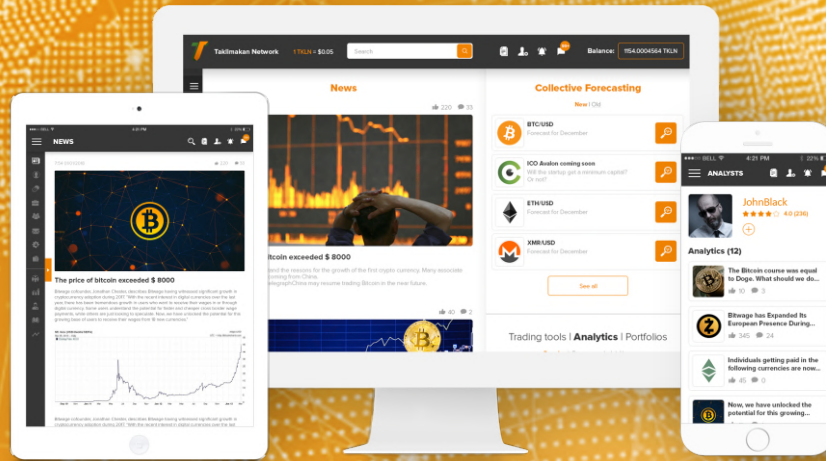


TAKLIMAKAN NETWORK

THE BLOCKCHAIN
INVESTMENT
PLATFORM



taklimakan.io
Whitepaper
(draft ver. 1.1)

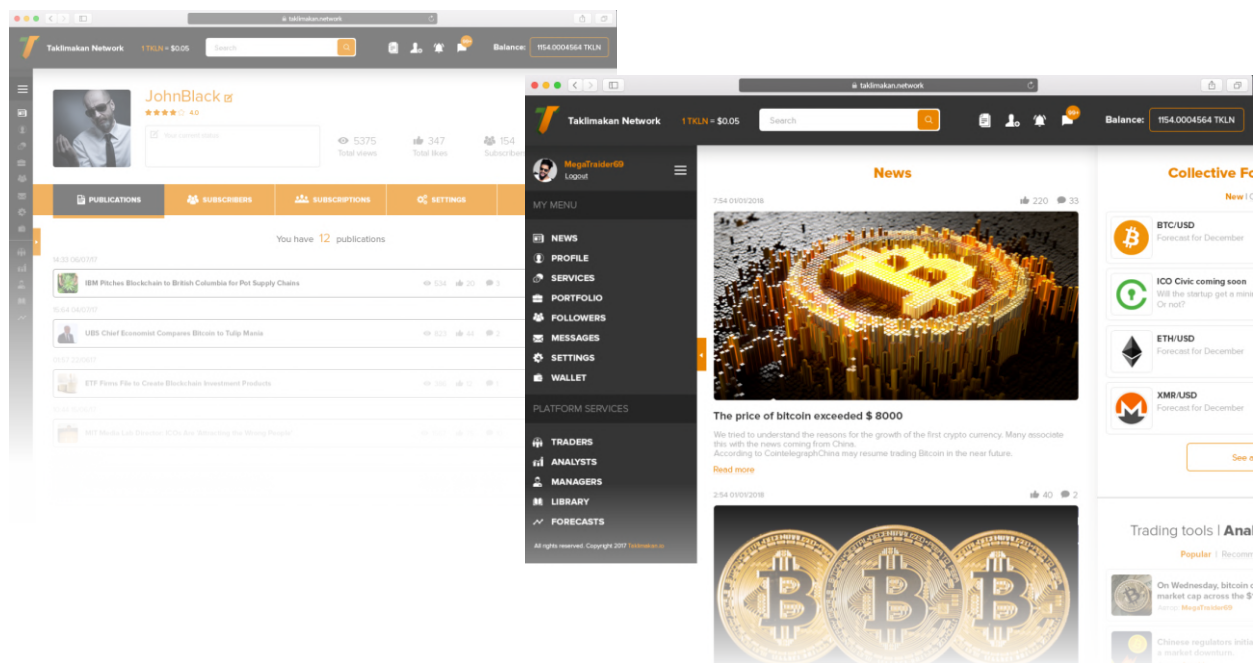


Introduction

Taklimakan platform is aimed to empower and attract amature investors by providing new tools and great knowledge base. Experienced traders and analysts will be encouraged to share their experience and help newcomers to become more efficient in personal fund management.

Some Taklimakan innovations will seem new and exciting even to the gurus of investment world because it aims to interconnect social networks, investments, and blockchain, and create unique and efficient fund management experience for everyone.

Taklimakan Network is a compass in the cryptocurrency world



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1. **Executive summary**

Financial technologies are rapidly gaining momentum, ICOs are being launched daily and only the most lazy ones do not know about this method of attracting money for projects. Even start-ups not related to cryptocurrencies started to carry out the initial placement of tokens. Many people invest in these tokens believing in the technology behind it and hoping that they will become profitable in the future.

