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This decade has seen the birth of two highly disruptive technologies — blockchain and machine learning.

One of the many impactful ends to which any startup can use blockchain is to create their own crypto asset, binding the value of the company to it. This allows for the creation of new fundraising models and has transformative potential for venture capital industry. In the past few months, the number of startups creating their own crypto assets have rapidly increased. Crypto exchange is a bigger opportunity for traders and investors than ever before.

Another trend that is gradually changing traditional capital markets is the increasing ability of computers to automate highly complex decision processes. The rapid expansion of digital data, together with the ever-increasing computational power, boosts the development of data science and machine learning techniques.

The intersection of these movements is where Signals was born.

Our mission is to empower crypto traders with state of the art algorithms from the data science community, which will allow them to optimize their profits. The Signals Platform provides these tools in a user-friendly way. From advanced charting and classic technical indicators to complex statistical models, crowd wisdom based inputs and machine learning algorithms based on media monitoring and sentiment analysis: the Signals Platform is a place where anybody can create fully customizable trading robots — no advanced technical knowledge required.
Cryptocurrency market growth - a new kind of venture capitalism

Over the past few years, hundreds of new cryptocurrencies have appeared in the market. Blockchain technology has the potential to greatly transform many industries. One use-case within blockchain which has the potential to disrupt the entire venture capital industry is the new technique of crowd investment.

Initial Coin Offering

Initial Coin Offering (ICO) is when a startup company connects its value to a crypto asset. The said crypto asset is then sold to investors who see potential in the company. ICO has a few properties that make it better for fundraising than traditional venture capital investing:

Borderlessness

Crypto assets are global — startups and investors from all over the world can issue and invest crypto assets.

Liquidity

In traditional venture capitalism, one or more investors invest in the venture in exchange for a share in the company. If they want to sell a part of this share at a later point, they may need to undergo a cumbersome legal process. With crypto ventures, on the other hand, the investment more closely resembles trading on stock markets.

Trading around the clock

As opposed to traders in the stock market, traders in crypto exchange can buy or sell assets 24/7.
The convenience of new crypto asset creation

There are several projects — e.g. the Ethereum Project — which offer startups a very easy way to create their own tokens on a blockchain.

Growth of the cryptotrading industry

These properties account for the growing number of startups that raise funds by issuing and selling their own cryptocurrencies. This paradigm shift in crowd investment creates new opportunities for the cryptotrading industry. Crypto traders with the best analytics and state of the art trading algorithms will gain higher profits in this rising industry.

Algorithmic trading - machine intelligence and crypto exchanges

Computational technology has transformed almost every domain of our lives. The financial sector and trading industry are two examples. After the replacement of traditional auction-to-computer transactions in the early 70’s, large corporations, banks, and hedge funds started to invest vast amounts to develop the best algorithmic trading systems in order to outperform their competitors. Since then, algorithmic trading systems have come a long way, and are becoming more and more prevalent. We mention some of the main advantages of automated trading systems:

They rule out the negative impact of emotions in trading

For human traders, it can be very difficult to stick to the original investment strategy in the face of fluctuation and societal pressure.

Speed

One of the main parameters in trading is the speed of the traders’ decisions — when prices surge, whoever buys sooner, buys cheaper, and when prices are dropping, those who sell later sell cheaper — speed is crucial to optimize a traders’ profits.
Precision
If machines outperform humans at anything, it is at the precision of computation — machines deliver even very complex decisions, punctually and precisely.

Trading 24/7
Once traders set up their automated trading system they are able to trade nonstop.

Backtesting
Automated trading systems are usually backtested and optimized based on a vast amount of historical data.

Big data
Machines are able to cut through unstructured data noise, and find patterns in terabytes of data streams that would give a human cognitive overload.

Fintech in the machine learning era
The fast surge in data has become even more important these days. In 2016 human-kind produced 2.5 exabytes of data every day. This data hides many interesting answers for many industries and for the trading sector especially.

