
# CRYPTO MARKET LIQUIDITY FRAMEWORK

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**WHITEPAPER**

# Contents

# COINSTRUCTION MARKET LIQUIDITY FRAMEWORK

# CoinStruction market liquidity framework

**CoinStruction is a framework for cross-platform crypto asset exchange and market liquidity.**

CoinStruction creates a secure network of different exchange platforms, trading networks, payment gateways and liquidity providers from all around the world. By aggregating the trade orders on to a single framework, CoinStruction creates a back-end layer of interoperability and standardization for the cryptocurrency B2B service sector.

The framework significantly increases the efficiency, scale, speed and potential of cross-platform trading of various cryptocurrencies, tokens and other crypto assets worldwide.

**The key technical and business solutions offered by CoinStruction are:**

## 1. Access to liquidity for crypto exchanges

Whenever required to handle big cryptocurrency buy or sell orders exchanges can refer to the framework for additional liquidity and trade order depth. This is especially needed when the particular cryptocurrency is seldomly traded or when it's widely distributed throughout the market.

CoinStruction overcomes this by merging exchange operations from several liquidity providers, therefore reducing service duration, costs and asset price volatility for their clients.

## 2. Harmonization of the crypto exchange market

CoinStruction provides a solution in harmonizing the integration standards used by different crypto exchange platforms and trading networks.

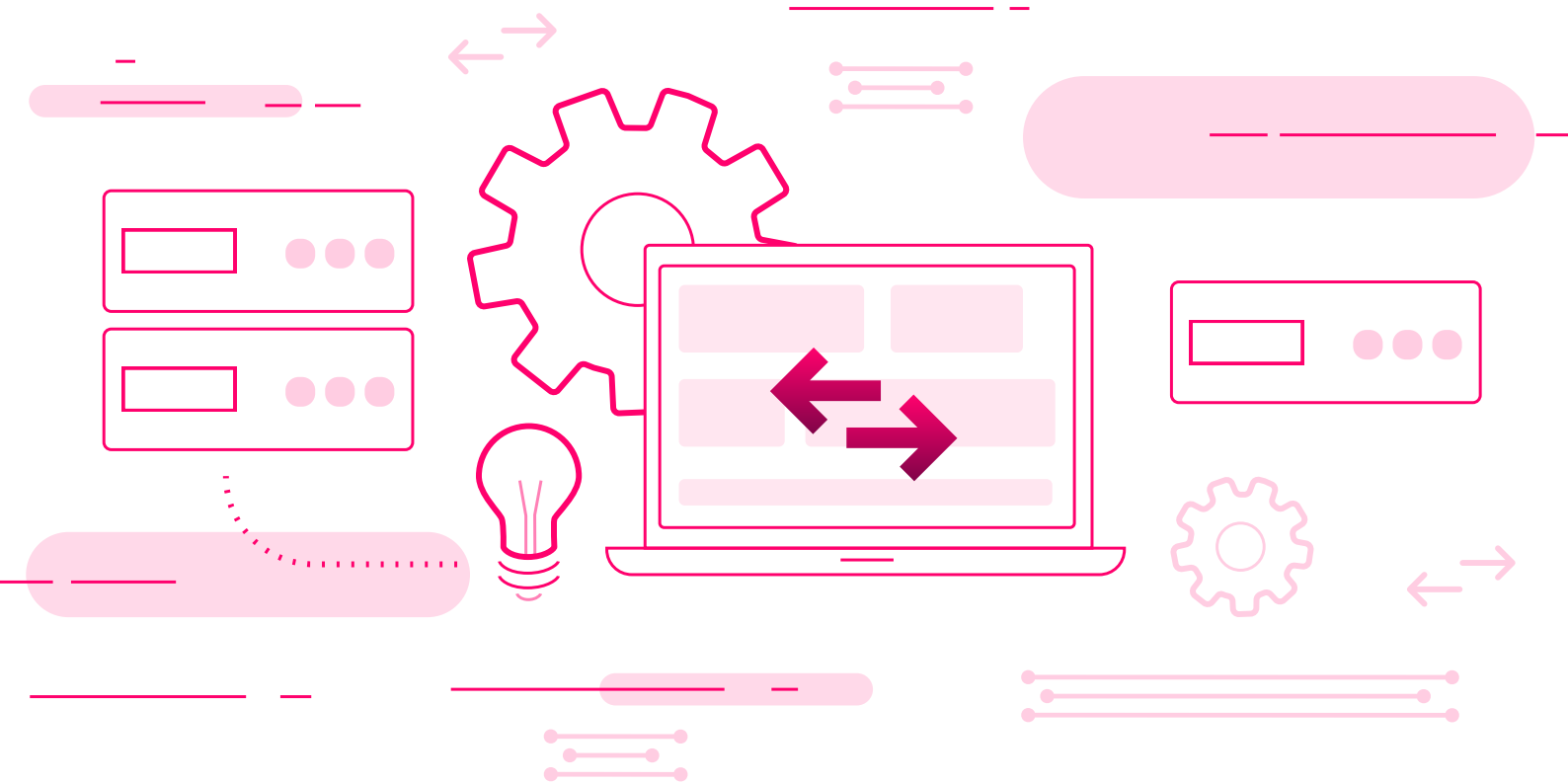
CoinStruction will connect to the top global crypto exchanges and provide a unified cross-platform exchange protocol for other market participants.

By only connecting to the framework, clients will be able to integrate themselves with a wide and globally distributed network of cryptocurrency liquidity providers and traders.

## 3. Enabling innovation growth in global crypto trading

Solutions created by CoinStruction will allow various new services for the cryptocurrency trading market. This ranges from fixed-price OTC trades and automated high-frequency trading up to building third-party applications, analytics systems and consumer-facing services upon the infrastructure of CoinStruction.

With efficiency and global coverage in mind, CoinStruction is aiming to become the main back-end trading facilitator for the cryptocurrency industry.



# Market needs

Over the past year cryptocurrency trading has been a booming market. And despite the so far lackluster market performance in 2018, the global crypto market capitalization still stands at around 230 billion USD – roughly 2,5 times higher than the same time just a year before. Many opportunities to invest in promising cryptocurrencies and projects are still around, and traditional investors are standing on the sidelines waiting for the best moment to enter the market. While regulation and legal acknowledgement of cryptocurrencies is taking shape around the world, there are still many issues that are holding traditional investors away from the market, the biggest of which is the lack of market maturity.

The cryptocurrency market is notoriously risky, volatile and unstable, therefore unwelcoming to most low-risk investors. Ordinary crypto traders themselves are faced with an ever-changing cryptocurrency landscape. Businesses that provide crypto related services – be that exchange, trading or payment processing – also constantly suffer from poor market liquidity, problems with interoperability and a general lack of reliable infrastructure. The current crypto trading market is still very young and clearly unready to scale to and sustain a level that will be required for cryptocurrencies to truly become the currency of the future.

# Crypto market liquidity and volatility

When looking through various research conducted on cryptocurrencies over the years, one can draw a conclusion that the current crypto market is illiquid and fundamentally immature[1]. The lack of liquidity is clearly indicated by wild exchange price volatility, which for Bitcoin – the flagman of the crypto market – is several magnitudes higher than most conventional asset classes[2]. The Bitcoin price volatility is even higher than for most national currencies of underdeveloped countries[3].

Illiquidity and volatility are significant roadblocks of mainstream cryptocurrency adoption. This means that businesses and consumers cannot count on cryptocurrencies as reliable

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1 Greene, R., and B. McDowall (2018). “Liquidity or Leakage. Plumbing Problems with Cryptocurrencies”. Distributed Futures, Z/Yen Group.

2 Bitcoin Volatility vs Other Asset Classes

3 Kasper, J. (2017). “Evolution of Bitcoin: volatility comparisons with least developed countries’ currencies”. Journal of Internet Banking and Commerce, vol. 22, no. 3.

storages of value and need to constantly exchange them back and forth with conventional currencies. If these operations are done on exchanges with low liquidity and orderbook depth, the ensuing price slippage causes orders to be executed at unfavorable conditions that can lead to significant financial losses for businesses, consumers and traders. Moreover, this also causes price spikes that lead to further disruptions, both on the wider general market and on those within exchanges.

Investment analysts note, that despite increased risks when dealing with crypto markets, the addition of cryptocurrencies to conventional investment portfolios can have a net positive effect on their performance[4]. This is due to the fact that the crypto market has low long-term correlation rates with other financial markets (such as traditional currencies or equity) and, therefore, provides an excellent diversification option[5].

Integration of cryptocurrencies with conventional finance would be mutually beneficial for both sectors and greatly contribute to reducing volatility issues in the crypto market. However, ongoing debates and efforts on Bitcoin ETFs in mid-2018 show that there are still many regulatory difficulties that will need to be overcome before crypto can become an integral part of conventional finance. Even if crypto ETFs are introduced, these instruments would mostly be accessible to high capitalization institutional investment funds. Meanwhile, the majority of consumers, crypto service providers and traders would still need to rely on the pre-existing crypto exchange infrastructure that faces a whole host of additional problems on its own.

