is adding about two million users every week; 240,000 people joined it in the space of one hour at peak load. The Robinhood trading platform, registered in the US, after declaring plans to provide access to trades without commissions, received more than 1 million applications for registration in just 4 days [[CNBC](#)], also confirms growing interest in the crypto sphere from the community at large.

Such high interest does not go unnoticed - many states have embarked on the introduction of serious regulation in this area. In early January 2018 South Korean media [reported](#) on their government's plans to impose a ban on trade in cryptocurrencies, which caused a wave of resentment among the population and calls for the resignation of Justice Minister Park Sang-ki. Later, the authorities denied [reports](#) about any prohibition of crypto exchanges but they made it clear that the creation of a regulatory framework and the legislative regulation of crypto activity are inevitable. A similar situation is observed in almost all developed countries [[DeCenter](#)].

Regarding the problems typically found in the crypto segment, issues of security are the most acute. Centralized crypto exchanges store a huge number of tokens worth millions of dollars at their addresses, making them an attractive target for hackers. Just a few days ago, the Japanese exchange Coincheck was hacked, as a result of which of \$534m worth of NEM blockchain coins were [stolen](#). This is not the first case of theft of this kind and likely not the last. In this connection, projects aiming to create conditions for convenient and safe exchange of crypto tokens are gaining popularity.

One of such projects is Etherdelta, a decentralized exchange service for Ethereum blockchain tokens which operates on the basis of smart contracts and does not require trust, i.e. all its users control their wallet private keys themselves. Key shortcomings for this exchange which hinder its wider use, are an inconvenient user interface, slow speed of operation, limited trading tools (only Ethereum blockchain tokens) and the inability to purchase coins for fiat funds. On the other hand, Etherdelta is much more resistant to hacker attacks - in a recent attempt to hack the whole exchange, scammers managed to steal no more than 308 ETH (worth around \$270,000) [[News.Bitcoin](#)].

Another competitor for Legolas Exchange will be the 0xProject, an open protocol for the decentralized exchange of Ethereum blockchain tokens. Its key advantage over Etherdelta is the fact that user requests for purchase and sale will be handled by

so-called 'Relayers' - essentially different interfaces using the 0x protocol, and the Ethereum blockchain only for immediate execution of orders. As a result, the user experience should be significantly improved, and exchange transactions will become faster and cheaper [[Blockonomi](#)]. According to [0xproject.com](#), several exchanges have already been launched on the basis of their development; [Ethfinex](#), [Radar Relay](#) and [Paradex](#) are among them. The drawbacks of 0x are also trading pairs limited to Ethereum blockchain tokens and the inability to purchase cryptocurrency for fiat funds. Nevertheless, the community highly appreciates the potential of 0x, as a result of which the prices for its tokens grow despite the serious drop in the Bitcoin rate:



The problems of decentralized cross-channel transactions are currently being addressed by several projects, among which [ICON](#) is one of the best-known. ICON's functionality will allow merging different types of blockchain accounts and, as a result create a secure decentralized exchange whose users can exchange tokens of different types of blockchain account, without losing control over their private key.

To summarize, it can safely be said that if the Legolas Exchange team succeeds in implementing the functionality described in the white paper, the project will undoubtedly succeed and this rapidly-growing market will offer excellent opportunity for its exponential development.

5. Team

The founders:

Frédéric Montagnon, CEO - co-founder of several successful projects. Best known as the creator of Secret Media Inc., which assists advertisers to bypass ad blocking.

Julien Romanetto, COO - defines himself as a project advisor on his LinkedIn page. Julien has worked at Nomao.com, OverBlog, Teads.tv, Secret Media Inc. together with Frédéric Montagnon.

Ouziel Slama, CTO. Has worked for various companies as leading developer and technical director, with total work experience of about 17 years.

The founding team looks strong; Frédéric Montagnon and Julien Romanetto have already worked together over many years in joint projects. They have a clear vision of business development and will not allow mistakes often made by young startups.

Ouziel Slama manages an impressive staff of competent developers, sufficient for the implementation of product development tasks. The most experienced developer in our opinion is Yaacov Akiba Slama, who holds the post of Principal Architect (experience with IBM; 20 years' total experience in software development).

Advisors:

The advisors include specialists with extensive experience in dealing directly with exchange trading, blockchain development and risk management. Such a team will be vitally useful for the project. Advisors have experience in working for various well-known companies as JP Morgan Chase, Microsoft and Merrill Lynch.