Taklimakan Network is a platform designed to improve the professional level of crypto investors and make them more successful with the help of experienced traders and analysts. This project will operate as business platform for effective interaction between newcomers of cryptomarket, professional traders, analysts and asset managers. Extensive functionality, variety of investment tools and services with an easy-to-understand and user-friendly interface will be featured in the project. A rating system that allows investors to identify the most popular and reliable providers of trading signals and analytics, rewards to all users for participating in a crowd prediction and many other interesting platform tools will attract more users interested in the crypto industry. As a result, both beginners and experts will be motivated.

The Taklimakan Network platform allows users not only to be a project investor, but also to receive the information that might be useful for their investment activity. Often people participate in ICO in order to get a quick earnings, buying tokens on pre-sale and selling them on the stock exchange immediately after they got listed. But to the current date, with the increase in the number of ICOs conducted the speculative earnings of short-term investors are becoming less and less realistic and sometimes they are not profitable at all.

By having the Taklimakan Network Tokens in the investment portfolio, user should not be considered as a speculative player, he becomes an investor of a promising project which is useful for the whole crypto community and whose tokens will bring a huge profit after the project is fully executed instead. Moreover, the platform can be used for commercial purposes by generating passive income on a regular basis. But the ultimate goal of this project is not only a commercial interest, but also the creation of really useful platform for the entire crypto community.



The development of blockchain technologies in recent years has created a unique situation in the financial market and provided active investors with a whole range of new investment tools. In fact, a new segment of the financial market has emerged – the cryptocurrency market, capitalization of which has already exceeded US\$240 billion. At the same time, the market is developing rapidly, showing growth rates of more than 500% per year.



Dynamics of capitalization of the market of cryptocurrency in 2017

In parallel, the volume of trades in cryptocurrencies is constantly growing: in the first week of January 2017 the average daily turnover in the cryptocurrency market was US\$346 million; as of mid-November 2017 the average daily turnover already exceeded US\$9 billion. New cryptocurrencies and unique investment opportunities appear in the cryptomarket every week.



Dynamics of growth in the average daily trade volume on the cryptocurrency market in 2017

The ICO (Initial Coin Offering) market is also growing exponentially along with the cryptocurrency market. At present, dozens of projects come to the market every month, while the number of companies that consider this fundraising method is growing exponentially. According to data of research companies specializing in crypto assets, year to date, startup projects raised over US\$3 billion through ICOs, which is 30 times more than in 2016.

data is taken from the source - <https://coinmarketcap.com/charts/>
date 22.11.2017

According to the statistical data, the number of users of the American currency exchange Coinbase increased by 116%, from 5.5 million to 11.9 million in the date period from the end of January 2017 to November 2017. The number of serviced wallets at the same time increased by 180%, from 12.1 million to 33.9 million units. And this is only the data from on one of the largest exchanges, and there are more than 100 of the others.

> **33,9M**
number of wallets
Coinbase

Despite the current exponential growth, the cryptomarket is in the initial phase of the growth cycle. To the current date, only 18.5 million crypto wallets have been registered in the blockchain.info system and the process of transferring funds requires serious technical training. In the next few years, due to the development of technologies and simplification of the funds transferring, their number will increase to 300-400 million, which will cause an ample inflow of investments into the market.

> **18,5M**
number of wallets
Blockchain.info

The information website coinmarketcap.com, which allows you to monitor the capitalization of each of the existing cryptocurrencies, has entered the top 400 most visited websites in the world.

The next reason for the significant growth of the cryptocurrency market is the entry of large institutional investors on the market. Funds invested around US\$100 million in cryptocurrencies to test the market in the first half of 2017. Once the funds' initial hypothesis on the yield of the cryptomarket is confirmed and funds receive a return that would substantially exceed the yield in other segments of the financial market, only then large amounts of capital, 30-50 times higher than the current volume of investments may enter to the market.

Countries with large stock exchanges are gradually entering the crypto industry – in March 2017 Japan legalized Bitcoin, in June - India, and more countries would join the market. Regulators are also ready to adopt the blockchain technology. Japan already accepts cryptocurrencies as a means of payment. Similar laws are being developed in Switzerland and a number of European and Asian countries.

Traditional financial institutions show interest in blockchain technology. The R3 consortium, which includes banks, such as Goldman Sachs, JP Morgan, Credit Suisse, Barclays, UniCredit and others, announced that the largest banks are planning to actively implement blockchain technology. More than 15 member banks of the consortium have already developed prototypes of "smart contracts" for factoring operations. Simultaneously, HSBC and the investment division of Bank of America announced that they have started to use the blocking technology to simplify settlements of international trade transactions.