Issues of liquidity and volatility are among the most pressing challenges facing cryptocurrencies, and solving them would greatly contribute not only to the growth of the crypto market, but cryptocurrency mass adoption in general.

# Cross-platform interoperability and arbitrage

In mid-August of 2018[6] there were roughly 200 active crypto exchanges around the world with a total adjusted 24-hour trade volume averaging at 8 bln. USD. 80% of this volume was processed by the top20 exchange platforms, while – in contrast – only 20% was contributed by the remaining 180 active exchanges. Small exchanges are faced with constant

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4 Anyfantaki, S., S. Arvanitis, and N. Topaloglou (2018). “Diversification, integration and cryptocurrency market”. Working Paper 244. Bank of Greece.

5 Simon, T., M. Li, and W. K. Härdle (2017). “Investing with cryptocurrencies - A liquidity constrained investment approach“. SFB 649 Discussion Paper 2017-014. Humboldt-Universität zu Berlin, Germany.

6 Market statistics take from by CoinMarketCap.com

struggles in attracting customers, ensuring proper trade volumes and keeping volatility under control. Coupled with regulatory restrictions, this results in high price disparities between exchanges, contributing to the global lack of market liquidity.

The situation is further exacerbated by the share scope of the crypto market – around 1850 different crypto assets traded on over 13.000 markets. Every assets trading pair on every exchange forms its own separate and autonomous market. This leads to significant liquidity gaps within exchanges, caused by:

- High bid/ask spread
- Insufficient orderbook depth
- Exchange rate volatility
- Diversity in applied exchange fees
- Heterogeneity of exchange anonymity rules
- Risks of trading venue failure[7]

Therefore, the general lack of global crypto liquidity is significantly strengthened by high market fragmentation. In theory, cross-platform traders with the help of arbitrage bots should be able to somewhat equalize global differences and normalize price fluctuations, but often times they encounter technical and organizational interoperability issues – from differing API standards and internal procedures, to slow processing speeds, extended deposit/withdrawal times or irregular bot activity. Existing market aggregation solutions and arbitrage platforms are also limited in their scope and functionality.

7 Greene, R., and B. McDowall (2018). "Liquidity or Leakage. Plumbing Problems with Cryptocurrencies". Distributed Futures, Z/Yen Group.

# A global crypto trading market

One of the key features of cryptocurrencies is that they are supposed to be borderless. However, in real-life they are still too bound to localized markets and overcentralized exchanges. With limited cross-platform trading opportunities, these markets experience high volatility rates and suffer from insufficient liquidity.

Decentralized exchanges pose a potential solution to these pressing problems. By creating truly borderless exchange networks, these solutions have potential to create unified global markets for various crypto assets and address some of the consumer-facing issues. However, they are limited due to inefficiencies inherent to all distributed systems and are unlikely to be able to handle huge, industry-scale trading volumes.

What is needed is an efficient and scalable solution that overcomes market fragmentation by integrating existing infrastructure. Thus, in these market conditions we at CoinStruction see a clear need for a B2B oriented solution that can meet the needs of the expanding crypto industry, namely:

- Provide crypto exchanges with access to appropriate market liquidity and control volatility;

- Assure proper cross-platform interoperability between different market players;

- Create a global B2B oriented framework for high-volume crypto asset trading.

# CoinStruction technical solution

CoinStruction fills the much-needed gaps in the current cryptocurrency market by introducing a B2B focused framework that will facilitate global cross-platform crypto trading and provide access to market liquidity. The CoinStruction framework consists of three main structural elements – the Core, the Agent and the Protocol.

## CoinStruction Core

The Core is the central element of the CoinStruction framework. It runs on a secure, high-bandwidth and processing power network and conducts all the main functions of the framework:

- Real-time cryptocurrency market monitoring;
- Aggregation of buy and sell orders from different exchanges into a unified cross-platform orderbook;
- Provision of merged, cleared and filtered order data to clients;
- Partial performance of order and transaction processing.

All history of transactions made through the framework are stored on a publicly accessible ledger, thus enabling operational transparency, public auditing and data analysis. In addition, CoinStruction provides a wide selection of adjustment tools and customization options to enable its users to adapt the functionalities of the framework according to their specific needs.

# CoinStruction Agent

The CoinStruction Agent is a node of the framework that is used as an intermediary application between the Core and a particular liquidity provider or client. The Agent is set up to ensure stable, reliable and efficient interactions with the specific APIs and procedures used by the framework participant. Part of the framework operations are also semi-independently performed in the Agent, namely order processing.

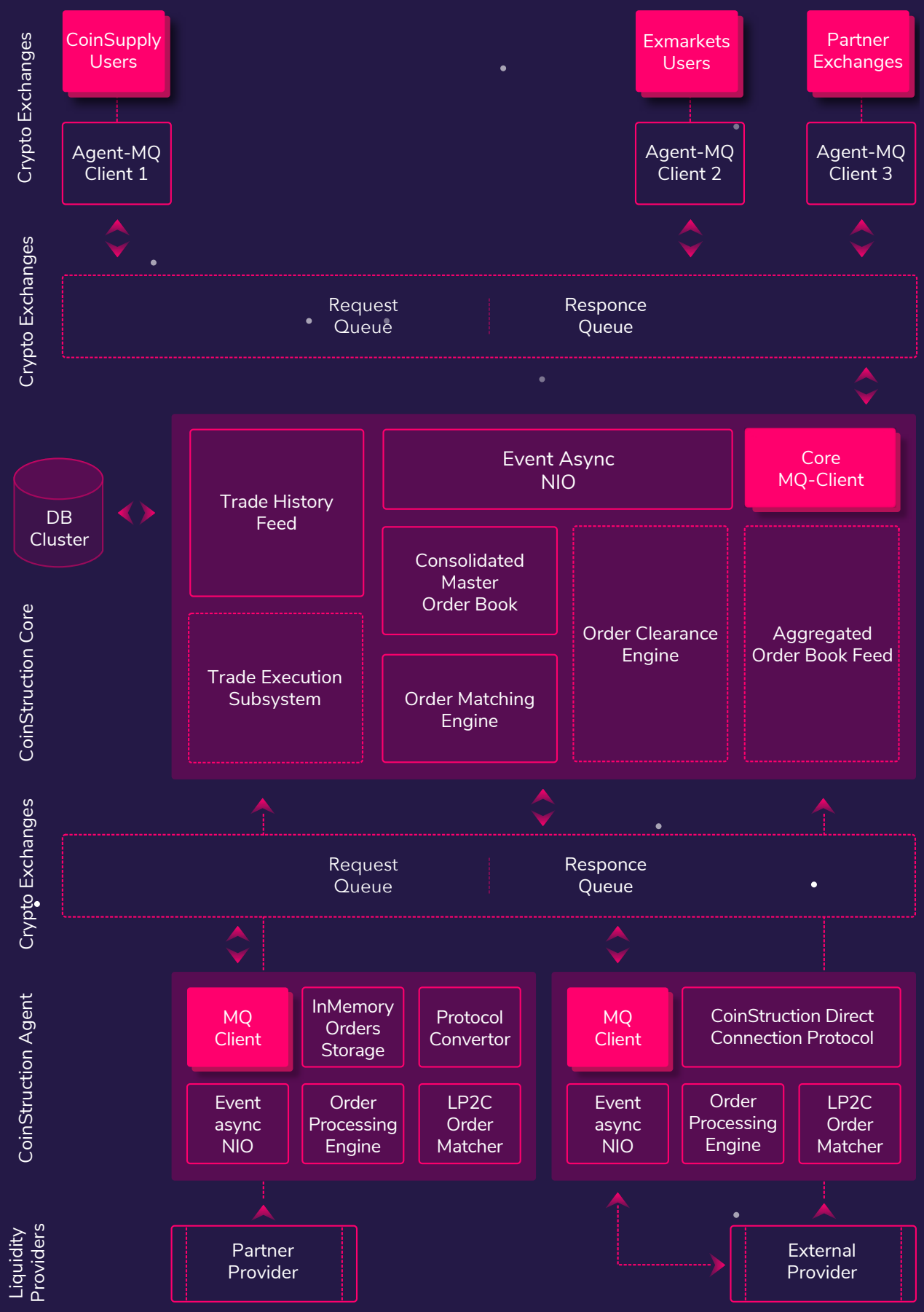
Liquidity providers and clients will also be able to adjust the Agent industry standard toolsets and localize it inside or next to data centers where their internal crypto exchange operations are being processed. This localization coupled with data compression and direct high-bandwidth transfers to the CoinStruction Core ensures increased efficiency and lowest global latency, therefore enabling true global high-frequency trading of crypto assets on the CoinStuction framework.

# CoinStruction Protocol

The CoinStruction Protocol is a standardized communication protocol for the crypto exchange industry. By integrating different liquidity providers with their divergent API standards and internal processes, the framework provides a unified communication and procedural protocol. CoinStruction uses the industry proven FIX protocol that is specifically designed to facilitate secure and reliable real-time exchange of financial information with a multitude of market participants.