The processing of this huge amount of digital data by computers has the potential to accelerate data science and the machine learning industry. Many machine learning methods from the 80’s which are now fuelled by big data have experienced a renaissance, particularly neural networks and deep learning. Hedge funds and banks are spending huge amounts of money on data science and hiring machine learning experts. Data science techniques like sentiment analysis of real-time market conversations on social media continue to widen the gap between humans and algorithmic trading systems.
Market opportunity summary - cryptocurrency algorithmic trading

A growing number of cryptocurrencies and the ever-increasing power of machine intelligence have created a space for a new market opportunity: a platform to connect crypto traders with the data science community and make even the most advanced algorithmic trading strategies available for traders without programming skills.
The Signals Platform consists of three basic parts – the Indicator Marketplace, the Strategy Marketplace and the Data Marketplace. On top of these three basic components, there is a main application which uses all of them – the Signals Strategy Builder. Traders without programming skills will be able to assemble their own automated trading strategies using this unique, visual, easy to use tool. Additionally, the whole platform is permeated with social network features in order to connect cryptotraders with the developers and the data science community.

Indicators marketplace

Indicators are the building blocks of any automated trading system. Their goal is to process data and send the results to your model. Based on those results your model creates signals to buy or sell at a particular time. The ways in which these blocks process data and create outputs can vary significantly. It could be very simple indicators, methods based on technical analysis, advanced data science indicators based on neural networks or even indicators based on prediction markets and crowd wisdom. Indicators could be easily plugged into a trading strategy in the Signals Strategy Builder and with no programming skills they could be used to increase and optimize trading profits.

Basic freemium indicators

The most trivial indicators are those which just monitor the price of a crypto asset and send signals based on “if-then” conditions. We believe that a simple UI and the possibility to combine your basic strategy such as ‘Stop Loss’ together with other features of
the Signals Platform such as the ‘Flash crash detection system’ (more in the Strategy Builder section) would be a popular way to manage a crypto portfolio not only for experienced traders, but also for mainstream crypto exchange users.

**Technical analysis indicators**

Technical analysis is a methodology of using statistics applied on historical data to find patterns and trends in the market. There are hundreds of technical indicators and even though they are a powerful tool by themselves, they are also very important in combination with other methods. (More in the Machine Learning for Signals Extraction section.)

**Sentiment analysis indicators**

Exponential growth of accessible data, which can be analyzed, caused the rise of popularity of methods based on natural language processing. Opinion mining (or sentiment analysis) based on media monitoring is becoming a standard tool in big hedge funds managed by professional investors. That is one of the reasons why Bloomberg, one of the leading financial services companies, cooperates with Twitter to create sentiment analysis features for traders. The Signals Platform provides sentiment analysis indicators together with data from social networks and the main cryptocurrency focused on news channel. (More in the Data Marketplace section.)

**Machine learning based indicators**

There are many machine learning techniques which can be used in trading strategies. Deep learning neural networks, support vector machines, or special neural network architectures which are designed for processing time series, such as LSTM recurrent neural networks. All these methods share the ability to find undiscovered patterns and relationships in historical data.

**Crowd wisdom based indicators**

The economist Fridrich Hayek in his essay “The Use of Knowledge in Society” intro-
duced a new way of thinking about markets. Economy is organic and to predict it we need to collect information from many people not just a few. This is exactly what prediction markets are doing. The idea behind the prediction market is simple – it enables users to monetize their unique knowledge by buying and selling shares in the outcome of an event. If they predict the outcome correctly, they earn a profit, otherwise they lose their money. This mechanism is an incentive for users to only participate in markets into which they possess unique insights. The current price of event outcome shares encapsulates and quantifies the knowledge of the crowd into a single number which could be interpreted as the probability of a particular event outcome. This crowd opinion could be then used as a new source of a new kind of information in computational models.

Blockchain monitoring indicators

Tokens distribution among token holders is a very important parameter of cryptocurrency price dynamics. When the distribution is not uniform and the majority of tokens is held by few holders, then tools which monitor the “whales” movements are especially useful. Fortunately, blockchain is an open and transparent network. By blockchain monitoring, trading models can search for patterns and send signals based on token movements.

Custom indicators

For experienced developers and data scientists, the Signals Platform is an opportunity to monetize knowledge and skills by developing indicators which they can offer to others. Other users can find them in the Indicators Marketplace and use them for free for experiments on historical data. For using these indicators in live trading, users have to pay a subscription fee which is set by the owner of the indicator. All payment in the Signals Platform are performed in Signals cryptocurrency.
Signals strategy builder

Signals Strategy Builder is an easy-to-use tool with the help of which anybody is able to create their own trading strategy with no programming skills. There are two main components in each strategy – indicators and signals.