Pierre Maarek - Head of Equity Derivatives sales trading at Exane Inc.

Elie Galam - CIO of the Eastmore Group.

Jeremy Bokobza - Blockchain developer, cybersecurity entrepreneur.

Andrew Rennie - Mathematician with extensive experience in banking, regulation and risk. Consulting Partner at Apollinax LLP.

Luc Hardy - President of SAGAX.

Francisco Jo - Co-founder and General Partner of BlockWater Capital.

Jaron Lukasiewicz - CEO and Founder of Coinsetter.

Partners:

Makor – a brokerage company established in 2011, it offers institutional investors a wide range of financial services. It is based in Israel and has additional offices in the UK, Switzerland and France. The official company [website](#) published news about the cooperation, towards which Makor promises to provide a client base of institutional investors.

The company has received the title of "1ST BROKERAGE FIRM SALES TEAM EQUITY SPECIAL SITUATIONS", Thomson Extel Surveys, 2016

CertEurope – providing systems for safe digital operations. The company was established in 2000 and is engaged in providing secure electronic document management - digital signatures and safety certificates. It offers the full integration of its solutions, customization for individual requests and subsequent maintenance. It also offers the services of a third-party certifying authority. It is based in France.

Ledger – a manufacturer of cold wallets for storing cryptocurrency. The company was established in 2014 and is based in France with another office in the USA.

6. Token economy

The LGO Token is an infrastructural element of the platform. According to the white paper, all commissions for transactions taking place on the Legolas Exchange will be paid in LGO tokens. Additional services are expected such as analytics, various types of research, statistics, recommendations and others, access to which will also be paid for using Legolas tokens. Thus, with an increase in the number of platform users, demand for LGO tokens will also grow which will lead to an increase in their value.

However, this is not the only factor that will influence the rate for LGO. 25% of commissions paid by exchange clients will be burned, and another 25% will be used to create a Liquidity Providers Pool, to be distributed monthly among market makers adding liquidity to the exchange. As a result, the number of coins in circulation will gradually decrease which, together with a stable or increasing demand, will also push their price upwards.

The financial model is not presented in the project documentation but it is easy to calculate that even if the project succeeds in reaching a share similar to the Etherdelta exchange (\$11.5m per day) with an average commission of 0.1%, the company will earn about \$2m per year from trading operations alone, which is quite enough for a sizeable staff of full-time developers and managers. We believe that in view of all the advantages described in chapter 4 of this review, we can safely assume that Legolas is able not only to catch up with the Etherdelta exchange in terms of turnover, but also to significantly bypass it.

According to the roadmap, the full launch of the Legolas Exchange is scheduled for Q3 2018 which means that significant demand for LGO tokens and a fundamental increase in their value should not be expected before this point.

As for the short-term perspective of the token, there are two main factors that could influence the value of LGO. The first is the marketing efforts of the project to promote it and report its benefits to a wide range of investors. According to statements by the founders, 40,000 people registered on the Legolas website to take part in their ICO last week, which may indicate strong interest from the community in the project. In this case, there is a considerable probability that demand will not be satisfied during the main stage of the token sale and interested investors will buy tokens in the secondary market, pushing the price up.

On the other hand, in the course of preliminary sales, 1500 BTC worth of tokens were sold at significant discounts, which could serve as a deterrent to price growth, as some early investors will certainly want to exit the position, fixing profits equal to the size of the bonus received. However, the proposed emission scheme, assuming the issue of an additional 20% of tokens and their phased distribution among initial investors who do not sell their shares within two years of the ICO end date, reduces the likelihood of a strong fall in the price of LGO in the short term to an average level.

Regarding the long-term attractiveness of the project, we believe that LGO tokens have brilliant growth prospects, assuming good management and a successful implementation of stated plans.

7. Risks

The only specific risk that could have a significant impact on LGO token rates is the lack of an MVP for the product. However, in view of the extensive experience of key members of the Legolas team and the lengthy development of the project concept which began in the first half of 2017 according to the roadmap, we estimate this risk as below average.

The presence of well-known partners and experienced consulting contractors allows us to assess legal and legislative risks as minimal.

The information contained in the document is for informational purposes only. The views expressed in this document are solely personal stance of the *ICOrating* Team, based on data from open access and information that developers provided to the team through Skype, email or other means of communication.

Our goal is to increase the transparency and reliability of the young ICO market and to minimize the risk of fraud.

We appreciate feedback with constructive comments, suggestions and ideas on how to make the analysis more comprehensive and informative.