The Protocol provides a single, stable and easy to use access point for other exchanges, service providers, crypto traders and developers to integrate their software with the wider CoinStruction network.

# Technical architecture



# How CoinStruction works

CoinStruction uses a central trade order aggregation, clearing and execution system, thus avoiding many issues and inefficiencies associated with cross-platform operations and double clearing. Three main parties participate in facilitating trade on the framework – the CoinStruction Core (with its Agent applications), liquidity providers (market makers, usually crypto exchanges) and clients (market takers).

## 1. Order aggregation

CoinStruction uses dedicated Agent applications to connect to liquidity providers and clients. Agent applications are specifically optimized for the APIs, procedures and technical features used by particular framework participant. This is done in order to achieve maximum possible efficiency and reduce latency to the minimum. The aggregation process is analogous for both liquidity providers and clients.

Once connected, the Agent compiles an orderbook of all trade requests available on the framework participant platform, including both buy and sell orders. The orderbook is compressed into a JSON file and the data packet is sent to the CoinStruction Core system. Updates on the current orderbook status are provided real-time.

Alternatively, liquidity providers and clients that are granted use of the Protocol can use it to bypass the Agent, rearrange their orderbooks according to CoinStruction procedures and upload them directly to the Core.

## 2. Order clearing

Upon receiving orderbooks from various framework participants, CoinStruction Core begins the clearing process.

Initially, trade orders received from liquidity providers and clients are merged in two separate bulk lists. CoinStruction screening process includes spotting market-making bots mostly provided for liquidity matters, recurring market-taker flash orders and fake orders disappearing at specific spot rate. The latter are then filtered by CoinStruction mechanism and any recurring, erroneous or radical outlier orders are removed before. The result is

two cleared and structured lists that are then merged into a single and constantly updated master orderbook.

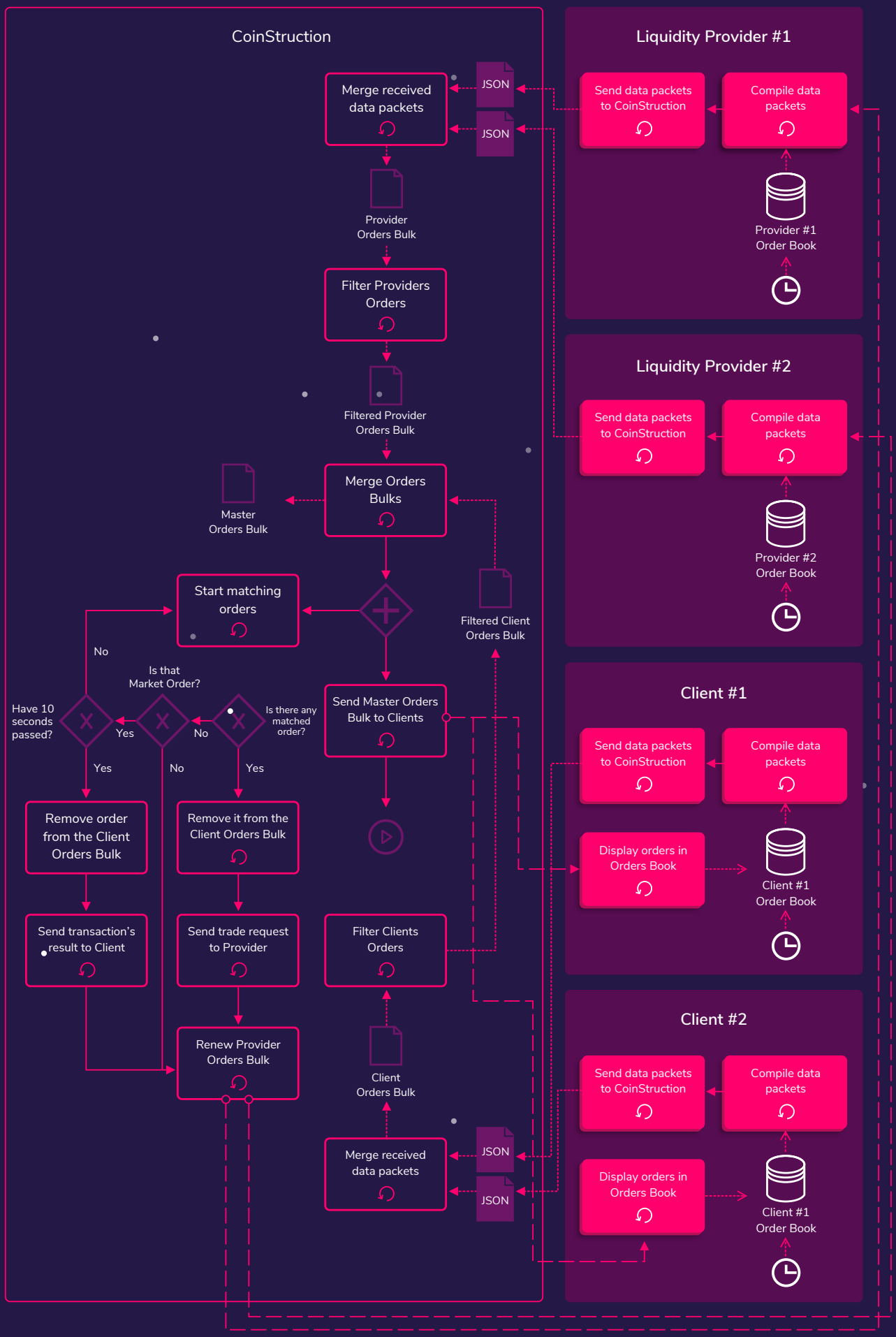
The master orderbook is compressed and sent for display to clients who can take appropriate trading decisions. Additionally, clients can choose to receive only parts of the book (for example only desired trade pairs or orders from specific liquidity providers), thus reducing bandwidth use and latency.

# 3. Order processing

Once the master orderbook is created (or updated), the CoinStruction Core initiates its order matching algorithm. If matching buy and sell orders are found or if a market order (buy at market price) is received, the trade pair is immediately locked and a request to initiate trade is sent to the Agent of the corresponding liquidity provider. CoinStruction briefly locks a respective amount of collateral pledged by the client during the transaction session.

The trade is done through APIs on behalf of the client if he or she has an account on the liquidity providers platform. If the transaction is cross-platform, CoinStruction uses its own accounts to settle trade between the client and the provider. The framework accounts are rebalanced on a regular basis in order to sustain order settling efficiency and optimal asset use.

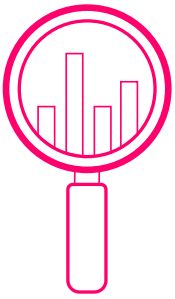
During the transaction session the particular trade order pair is lock with a fixed price and is completely cleared from the master orderbook once the trade is executed. All the transaction history is stored on a publicly accessible ledger for long-term safekeeping.


CoinStruction
Merge received data packets
JSON
JSON
Provider Orders Bulk
Filter Providers Orders
Filtered Provider Orders Bulk
Merge Orders Bulks
Master Orders Bulk
Start matching orders
Filtered Client Orders Bulk
No
Is that Market Order?
Have 10 seconds passed?
Yes
No
Is there any matched order?
Send Master Orders Bulk to Clients
Yes
No
Yes
Remove order from the Client Orders Bulk
Remove it from the Client Orders Bulk
Send transaction's result to Client
Send trade request to Provider
Filter Clients Orders
Renew Provider Orders Bulk
Client Orders Bulk
Merge received data packets
JSON
JSON
Liquidity Provider #1
Send data packets to CoinStruction
Compile data packets
Provider #1 Order Book
Liquidity Provider #2
Send data packets to CoinStruction
Compile data packets
Provider #2 Order Book
Client #1
Send data packets to CoinStruction
Compile data packets
Display orders in Orders Book
Client #1 Order Book
Client #2
Send data packets to CoinStruction
Compile data packets
Display orders in Orders Book
Client #1 Order Book

# KEY FRAMEWORK FEATURES

# Key framework features

### In-depth market monitoring



CoinStruction performs constant analysis of the global cryptocurrency market using real-time data provided straight from exchanges.

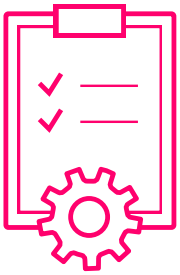
Thus, CoinStruction is able to identify the best trading possibilities or arbitrage options for its users while protecting them from unreliable parties or fake trade orders.

### Cross-platform interoperability

CoinStruction provides interoperability between various cryptocurrency exchanges and service providers from around the world.

By using dedicated Agent applications CoinStruction achieves stable, reliable and efficient integration, while the Protocol provides a standardized API to have direct access to the Core system.

### Advanced order processing

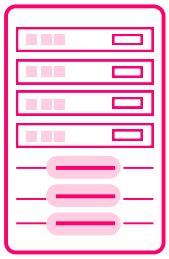


CoinStruction enables a host of conventional and advanced trading tools and options.