Indicators are blocks of code selected from the Indicators Marketplace. Signals on the other hand are actions that are triggered in response to the indicators. In the Signals Strategy Builder, users are not focusing on programming at all. They drag and drop the indicators from the Signal Indicator Marketplace and then defining the conditions of the indicators under which the signals should be triggered. The focus is on strategy logic not strategy programming.

Signals strategy builder offers numerous features to enable the user to create the optimal strategy and evaluate its performance before starting to use it for live trading. The following are some of the main features:

**Advanced charting**
In the process of designing successful strategies, advanced charting and visualization of the strategy behavior is a must-have feature.

**Backtesting and training with genetic algorithms**
Usually each indicator has several parameters which have to be set correctly in the context of other indicators and in the context of the model itself. Of course it is possible to set those parameters manually and then run the strategy against historical data and see the results, but there are more sophisticated methods to optimize this strategy. The Signals Platform provides you with a data science tool set of advanced optimization techniques based on machine learning and evolution algorithms.

**Supercomputer for complex experiment**
Training based on historical data can be very CPU consuming. That is why Signals will
provide you with connection to a world-wide decentralized supercomputer where you can train your strategies and even carry out computationally complex experiments in reasonable time.

**Generating reports based on historical data - benchmarks and risk quantification**

Proper analytics and model benchmarks are crucial for successful risk management. When you create and test your model, we will automatically generate feedback on how successful your strategy would be with new data, assess your strategy using standard benchmarks, and analyze the risks and possible revenues.

**Adaptive strategies**

Fix strategies are not always the best choice when you want to maximize your profit in the long term. Market trends constantly change and so should your strategies. By using advanced automated techniques such as walk-forward optimization, your strategy will continuously adapt to new circumstances on the market.

**Machine learning for signal extraction**

Of course users are able to manually set up the signals and the conditions under which they are triggered. But this kind of setting is very subjective and not supported by data. There is a lot of academic research, where indicators, for example technical indicators are used as input features of artificial neural networks which can discover the non-linear relationships between the technical indicators and the buy or sell signals. By using deep learning and other machine learning techniques, users can rule out subjectivity and find hidden patterns between selected indicators based on historical data.

**Flash crash detection system**

Flash crash is a deep drop of the price of an asset followed by its quick recovery, and it is a nightmare for any trader who sets up their stop-loss order. Many traders have lost their money when they set up a stop-loss on crypto exchange and flash crash has
happened. Since our service is monitoring all major crypto exchanges, we can offer a flash crash detection system which can be used by any trading strategy which is connected directly to crypto exchange.

**View and edit directly the code in the background**

Even though almost any thinkable strategy is possible to be created in an easy-to-use manner through the Signals Strategy Builder, for experienced developers there is a possibility to display and edit the code which is generated in the background. That is how we provide maximal flexibility for developers and data scientist, but at the same time make automated trading available for non-programmers.

**Signals for live trading or mobile notification**

**Connection to your crypto exchange account**

After your model is backtested on historical data and ready to use, you can connect it to your crypto exchange and start trading. You can do this through our cloud based solution, which is the best option for maximal comfort and provides the most user-friendly environment.

Even though the security of our platform is our priority, we understand that providing access to your crypto exchange account via a cloud based service is a delicate issue for many users. That is why we will provide an open source desktop app, which will be able to perform automated trading in the background. With this desktop solution any trader could be absolutely sure that the access token is stored and encrypted in his device and used only for communication with his crypto-exchange account and never send anywhere else.

**Connection to your smart phone**

It is also possible to create an automated strategy that is meant not directly for trading but for receiving alerts and notifications. You can connect your trading bot with your
smart phone through our app. Any time that your strategy identifies a trading opportunity, you will be informed so that the final decision will be up to you.

Our mobile app is especially useful together with media monitoring and sentiment analysis indicators. These kinds of data processing indicators are able to send you not only signals to buy or sell but also meta information about the data source which they processed. This enables you to easily create bots which will notify you when new trends appear so that you can keep up with the constantly changing environment of the crypto world.

**Strategy marketplace**

**Copy-trading of successful strategies**

When you create an automated trading strategy, you can place it into the Signals Strategy Marketplace and offer it to other users. You can set up subscriptions so that anybody who wants to copy trade your strategy can pay you for receiving trading signals from your bot.

For new users, this is the most simple way how to start with automated trading. For each strategy in marketplace we generate a report where anybody can check performance, level of risk and statistics of the strategy before he or she decides to start copy trading.