CoinStruction effectively enables fixed-price OTC trading by using the market depth that comes from order aggregation to reduce asset price slippage of high-value trade.

The framework is also able to perform advanced orders, such as identifying unusual trading pairs, finding the best sources to fulfill orders, performing efficient chained-processing between several assets, etc.

### Dedicated infrastructure

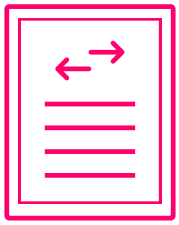


CoinStruction uses dedicated high-performance infrastructure to facilitate its internal operations.

This partial centralization of a largely decentralized and global market results in increased exchange processing efficiency, speed and market reach.

For liquidity providers and clients this results in lower cross-platform trading costs, significantly reduced delays and increased profit margins.

### Transaction public ledger



All history of transactions made through the framework are stored for long-term safekeeping on a public ledger.

The ledger is accessible by all framework users and provides transparency in the operations done by CoinStruction.

It also creates options for public auditing and opportunities to use the data by third-parties in their analysis systems and trading bots.

### Security features

By maintaining a partially closed system running on dedicated infrastructure, CoinStruction is able to build a highly secure framework that is resilient to malevolent outside interference.

Access to the system is limited – users will be subject to verification procedures and all communication is carried out using secure API keys. Additionally, the transaction ledger acts as a secure and publicly accessible backup of all trades made through the framework.

# MARKET INTEGRATION STRATEGY

# Market integration strategy

The strategy of CoinStruction is based on providing high-value and cost-efficient services to the B2B crypto industry sector. By aggregating trade orders from various exchanges around the world, CoinStruction will be able to offer a unified orderbook with the highest market depth and the most lucrative cross-platform arbitrage opportunities.

CoinStruction will provide technical support, sandbox testing and guidance for all new framework participants. Early clients, big market players and selected partners will also be offered the opportunity to integrate their operations directly with the framework Core using the CoinStruction Protocol for real-time interoperability and efficiency.

CoinStruction has exclusive rights to distribute CoinSupply and ExMarkets as white label solutions. Profit received from these activities will help to maintain CoinStruction daily operations and allow funds from project supporters to be directly used in framework development and adaptation.

**Partnership strategy**

CoinStruction is aiming at creating a global network of key partnerships throughout the world, with a particular focus at:

Top30 crypto exchanges and trading networks in order to have high-bandwidth and cost-efficient direct access to the most liquid orderbooks on the market;

Crypto-to-fiat gateways throughout different countries and jurisdictions, so that clients can easily withdraw funds directly from their CoinStruction accounts or supplement them using local payment processors.

**Revenue model**

Revenue needed for continuous framework maintenance and expansion will be collected from fees on trades and withdrawals, subscriptions for advanced trading options and payments for additional services and features.

All fees within the framework are paid in CNS tokens according to their market rate. Payment can be done directly by deductions from the clients' token balance or by purchasing CNS tokens through the framework at market prices.

CoinStruction executes trade orders in their full amount and does not apply any hidden fees – all fees are transparently added on top of trades and liquidity providers fees. The effect of compounding fees will not only be offset, but reduced up to 50% by CoinStruction being able to offer the most lucrative trade deals aggregated from different platforms, and also by executing trades using its high-volume corporate accounts for lower rates.

Additionally, clients who maintain a substantial amount of CNS tokens as collateral in their user accounts gain additional discounts, with part of their transaction fees being returned as cashbacks.

# User ecosystem

**Cryptocurrency exchanges, payment gateways and trading platforms**

The main user base of the CoinStruction framework. Various crypto exchanges and service providers from around the world can participate in the framework either as liquidity providers (directly or indirectly by providing technical means to aggregate their trade orders) or either as clients that seek access to the market depth and trade volume potential available on CoinStruction.

**ICOs and crypto projects**

Access to market liquidity is one of the most pressing issues for almost all crypto projects in their post-ICO phase. With the services provided by CoinStruction, projects will be able to consolidate their asset market from listing on different exchanges into a single market, thus reducing price volatility and increasing acquisition access for interested parties.

**Institutional crypto investors**

The current crypto asset markets are very limited for institutional investors who usually engage in high-volume and high-value trades. By aggregating trade orders into a single orderbook with high market depth, CoinStruction will be able to significantly simplify realization of big order by offering fixed-price OTC and high-frequency trade processing services.

**Individual crypto traders**

Despite being a B2B oriented framework, CoinStruction is welcoming to individual crypto traders that engage in active management of their investment portfolios. With the help of CoinStruction, crypto traders will be able to access secure and reliable cross-platform arbitrage opportunities and perform trades on a global borderless market.

**Third-party software and services**

Trading bot users, crypto wallet developers, analytics providers and various other third-parties will be free to use the framework for their own benefit. CoinStruction will provide industry standard solutions and various adjustment tools to easily and efficiently integrate third-party software and services with the wider framework.

# Product family

CoinStruction is part of a wider family of cryptocurrency related products, services and technical solutions being built by the project team, with CoinSupply, ExMarkets and Coinam already in late product development stages. While functionally separate, together all three solutions form an integral and all-rounded service ecosystem that can fulfill the needs of different market participants.


**CoinStruction**
*The back-end solution of the product ecosystem*

Besides integration with the wider crypto trading market, the CoinStruction framework ensures the proper functioning of other solutions that make up the same product ecosystem while providing their customers with secure, efficient and fast access to liquidity. This creates a synergy that allows CoinStruction users to have easy access to services not offered by the framework itself while holding on to the core technical functionalities and trade opportunities.


**Coinam**
*The crypto multi-wallet and asset management toolset*

Coinam offers a secure and easy to use online crypto wallet that allows customers to hold, manage and transact multiple different cryptocurrencies, tokens and other crypto assets. Customers remain in complete control of their assets and private keys, with Coinam providing an additional layer of tools and features that ease asset management and use. The wallet also integrates with other products of the same family, thus enabling Coinam customers to directly interact with the CoinStruction framework as well as CoinSupply and ExMarkets exchanges.