**Central hub for automated signals - 3rd party bots integration**

Even though our mission is to provide the most user-friendly and flexible tool for creating trading robots on the market, there will always be plenty of other successful trading bots which will be created outside the Signals Platform. To become a central hub for algorithmic trading signals, we provide an API which can be used for the integration of 3rd party bots into the Signals Marketplace.

There are more and more projects which are focusing on creating one particular algo-
rithmic trading bot for cryptocurrencies, but there is no central hub where those robots could send signals and, based on their performance, attract new users. The Signals Marketplace is a new way for all these 3rd party bots to monetize their signals. At the same time, it is beneficial for the Signals Platform users to have wider possibilities for copy-trading.

This possibility would also be very beneficial for small data science teams, which are capable of designing great algorithms for trading but have no experience with mobile development neither UX design. By monetizing their signals through the Signals Marketplace, they can easily approach new customers and offer them all benefits of Signals platform such as mobile app and strategy analytics.

**Data marketplace**

Is a marketplace where users and external vendors could monetize their unique data sets by offering them to others. The Signals Platform will release the main data sets including historical market data, together with current market data streams, social networks such as facebook and twitter monitoring and main crypto related media monitoring.

**Data crawlers**

The same way an experienced developer can create indicators in the Signals Indicators Marketplace, in the Signals Data Marketplace they can create and deploy data crawlers which will provide live data streams for other users’ strategies.

**API for 3rd party streams**

For third party data streams which already obtain crypto related historical data and streams, we offer the possibility to integrate and monetize their existing solution through Signals Data API.
Social network features

The Signals Platform is a place where the crypto trading community meets data science community and the community of developers. That is why social network features, data science competitions and users interactions are the key part of the Signals Platform.

Democratizing machine intelligence in the crypto trading industry is a complex mission and a big part of it is to create an environment where users could share their knowledge, experience and ideas about algorithmic trading with the community in a structured, well-arranged way, where valuable ideas are endorsed by the community and then are easy to find by others whenever they need them. In the long term, this kind of environment is a great source of knowledge, especially for new algorithmic traders, in the same way StackOverflow is a great source of knowledge for the developers community.
Community Support

To bootstrap the Signals Platform community, 20 % of Signals’ tokens are reserved for users and early adopters. No-one from the Signals team will evaluate who will obtain the rewards. The Signals team will set up transparent competition rules in the form of smart contracts and the results of all competitions will be evaluated by publicly available data like strategy statistics or users’ endorsement points.

**Indicators development competitions**

To offer the community enough algorithms encapsulated in the visual form of the indicators in the Signals Strategy Builder, we want to support developers and data scientists in helping traders by providing them with new indicators. Based on the analytics of how many strategies are using a particular indicator and how popular it is among the community we will support its creator by awarding him with Signal tokens.

**Strategies competitions**

The most successful strategies which are offered for copy-trading to other traders will be selected based on publicly accessible statistics regarding the strategy’s performance, risk-taking or other strategy positive parameters.

**Data competitions**

Historical data, new crawlers or the most useful 3rd party integration. Each data source which is offered to the community contains public analytics about its usage. The most useful data sources will be periodically evaluated and supported.

**User endorsement competitions**

Users which are helping the others in community by answering questions and shar-
ing their knowledge could obtain endorsement from other users. Those endorsements points on average encapsulated the metric emerged from community opinion about how much those users helping the others. This is the main metric which will be used to support active users on Signals platform.

The users who are helping others in the community by answering questions and sharing their knowledge can obtain endorsement from other users. Those endorsements points on average encapsulated the metric emerged from community opinion about how much those users helping the others. This is the main metric which will be used to support active users of the Signals Platform.
The Signals roadmap for years 2017 - 2019 is divided into six milestones. Each milestone consists of a certain number of features that will be implemented. Completing all features in a milestone completes the milestone. After each milestone, we will conduct extensive testing and auditing of the implemented features, therefore we expect time gaps in between working on different milestones. We are working on multiple features simultaneously, nevertheless, the work on features from the upcoming milestone will begin only once the current milestone’s features are completed and well tested.

**Milestone 1: Q1-Q3 2017**

**Features:** Strategy Builder Framework private alpha, Strategy Builder UI Design

The first (already completed) milestone is the foundation of the whole Signals Platform. It’s a prototype of the Signals Strategy Builder Framework which will be upgraded in the upcoming milestones into an extremely useful tool for any crypto traders. We strive to make advanced algorithmic trading accessible to the whole crypto trading community, regardless of one’s programming skills.