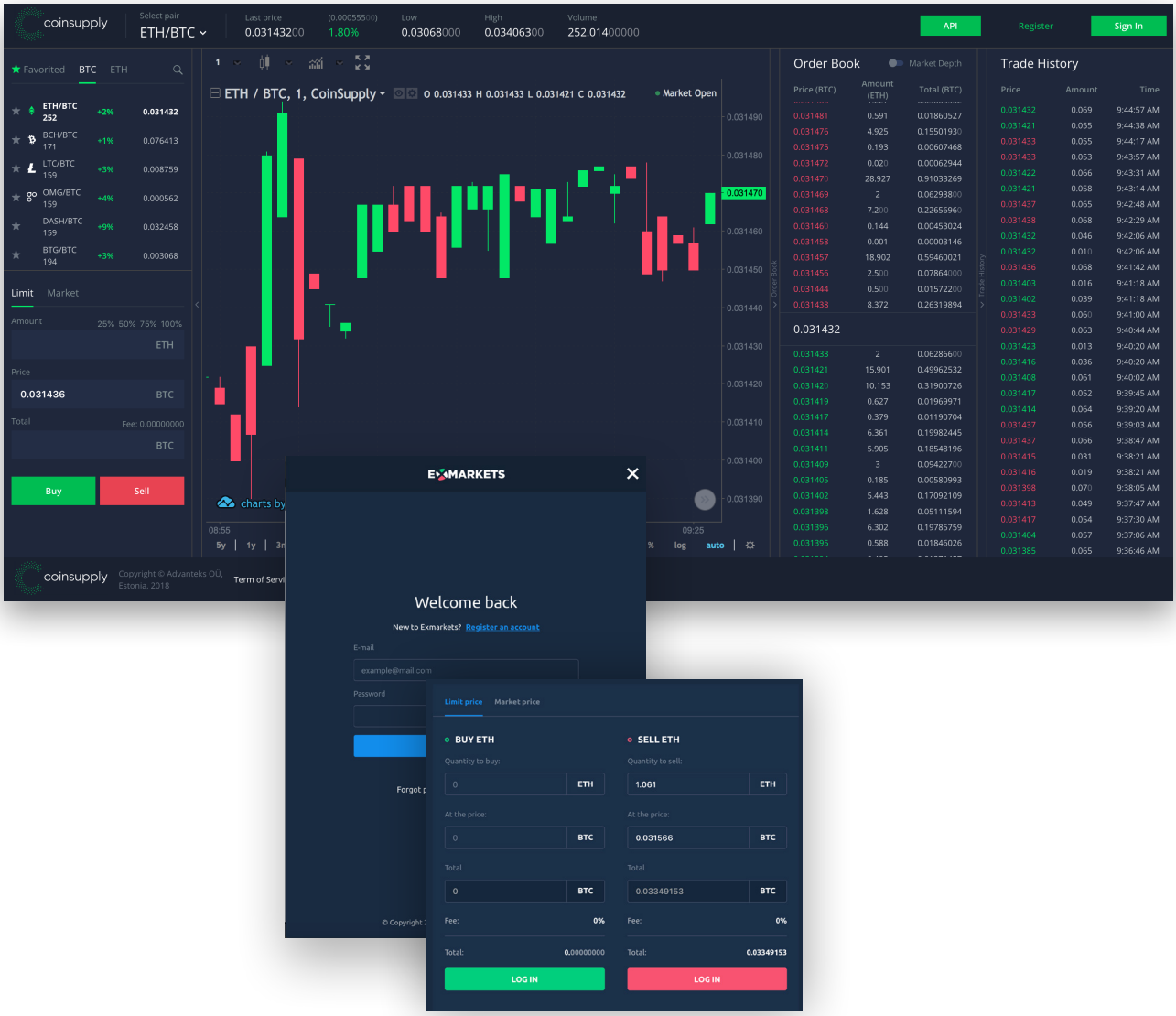
coinsupply

EXMARKETS

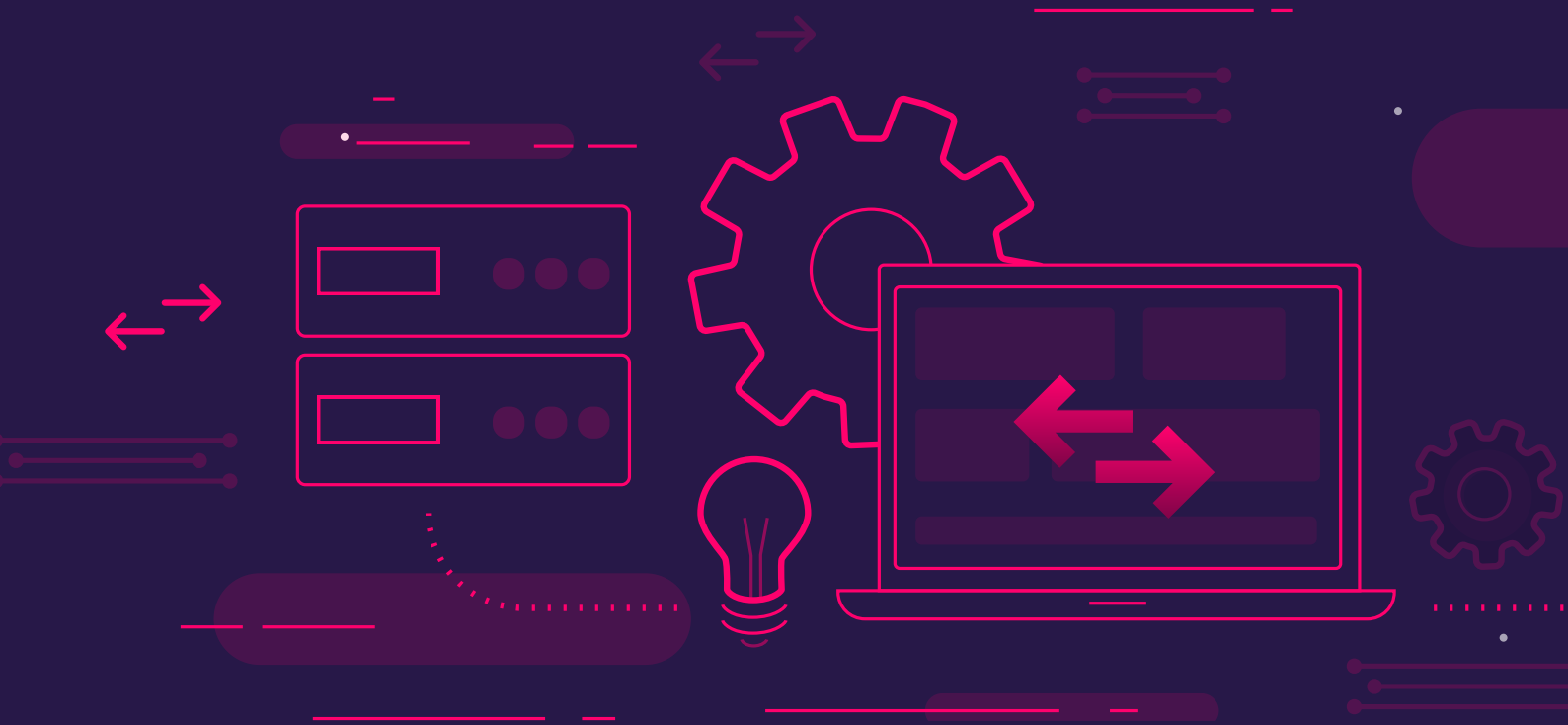
## CoinSupply & ExMarkets

*The customer-facing cryptocurrency exchanges*

CoinSupply and ExMarkets provides complete crypto asset exchange services focused on the B2C market segment. Due to direct integration with the CoinStruction framework, CoinSupply and ExMarkets are able to offer its customers from around the world opportunities to monitor all crypto assets available on the market and securely trade them on a single platform. Trading is done using a dense orderbook that is an aggregation of orders from other exchanges, thus customers of these exchanges have access to the highest liquidity and best buy/sell matches currently available in the crypto industry.



# THE CNS TOKEN MODEL



# The CoinStruction (CNS) token is a utility/ payment token that is an integral element of the framework.

The token acts as a medium of value transfer and plays an essential role in facilitating operations within the framework and its internal economy. Users that wish to interact with the CoinStruction framework and use services provided by it, can utilize CNS tokens – either for transaction fees, use of services or for collateral pledging.

The CNS token is built on the Ethereum blockchain and uses the ERC777 standard for the additional security and functionality improvements. This standard is backward compatible with the popular ERC20 standard and can be integrated in all ERC20 compatible wallets, exchanges and crypto services.

An additional integration of partners and third-party applications, CNS tokens will also become an integral part of the wider product family – included as a trading pair on the CoinStruction framework, offered for acquisition on the CoinSupply exchange and integrated with the Coinam crypto multi-wallet.

A finite total amount of 250.000.000 CNS tokens will be issued, with 125.000.000 (50% of the total amount) offered to project supporters during the CoinStruction ICO. Later on, CNS tokens will be available for direct purchase through the CoinStruction framework. CNS are single-issue tokens and no additional ones can be created in the future.

# Token utility

## Service fees

All services provided by the CoinStruction framework are paid in CNS tokens.

**Transaction fees**
(percentage of traded or withdrawn amounts)

**Payments**
for listing ICO tokens and market making through exchange platforms

**Subscription fees**
for advanced trading options

**Gas fees**
for internal transfers between wallets can be paid in CNS token

## Collateral pledging

CNS tokens are utilized in risk management and stabilization of the internal economy.

**Maximum**
active trade volume regulation (per given time period)

**Collateral**
provision in CNS tokens

**Determining**
user tiers, limits and fee reductions

# Token pledging mechanics

Clients that want to trade on the CoinStruction framework are required to pledge collateral in the form of CNS tokens. The market value of pledged CNS tokens will directly correlate to the maximum limit of active trades (taking user tier into account). Once a client initiates a trade order, a corresponding amount of CNS tokens are temporarily locked for the trade execution period (usually not longer than 1 min.). Once the period has ended, these tokens are unlocked and can be utilized again in trades by their owners.

**Example situation:**

| A client pledges 100.000 CNS tokens at an average token market price of 1 USD each | Due to the user tier bonus, his maximum limit for all active trades is set at 90.000 USD | While collateral is maintained only in CNS tokens, trades can be done in any appropriate crypto assets |
|---|---|---|

Once the trade execution period has passed the trade limit is reinstated and the client can once again trade up to the same amount.

Pledging or increasing the daily trade limit will be done by the client purchasing or transferring CNS tokens to his or her personal CoinStruction account and putting these tokens in a separate individual collateral fund. Clients will be able to withdraw their pledged CNS tokens at any time, as long as the amount being withdrawn does not fall below the active collateralized amount. If the client is found to be performing explicit fraudulent activities, an appropriate market value of CNS tokens will be deducted from his or her collateral fund.

The stated collateral pledging mechanics applies to all CoinStruction clients (both business clients and individual traders), except to external trade orders aggregated from other crypto exchanges.

In parallel with these mechanics CoinStruction introduces user tiers. The more CNS tokens (numerically) are pledged, the higher limits and fee reductions are applied to the client.

| CNS token pledge requirement | Maximum trade limit (% of pledged CNS market value) | Weekly withdraw limit (% of pledged CNS market value) | Transaction fee reduction |
|---|---|---|---|
| ≥ 25.000 | 95% | 25% | n.a |
| ≥ 50.000 | 90% | 25% | -2% |
| ≥ 100.000 | 80% | 30% | -5% |
| ≥ 200.000 | 70% | 30% | -10% |
| ≥ 500.000 | 60% | 35% | -20% |
| ≥ 1.000.000 | 50% | 35% | -25% |
| ≥ 2.000.000 | 40% | 40% | -30% |
| ≥ 5.000.000 | 30% | 40% | -40% |

# ICO information

**125.000.000 CNS tokens (50% of the total amount) are to offered to ICO participants and project supporters.**

The CoinStruction ICO is the main method of gathering community support, establishing key partnerships, distributing CNS tokens among future clients and raising funds necessary for full development and rapid market deployment of the framework.