**Strategy Builder Framework private alpha**

The first private version of the Strategy Builder Framework has been already completed. It’s a tool for monitoring currency movements through various combinations of technical indicators. This modular enterprise framework has the basic infrastructure for assembling different strategies by combining various technical indicators into trading signals. The strategies can subsequently be backtested on historical data, and the environment it is built upon will serve as a base for the Strategy Builder feature planned
for the 3rd milestone.

**Strategy Builder UI Design**

Strategy Builder UI has been designed to be incorporated into the future Signals platform. It allows forming indicators into strategies in a visual interface, which is both easy to use and complex enough to offer extensive possibilities of customization. While the UI is intuitive for anyone, developers can edit the code and change anything they like when it comes to building strategies or creating indicators.

**Milestone 2: Q4 2017**

**Features:** SGN Token presale, Strategy Marketplace alpha, SGN Token sale

The second milestone, which is currently underway, consists of two fundraising phases and an alpha version of the Strategy Marketplace. The fundraising phases are described in detail in section 5 of this whitepaper.

**Strategy Marketplace alpha**

Strategy Marketplace is one of the three main pillars of the Signals platform. The alpha version will include a notification bot by Cryptofox.io and will serve as a base for future inclusion of default Signals strategies, 3rd party strategies, and user-created strategies.

**Milestone 3: Q1-Q2 2018**

**Features:** Data Marketplace private alpha, Indicators Marketplace private alpha, Strategy Builder Framework update, Strategy Marketplace update

The third milestone will be developed during the first half of 2018. By completing this milestone we will introduce the last two of the three main pillars of Signals - Data and Indicators marketplaces - in their private version, to be used by the Signals develop-
ment team. Furthermore, we will upgrade the Strategy Builder Framework with new tools and begin filling the Strategy marketplace.

**Data Marketplace private alpha**

The Data Marketplace will be launched in a private alpha mode, serving as a base for the future full version which will enable users and external vendors to monetize their unique data sets by offering them for sale. The first step in this will be connecting to and storing data obtained from all main crypto exchanges, using exchange data crawlers with the purpose of filling the Data Marketplace.

**Indicators Marketplace private alpha**

Indicators Marketplace will be launched in its private alpha version, filled with technical indicators to be used in the creation of basic strategies.

**Strategy Builder Framework update**

Strategy Builder Framework will be updated with new tools, which will enable the Signals developers to create more advanced strategies. The strategies in this version will be limited to sending notifications for Slack and Telegram via API, as opposed to actual trading orders which will be implemented in the Milestone 4.

**Strategy Marketplace update**

The Strategy Marketplace alpha will be opened to 3rd party integrations, i.e., anyone will be able to build and offer their strategy. At this point, we’ll start measuring strategy success and compare results across our platform.

**Milestone 4: Q3-Q4 2018**

**Features:** Strategy Builder alpha, Indicators Marketplace alpha, Data Marketplace public alpha, Desktop App alpha, Machine Learning strategy optimization, Integration of decentralized supercomputers
By completing the fourth milestone, we will have officially established all three main pillars of Signals - Data, Indicators, and Strategies - in the public alpha version. Also, the desktop app will enable direct strategy trading, as well as simple notifications.

**Data Marketplace public alpha**

Data Marketplace will be updated to public alpha, containing data from more exchanges and supporting public trading of 3rd party data, thus enabling users and external vendors to monetize their unique datasets.

**Indicators Marketplace public alpha**

This version of Indicator Marketplace will be open to the public. Our machine learning powered indicators, wrapped as intuitive interface components, will be offered to crypto traders.

We will also invite developers from the data science community to share their own algorithms and encapsulate them into visual components (so-called indicators).

Cryptotraders will be able to buy indicators in the Indicators Marketplace and assemble their trading models in the Strategy Builder. This will establish a whole new dynamic in knowledge sharing between developers and crypto traders.

**Strategy Builder alpha**

Strategy Builder tool will be introduced in the form of a visual model builder, enabling the composition of indicators into trading signals. Advanced UI charting will be used to make the process simple and effective. The Strategy Builder will able to generate performance and risk reports for a given strategy. There will also be a feature called Idea sharing for generating images from charts and sharing trading strategies.