**CoinStruction hard cap is set at $8 Mln.**

All details related to CNS token pricing, exact bonus distribution, contribution requirements and other necessary information will be announced on the project website and throughout main social media channels no later than **2 weeks before the start of the 1st public round.**

Non-bonus tokens allocated to Private Presale will be issued at the end of the Presale round, while during the Public ICO rounds tokens will be distributed instantly after contribution. In order to allow participants to assess the services offered in the CoinStruction ecosystem.

CoinStruction follows all necessary legal requirements and industries best practices. Therefore, KYC and AML procedures will be applied to contributors during the ICO.

# Token Generation Event - Distribution schedule

| ICO rounds | Private round | 1st public round | 2nd public round |
|---|---|---|---|
| **Period** | Starting from October 1st, 2018 | November 15 – November 25, 2018 | December 9 – December 19, 2018 |
| **Bonus** | Up to 40% | 15-20% | up to 10% |
| **Round token cap** | 60,000,000 CNS | 35,000,000 CNS | 30,000,000 CNS |
| **Vesting period for bonus token** | 3 Months of which:<br>1st month - 30%<br>2nd month - 40%<br>3rd month - 30% | 2 Months of which:<br>1st month - 50%<br>2nd month - 50% | 2 Months of which:<br>1st month - 50%<br>2nd month - 50% |

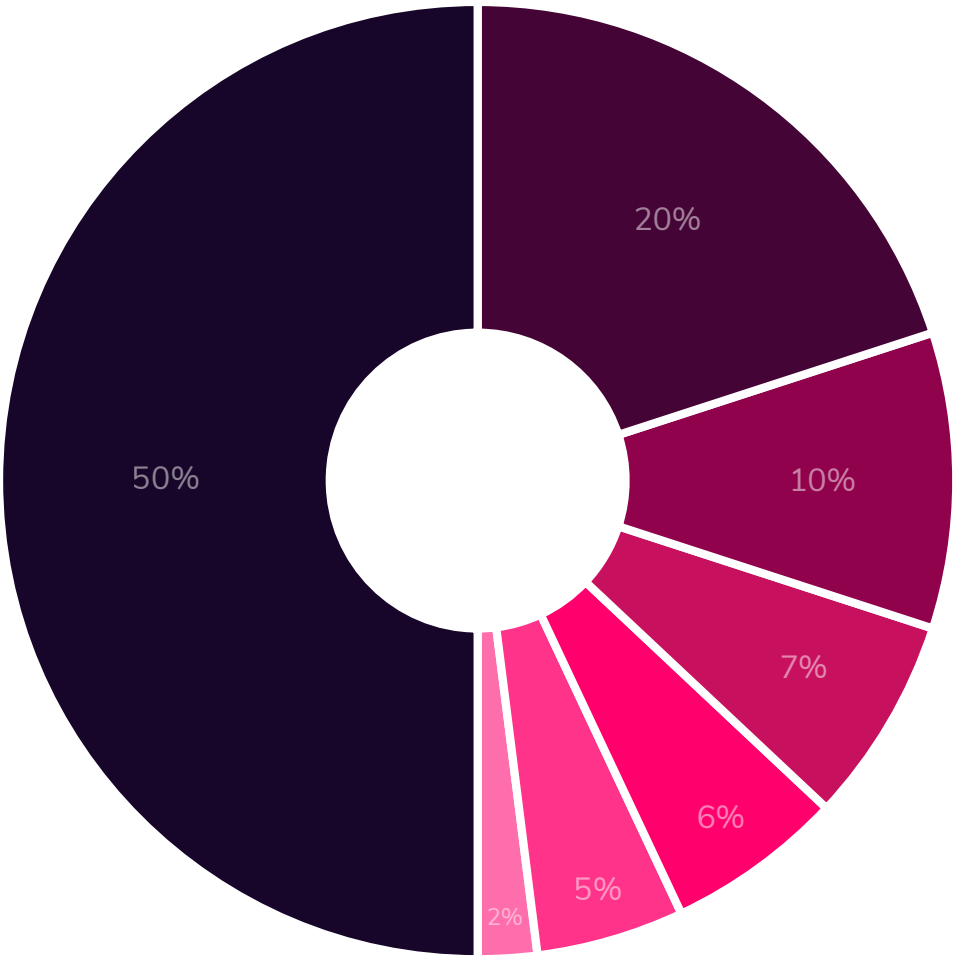
Unsold tokens during the Private Presale will be locked in a smart contract for future token swaps and community airdrop. Unsold tokens of the first ICO round will be transferred on to the second ICO round. All tokens that are not sold at the end of the ICO will be repurchased by the CoinStruction maintenance fund.

# Token distribution

50%
ICO contributors

20%
Limited bonus token allocation

10%
Advisors and strategic partnerships




7%
CoinStruction team

6%
CoinStruction maintenance fund

5%
Brand ambassadors programme

2%
Community campaign

# Token distribution


**ICO contributors**

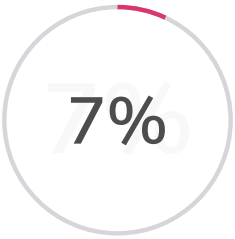
Sold to project supporters during the CoinStruction Token Generation Event (TGE).


**Limited bonus token allocation**

Represent the maximum bonus capacity to be distributed during the CoinStruction TGE to participants. Unsold bonus tokens will be repurchased by Construction maintenance fund and may be allocated for further token swap partnerships.

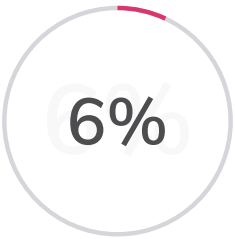

**Advisors and strategic partnerships**

Designated for advisors and used for establishing strategic partnerships with leading enterprises worldwide. Token lock-up period – 12 months o/w half of it to be distributed during the first 6 months.



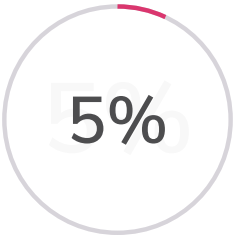

**CoinStruction team**

Distributed among founders, team members and project developers. Token lock-up period – 24 months o/w half of it to be distributed at the end of the first 12 months.



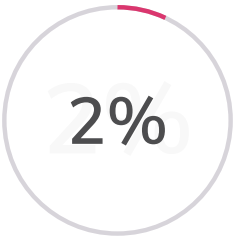

**CoinStruction maintenance fund**

Used to maintain internal token circulation and ensure proper functioning of the framework economy during its initial stages.




**Brand ambassadors programme**

Will be allocated to the brand ambassadors programme that will last until the end of the Public Presale round. Unsold tokens will be repurchased by CoinStruction maintenance fund and may be allocated for token swap partnerships.




**Community campaign**

Used for Community and ICO promotion purposes – bug bounty program, community airdrops, incentivizing engagement, etc.

# Funding allocation


**Platform development**
Used for building, testing and deploying the CoinStruction infrastructure, providing continued technical support and additional service implementations.


**Marketing and Promotion**
Utilized for attracting an initial user base, increasing product awareness and financing various promotional activities.


**Business development**
Used for developing the CoinStruction business model, establishing key partnerships and covering initial operational costs.


**Legal and Contingency reserve**
Reserved to cover legal costs, mitigate unforeseen risks and overcome unexpected situations.

# Project roadmap

| PROJECT ROADMAP | | PRODUCTS ROADMAP: CoinStruction Liquidity Framework | ExMarkets | coinsupply | coinam |
|---|---|---|---|---|---|
| Idea generation, go-to-market analysis | Q4-16 | | | | |
| | Q1-17 | | Back-end development | Back-end development | |
| Business planning, products budgeting | Q2-17 | | | | Back-end development |
| Legal registration in Tallinn, Estonia, team expansion | Q3-17 | Back-end development | Alpha release (MVP), bug fixing, trade history feed | Chart connection to TradingView, 5 crypto-pairs integration | |
| | Q4-17 | | Security testing, connection to Coinam wallet | Alpha release (MVP), bug fixing, trade history feed | Connection to ExMarkets |
| CNS token usage & distribution | Q1-18 | Connection to CoinSupply Orderbooks | Connectivity speed testing, 10 crypto-pairs integration | Security testing, connection to Coinam wallet | Connection to CoinSupply |
| WP writing, smart contract encoding | Q2-18 | Connection to ExMarkets Orderbooks | Connection to CoinStruction Liquidity provider, UI/UX review | Connection to CoinStruction Liquidity Provider, UI/UX review | Alpha release (MVP), bug fixing |
| WP release, legal opinion from local regulators | Q3-18 | Core MQ client connectivity testing, event async NIO | Operating license acquisition procedure | Connectivity speed testing, additional 5 crypto-pairs integration | Third-part security audit |
| CNS token generation event | Q4-18 | Order clearance from TPP exchanges | Beta release, Bug bounty program, third-part security audit | KYC integration, operating license acquisition procedure | ERC token intregration |
| CoinStruction ecosystem Marketing campaign | Q1-19 | Beta release, third-part security audit | ERC token listing, liquidity services | Beta release, bug bounty program, third-part security audit | Multi-sig integration |
| CNS token listing onto ExMarkets | Q2-19 | CNS tokens integration within CoinStruction ecosystem | Platform full-deployment | Fiat-to-crypto implementation | Wallet full-deployment |
| CNS token listing onto CoinSupply | Q3-19 | Liquidity Framework full-deployment | | Lending and marging trading integration | |
| | Q4-19 | | | Platform full-deployment | |

# RISK DISCLAIMER

# Risk Disclaimer

An acquisition of the Tokens involves a high degree of risk. Buyer should carefully consider the following information about these risks before he decides to buy the Tokens. If any of the following risks actually occurs, Company Parties' business, the Platform, the value of the Tokens could be materially adversely affected.