**Desktop App**

Desktop App for Windows and Mac will be introduced in its alpha version, and it will enable live trading. Important parts of the app will be open-sourced, thus enabling users to verify that the sensitive information, such as access to crypto exchanges, is
securely held on their computers, and that it can be used only for authentication of trading orders.

**Machine Learning strategy optimization**

A better and a more precise way to optimize strategies according to historical data will be introduced, in the form of genetic algorithms. Values of parameters in a strategy, whose combinations are otherwise based on brute-force testing, will be precisely defined, therefore removing subjective influences and illogical choices from strategies.

**Integration of Decentralized Supercomputers**

Integrating supercomputers into Signals platform is an important step, enabling us to process large quantities of data in short time at an affordable price. These sophisticated computations are required for machine learning strategy optimization or strategy backtesting (and also for Signals Extraction - see Milestone 6).

**Milestone 5: Q1-Q2 2019**

**Features**: Indicators Marketplace beta, Strategy Marketplace beta, Strategy Builder update, Mobile App

The fifth milestone will bring beta versions of previously developed features to the public. Any possible shortcomings revealed in alpha versions of Signals features will be fixed and new, powerful features will be added. Moreover, an App for Android and iOS will be created.

**Indicators Marketplace beta**

New indicators will be added to the Indicators Marketplace beta, particular indicators based on crowd wisdom inputs and indicators derived from blockchain monitoring.

**Strategy Marketplace beta**

The new feature will be added to the Strategy Marketplace beta, that will give users
the ability to copy trade someone else’s strategy for a fee or to offer their strategy up for copy trading.

**Strategy Builder update**

New Strategy builder version will add the cloud-based live trading solution. Periodical security auditing, to ensure and demonstrate the safety of user’s finances, will be our top priority. We will add new, adaptive strategies with advanced automated techniques, such as walk-forward optimization to account for constantly changing circumstances on the market. In-place editing of the source code will be enabled for those who wish to use the abilities of the Signals platform to even greater extent.

**Mobile App**

A Mobile App will be released for Android and iOS, enabling users to receive notifications and look through data anywhere. You will be able to check your strategy analytics, currency prices, and trades anywhere. The app will also offer media monitoring and sentiment analysis indicators, keeping you in touch with the latest developments in the crypto world anywhere.

**Milestone 6: Q3-Q4 2019**

**Features:** Strategy builder update, 0X trading protocol, Focus on Machine Learning

The sixth milestone will bring with it the transfer of all the Signals pillars and features from beta to full version, thus completing our goal of bringing the whole crypto community the ability to create advanced trading strategies without knowing a single line of code. We will also further enrich the strategy builder with new, AI-based possibilities of optimization and we will bring the support of 0X trading protocol.
Strategy Builder update
Deep learning methods will be added to the Strategy Builder alongside other advanced machine learning techniques, enabling users to find hidden patterns between any indicators based on historical data. These so-called Signals Extraction methods will give our users the possibility to use artificial neural networks to find non-linear relationships between indicators and buy/sell signals.

0x Trading Protocol
We will integrate 0x trading protocol into Signals, for we believe that 0x project will help create decentralized exchanges, while also opening up many opportunities for catching up the right order and trading automation within blockchain.

Focus on Machine Learning
We will focus on the newest developments in Machine Learning (ML), using the knowledge to develop better indicators, to optimize strategies towards better results and to extract more precise signals. We plan to support ML research and contribute to it ourselves, using any new ML techniques available to deliver our users a more refined and optimized product.
Signal Token (SGN)

Signal token is a currency powered by the Ethereum blockchain. All paid features available on the Signals Platform will be accessible exclusively through Signal tokens. This will create a positive correlation between the success of Signals Platform and the value of a Signal token.

The business model of Signals Platform is based on two main revenue streams.

Firstly, Signals Platform charges a fee on each purchase in the Signals marketplaces. This includes:

- Purchases of user-created indicators in the Indicator marketplace
- Purchases of data streams in the Data marketplace
- Renting of user-made strategies for copy trading in the Strategy marketplace
- Using premium machine learning features in order to assemble and train trading strategies.

The second revenue stream comes from the Signals cloud solution for deploying strategies. A subscription model will be implemented, with several tiers to choose from based on the amount of strategies used.