Company has described the risks and uncertainties that its management believes are material, but these risks and uncertainties may not be the only ones Company Parties face. Additional risks and uncertainties, including those Company currently is not aware of or deem immaterial, may also materially adversely affect on Company Parties' business, the Platform, the value of the Tokens.

**1. RISKS CONNECTED TO THE VALUE OF TOKENS**

**1.1. No Rights, Functionality or Features Other than Strictly Provided Herein**. The Tokens do not have any rights, uses, purpose, attributes, functionalities or features, express or implied, including, without limitation, any uses, purpose, attributes, functionalities or features on the Platform, other than strictly provided in the White Paper.

**1.2. Lack of Development of Market for Tokens.** Because there has been no prior public trading market for the Tokens, the sale of the Tokens may not result in an active or liquid market for the Tokens, and their price may be highly volatile. Although applications have been made to the cryptographic token exchanges for the Tokens to be admitted to trading, an active public market may not develop or be sustained after the Token sale. If a liquid trading market for the Tokens does not develop, the price of the Tokens may become more volatile and token holder may be unable to sell or otherwise transact in the Tokens at any time.

**1.3. Risks Relating to Highly Speculative Traded Price.** The valuation of digital tokens in a secondary market is usually not transparent, and highly speculative. The Tokens do not hold any ownership rights to Company's assets and, therefore, are not backed by any tangible asset. Traded price of the Tokens can fluctuate greatly within a short period of time. There is a high risk that a token holder could lose his/her entire contribution amount. In the worst-case scenario, the Tokens could be rendered worthless.

**1.4. Tokens May Have No Value.** The Tokens may have no value and there is no guarantee or representation of liquidity for the Tokens. Company Parties are not and shall not be responsible for or liable for the market value of the Tokens, the transferability and/or liquidity

of the Tokens and/or the availability of any market for the Tokens through third parties or otherwise.

**1.5. Tokens are Non-Refundable.** Except for the cases strictly provided by the applicable legislation or in the legally binding documentation on the Tokens sale, Company Parties are not obliged to provide the Token holders with a refund related to the Tokens for any reason, and the Token holders will not receive money or other compensation in lieu of the refund. No promises of future performance or price are or will be made in respect to the Tokens, including no promise of inherent value, no promise of continuing payments, and no guarantee that the Tokens will hold any particular value. Therefore, the recovery of spent resources may be impossible or may be subject to foreign laws or regulations, which may not be the same as the private law of the Token holder.

**1.6. Risks of Negative Publicity.** Negative publicity involving the Company, the Platform, the Tokens or any of the Company's Parties may materially and adversely affect the market perception or market price of the Tokens, whether or not it is justified.

**1.7. Use of Tokens in Restricted Activities by Third Parties.** Programs or websites banned or restricted in certain jurisdictions, such as gambling, betting, lottery, sweepstake, pornography and otherwise, could accept different crypto-currencies or tokens in their operation. The regulatory authorities of certain jurisdictions could accordingly take administrative or judicial actions against the such programs or websites or even the developers or users thereof. The Company neither intends nor is able to act as a censor to scrutinize to any extent any program or website that uses Tokens with such goals. Therefore, any punishment, penalty, sanction, crackdown or other regulatory effort made by any governmental authority may more or less frighten or deter existing or potential users away from using and holding the Tokens, and consequently bring material adverse impact on the prospect of the Tokens.

**1.8. Risks Arising from Taxation.** The tax characterization of the Tokens is uncertain. The buyer shall seek his own tax advice in connection with acquisition, storage, transfer and use of the Tokens, which may result in adverse tax consequences to the buyer, including, without limitation, withholding taxes, transfer taxes, value added taxes, income taxes and similar taxes, levies, duties or other charges and tax reporting requirements.

## 2. BLOCKCHAIN AND SOFTWARE RISKS

**2.1. Blockchain Delay Risk.** On the most blockchains used for cryptocurrencies' transactions (e.g. Ethereum, Bitcoin blockchains), timing of block production is determined by proof of work so block production can occur at random times. For example, the crypto-

currency sent as a payment for the Tokens in the final seconds of the Token sale may not get included into that period. The respective blockchain may not include the purchaser's transaction at the time the purchaser expects and the payment for the Tokens may reach the intended wallet address not in the same day the purchaser sends the cryptocurrency.

**2.2. Blockchain Congestion Risk.** The most blockchains used for cryptocurrencies' transactions (e.g., Ethereum, Bitcoin blockchains) are prone to periodic congestion during which transactions can be delayed or lost. Individuals may also intentionally spam the network in an attempt to gain an advantage in purchasing cryptographic tokens. That may result in a situation where block producers may not include the purchaser's transaction when the purchaser wants or the purchaser's transaction may not be included at all.

**2.3. Risk of Software Weaknesses.** The token smart contract concept, the underlying software application and software platform (i.e. the Ethereum, Bitcoin blockchains) are still in an early development stage and unproven. There are no representations and warranties that the process for creating the Tokens will be uninterrupted or error-free. There is an inherent risk that the software could contain weaknesses, vulnerabilities or bugs causing, inter alia, the complete loss of the cryptocurrency and/or the Tokens.

**2.4. Risk of New Technology.** The Platform, the Tokens and all of the matters set forth in the White Paper are new and untested. The Platform and the Tokens might not be capable of completion, creation, implementation or adoption. It is possible that no blockchain utilizing the Platform will be ever launched. Purchaser of the Tokens should not rely on the Platform, the token smart contract or the ability to receive the Tokens associated with the Platform in the future. Even if the Platform is completed, implemented and adopted, it might not function as intended, and any Tokens may not have functionality that is desirable or valuable. Also, technology is changing rapidly, so the Platform and the Tokens may become outdated.

## 3. SECURITY RISKS

**3.1. Risk of Loss of Private Keys.** The Tokens may be held by token holder in his digital wallet or vault, which requires a private key, or a combination of private keys, for access. Accordingly, loss of requisite private keys associated with such token holder's digital wallet or vault storing the Tokens will result in loss of such Tokens, access to token holder's Token balance and/or any initial balances in blockchains created by third parties. Moreover, any third party that gains access to such private keys, including by gaining access to login credentials of a hosted wallet or vault service the token holder uses, may be able to misappropriate the token holder's Tokens.

**3.2. Lack of Token Security.** The Tokens may be subject to expropriation and or/theft. Hackers or other malicious groups or organizations may attempt to interfere with the token smart contract which creates the Tokens or the Tokens in a variety of ways, including, but not limited to, malware attacks, denial of service attacks, consensus-based attacks, Sybil attacks, smurfing and spoofing. Furthermore, because the Ethereum platform rests on open source software, there is the risk that Ethereum smart contracts may contain intentional or unintentional bugs or weaknesses which may negatively affect the Tokens or result in the loss of Tokens, the loss of ability to access or control the Tokens. In the event of such a software bug or weakness, there may be no remedy and holders of the Tokens are not guaranteed any remedy, refund or compensation.

**3.3. Attacks on Token Smart Contract.** The blockchain used for the token smart contract-which creates the Tokens is susceptible to mining attacks, including double-spend attacks, majority mining power attacks, "selfish-mining" attacks, and race condition attacks. Any successful attacks present a risk to the token smart contract, expected proper execution and sequencing of the Token transactions, and expected proper execution and sequencing of contract computations.

**3.4. Failure to Map a Public Key to Purchaser's Account.** Failure of a purchaser of the Tokens to map a public key to such purchaser's account may result in third parties being unable to recognize purchaser's Token balance on the Ethereum blockchain when and if they configure the initial balances of a new blockchain based upon the Platform.

**3.5. Risk of Incompatible Wallet Service.** The wallet or wallet service provider used for the acquisition and storage of the Tokens, has to be technically compatible with the Tokens. The failure to assure this may have the result that purchaser of the Tokens will not gain access to his Tokens.