Deflationary token

After every payment made in the Signals Platform, a small amount of the currency will be burned, making the Signal Token effectively a deflationary currency. As the usage of SGN will increase, its supply will slowly shrink, making it more valuable. This mechanism was introduced in order to ensure the growth of SGN token value and to further incentivize long-term holding of the currency by investors.
Token Sale

SNG Distribution process

The launch of Signals and the corresponding Signal token (SGN) creation process is based on Ethereum blockchain (as described in the Signal token section of this white paper).

The distribution process will consist of two phases, the token sale, and the token pre-sale phase. The process will begin with its token presale phase starting at 14:00 UTC on Wednesday, November 22, 2017. For more information on the 2 phases see sections PRICING and DETAILS below.

Participants willing to support Signals token sale can do so by sending ETH to a designated address. Detailed instructions on how to participate in this process will be made available at https://signals.network before the start of the distribution process.

By contributing, the participants are requesting to receive SGN tokens at the prices detailed in the section below.

SGN tokens received by contributors will be transferable immediately after the end of the Distribution Period.
SGN Allocation

There will be a total of 150,000,000 Signal tokens, all of which will be issued during the distribution period. This is the final amount of tokens, and no further tokens can be issued.

- **50% of the SGNs** will be offered for sale to public contributors during the distribution process.
- **20% of the SGNs** will be reserved for the community - as a reward for the developers and data scientists - described in detail in the Community Support section of whitepaper.
- **18% of the SGNs** will be allocated to the Company reserve. This reserve will represent a source of the Company’s income and will be used to cover development and operation expenses.
- **10% of the SGNs** will be allocated to the advisors and partners collaborating on Signals platform.
- **2% of the SGNs** will be distributed via our Bounty program as rewards for marketing initiatives, bug finding programs, and advisory compensation.

SGN Pricing

SGN prices will be nominated in ETH one day before the beginning of the token presale phase. The ETH price of SGN unit will be calculated using the ETH/USD exchange rate at that moment, and the following prices pre-nominated in USD:

- SGN/USD = 0.5
Token presale phase price:

- There will be a maximum of $500,000 worth of SGNs sold during this phase.
- During the presale, there is a 30% discount on all SGNs, as compared to the price at the end of token sale phase.
- That amounts to 1,969,482 SGNs, priced at $0.253874 per SGN.
- Minimum transaction amount in Ethereum is 0.1 ETH.

Token sale phase price:

- There will be a maximum of $24,500,000 worth of SGNs sold during this phase unless there are unsold SGNs from the previous phase, which would be added to this number.
- At the beginning of this phase, there will be a 15% discount on the first token sold, which will then gradually decrease, with the last token sold having no discount.
- The price of a single token varies between $0.30827524323 and $0.36267675675, defined by a linear growing function, where the lowest price is the price of the first SGN token sold during this phase, and the maximum price is the price of the 75,000,000th token.
- Minimum transaction amount in Ethereum is 0.1 ETH.

Details on token presale and token sale phases

75,000,000 SGNs will be offered for sale to public contributors during the whole distribution process, split between the 2 phases as follows:

Token presale phase details:

- Begins at 14:00 UTC on Wednesday, November 22, 2017.
- 1,969,482 SGNs will be offered for sale during this phase.
• There will be a maximum fundraising cap of $500,000, which amounts to 1,969,482 SGN with 30% price bonus.

• The token presale phase will run for 30 days, or until the cap on fundraising is reached, whatever happens, earlier.

• If there are unsold SGNs remaining after 30 days of token presale phase, they will be added to the token sale phase token pool.

Token sale phase details:

• The starting date will be announced after the end of the token presale phase. However, there will be a maximum of 4 weeks gap between the end of presale and the beginning of token sale phase.

• There will be a maximum fundraising cap of $24,500,000 for this phase. In case there will be unsold SGNs remaining from the presale phase, they will be added to this cap so that the total cap for both phases amounts to $25,000,000.

• 73,030,518 SGNs will be offered for sale during this phase. In case there will be tokens left unsold from the token presale phase, they will be added to this number.

• There will be a minimum cap of $2,000,000. If this is not reached, all investors in this phase will have the full amount of their contributions returned to them, minus the transaction cost (GAS).

• Token sale phase ends either six weeks after its beginning, or the moment when the maximum cap is reached.

• After the end of token sale phase, if the minimum cap was reached, but not all SGNs were sold, the remaining unsold SGNs will be burned.