**3.6. Risks of Theft of the Funds Raised in the Token Sale.** The Company will make every effort to ensure that the funds received from the Token Sale will be securely held through the implementation of security measures. Notwithstanding such security measures, there is no assurance that there will be no theft of the cryptocurrencies as a result of hacks, sophisticated cyber-attacks, distributed denials of service or errors, vulnerabilities or defects on the Website, in the smart contract(s), on the Ethereum or any other blockchain, or otherwise. Such events may include, for example, flaws in programming or source code leading to exploitation or abuse thereof. In such event, even if the Token Sale is completed, the Company may not be able to receive the cryptocurrencies raised and to use such funds for the development of the Platform and/or for launching any future business line. In such case, the launch of the Platform might be temporarily or permanently curtailed. As such, distributed Tokens may hold little worth or value, and this would impact its trading price.

## 4. RISKS RELATING TO COMPANY

**4.1. Risks relating to Ineffective Management.** The Company and Company Parties may be materially and adversely affected if they fail to effectively manage their operations as their business develops and evolves, which would have a direct impact on the Company's ability to maintain the Platform and/or launch any future business lines.

**4.2. Risks Related to Highly Competitive Environment.** The financial technology and cryptocurrency industries, and the markets in which the Company competes are highly competitive and have grown rapidly over the past years and continue to evolve in response to new technological advances, changing business models and other factors. As a result of this constantly changing environment, the Company may face operational difficulties in adjusting to the changes, and the sustainability of the Company will depend on its ability to manage its operations and ensure that it hires qualified and competent employees, and provides proper training for its personnel. As its business evolves, the Company must also expand and adapt its operational infrastructure. The Company cannot give any assurance that the Company will be able to compete successfully.

**4.3. Risks Relating to General Global Market and Economic Conditions.** Challenging economic conditions worldwide have from time to time may continue to contribute to slowdowns in the information technology industry at large. Weakness in the economy could have a negative effect on the Company's business, operations and financial condition, including decreases in revenue and operating cash flows, and inability to attract future equity and/or debt financing on commercially reasonable terms. Additionally, in a down-cycle economic environment, the Company may experience the negative effects of a slowdown in trading and usage of the Platform.

**4.4. Risks of Non-Protection of Intellectual Property Rights.** The Company relies on patents and trademarks and unpatented proprietary know-how and trade secrets and employ commercially reasonable methods, including confidentiality agreements with employees and consultants, to protect know-how and trade secrets. However, these methods may not afford complete protection and the Company cannot give any assurance that third parties will not independently develop the know-how and trade secrets or develop better production methods than the Company.

**4.5. Risks of Infringement Claims.** The competitors of the Company, other entities and individuals, may own or claim to own intellectual property relating to products and solutions of the Company. Third parties may claim that products and solutions and underlying technology of the Company infringe or violate their intellectual property rights. The Company may be unaware of the intellectual property rights that others may claim cover some or all of products or technology of the Company.

## 5. RISKS RELATING TO PLATFORM DEVELOPMENT

**5.1. Risk Related to Reliance on Third Parties.** Even if completed, the Platform will rely, in whole or partly, on third parties to adopt and implement it and to continue to develop, supply, and otherwise support it. There is no assurance or guarantee that those third parties will complete their work, properly carry out their obligations, or otherwise meet anyone's needs, all of might have a material adverse effect on the Platform.

**5.2. Dependence of Platform on Senior Management Team.** Ability of the senior management team, which is responsible for maintaining competitive position of the Platform, is dependent to a large degree on the services of each member of that team. The loss or diminution in the services of members of respective senior management team or an inability to attract, retain and maintain additional senior management personnel could have a material adverse effect on the Platform. Competition for personnel with relevant expertise is intense due to the small number of qualified individuals, and this situation seriously affects the ability to retain its existing senior management and attract additional qualified senior management personnel, which could have a significant adverse impact on the Platform.

**5.3. Dependence of Platform on Various Factors.** The development of the Platform may be abandoned for a number of reasons, including lack of interest from the public, lack of funding, lack of commercial success or prospects, or departure of key personnel.

**5.4. Lack of Interest to the Platform.** Even if the Platform is finished and adopted and launched, the ongoing success of the Platform relies on the interest and participation of third parties like developers. There can be no assurance or guarantee that there will be sufficient interest or participation in the Platform.

**5.5. Changes to the Platform.** The Platform is still under development and may undergo significant changes over time. Although the project management team intends for the Platform to have the features and specifications set forth in the White Paper, changes to such features and specifications can be made for any number of reasons, any of which may mean that the Platform does not meet expectations of holder of the Tokens.

**5.6. Ability to Introduce New Technologies.** The blockchain technologies industry is characterized by rapid technological change and the frequent introduction of new products, product enhancements and new distribution methods, each of which can decrease demand for current solutions or render them obsolete.

**5.7. Risk Associated with Other Applications.** The Platform may give rise to other, alternative projects, promoted by unaffiliated third parties, under which the Token will have no intrinsic value.

**5.8. Risk of an Unfavorable Fluctuation of Cryptocurrency Value.** The proceeds of the sale of the Tokens will be denominated in cryptocurrency, and may be converted into other cryptographic and fiat currencies. If the value of cryptocurrencies fluctuates unfavorably during or after the Token sale, the project management team may not be able to fund development, or may not be able to develop or maintain the Platform in the manner that it intended.

**5.9. Risk of Dissolution of Company or Platform.** It is possible that, due to any number of reasons, including, but not limited to, an unfavorable fluctuation in the value of Ethereum, Bitcoin or other cryptographic and fiat currencies, decrease in the Tokens utility due to negative adoption of the Platform, the failure of commercial relationships, or intellectual property ownership challenges, the Platform may no longer be viable to operate and the Company may dissolve.

## 6. RISKS ARISING IN COURSE OF COMPANY PARTIES' BUSINESS

**6.1. Risk of Conflicts of Interest.** Company Parties may be engaged in transactions with related parties, including respective majority shareholder, companies controlled by him or in which he owns an interest, and other affiliates, and may continue to do so in the future. Conflicts of interest may arise between any Company Party's affiliates and respective Company Party, potentially resulting in the conclusion of transactions on terms not determined by market forces.

**6.2. Risks Related to Invalidation of Company Parties Transactions.** Company Parties have taken a variety of actions relating to their business that, if successfully challenged for not complying with applicable legal requirements, could be invalidated or could result in the imposition of liabilities on respective Company Party. Since applicable legislation may subject to many different interpretations, respective Company Party may not be able to successfully defend any challenge brought against such transactions, and the invalidation of any such transactions or imposition of any such liability may, individually or in the aggregate, have a material adverse effect on the Platform.

**6.3. Risk Arising from Emerging Markets.** Company Parties or some of them may operate on emerging markets. Emerging markets are subject to greater risks than more developed markets, including significant legal, economic and political risks. Emerging economies are subject to rapid change and that the information set out in the White Paper may become outdated relatively quickly.

## 7. GOVERNMENTAL RISKS

**7.1. Uncertain Regulatory Framework.** The regulatory status of cryptographic tokens, digital assets and blockchain technology is unclear or unsettled in many jurisdictions. It is difficult to predict how or whether governmental authorities will regulate such technologies. It is likewise difficult to predict how or whether any governmental authority may make changes to existing laws, regulations and/or rules that will affect cryptographic tokens, digital assets, blockchain technology and its applications. Such changes could negatively impact the tokens in various ways, including, for example, through a determination that the tokens are regulated financial instruments that require registration. Company may cease the distribution of the Tokens, the development of the Platform or cease operations in a jurisdiction in the event that governmental actions make it unlawful or commercially undesirable to continue to do so.

**7.2. Failure to Obtain, Maintain or Renew Licenses and Permits.** Although as of the date of starting of the Token sale there are no statutory requirements obliging Company to receive any licenses and permits necessary for carrying out of its activity, there is the risk that such statutory requirements may be adopted in the future and may relate to any of Company Parties. In this case, Company Parties' business will depend on the continuing validity of such licenses and permits and its compliance with their terms. Regulatory authorities will exercise considerable discretion in the timing of license issuance and renewal and the monitoring of licensees' compliance with license terms. Requirements which may by imposed by these authorities and which may require any of Company Party to comply with numerous standards, recruit qualified personnel, maintain necessary technical equipment and quality control systems, monitor our operations, maintain appropriate filings and, upon request, submit appropriate information to the licensing authorities, may be costly and time-consuming and may result in delays in the commencement or continuation of operation of the Platform. Further, private individuals and the public at large possess rights to comment on and otherwise engage in the licensing process, including through intervention in courts and political pressure. Accordingly, the licenses any Company Party may need may not be issued or renewed, or if issued or renewed, may not be issued or renewed in a timely fashion, or may involve requirements which restrict any Company Party's ability to conduct its operations or to do so profitably.

## 8. UNTICIPATED RISKS

**8.1. Blockchain technologies and cryptographic tokens such as the Tokens are a relatively new and dynamic technology.** In addition to the risks included above, there are other risks associated with your purchase, holding and use of the Tokens, including those that the Company cannot anticipate. Such risks may further appear as unanticipated variations or combinations of the risks discussed above.


# CRYPTO MARKET LIQUIDITY FRAMEWORK

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