The market for Taklimakan Network services users is a world crypto community, from established investors to newcomers, who enter to the market at the exponential rate every day. Trading, analytical, managerial and almost any professional activity related to crypto investments can be applied on the platform for commercial purposes. The platform will provide users all opportunities to increase the knowledge of crypto industry, trading, analytics for investing in blockchain start-ups, as well as a number of tools and services for increasing investment capital.

The rapid development of the cryptocurrency market provides unique investment opportunities. It is important for individual investors with limited knowledge in cryptocurrencies to not miss such opportunities and get access to promising projects at their earliest stage of development, when conditions for entering such projects are the most favorable. The cryptocurrency market is at the very beginning of its formation and is very volatile and risky. Individual investors often lack experience and analysis tools that are normally used to evaluate projects in traditional segments of the financial market. Independent trading and independent asset management without the experience and knowledge of the market often lead to a loss of invested capital.

Additional risks create high volatility in the market and serious systematic problems have already become noticeable:

3.1 Problems associated with independent trading



The young, not yet established market of cryptocurrency is not always amenable to technical analysis. Sometimes even a professional trader with an experience cannot determine the medium-term direction and not even the short-term trajectory



Financial education, as well as practice in trading are prerequisite and necessary for professional trading in with cryptocurrencies. It is required to understand and capture the favorable and unfavorable situation on the market before entering into directional trade.



With the inflow of a large number of people interested in cryptocurrency, a lot of low-quality and fraudulent services appeared in the market offering trading signals, participation in pumps and dumps and in the asset management. As a rule, mostly do not provide stability and sometimes even lead to the loss of funds.



Technical features and inferiority of young and still developing cryptocurrency exchanges, cause certain inconveniences in the trading.

Exchange transactions and speculation on the exchange cryptocurrencies are identical to any other. To make a profit you have to buy at the low price and sell at the higher price. That is just like when you invest in an ordinary currency. The base of instruments and the principle of determining the goals for trade are set in the same way as in the fixed income, stocks or FOREX markets. But even the certain knowledge of the basics of trading in the financial markets, does not guarantee the profit from trading in cryptocurrencies.

3.2 Challenges of individual investing



There is a tendency in the market when many projects experience difficulties with the development of products announced during ICO, and in the future the situation will only worsen.



Due to absence of high-quality analytics and presence of constant information noise created around projects that go to the ICO, a non-professional investor is losing focus and the opportunity to distinguish high-quality projects from those that have elements of significant fraud (also called scam).



With the growth of the number of ICOs, potential high-yield "unicorn" projects become indistinguishable from scam in the flow of information noise and do not attract sufficient attention from independent investors.



The ICO market has relatively low barriers to entry, which leads to a rapid growth of bubbles and attracts scammers seeking easy money.



At the current stage of development there are no clear criteria and guidelines for choosing projects for individual investing in the ICO market. The only document describing the project that goes to the ICO is the whitepaper, in which one can often see a description of the idea or concept of a future product and the whitepaper rarely provides a justification for the return of investments. Therefore, it is not always possible to build a clear methodology for evaluating projects.



No less significant problem is that investors have to collect information about projects in parts from various sources: company websites, discussions on forums and in social networks where there is a high probability of encountering unverified information and rumors, which create additional problems for individual investing in ICOs.

During periods of high volatility in the cryptocurrency market, inaccurate construction of the portfolio and failure to follow risk management principles would immediately lead to a decrease in portfolio value and significant financial losses. In situations when there are no fundamental reasons for companies to grow and technical analysis does not work, it is necessary to analyse projects using other tools that are often not available to individual investors. Such tools are at the disposal of specialized business sites specializing in investing in crypto assets and one of them is the Taklimakan Network.

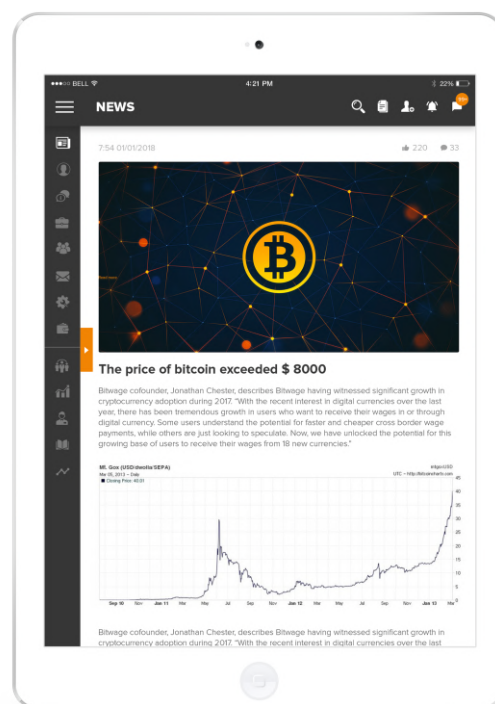
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Platform components

Platform shall consist of the following components:

-  Analytics
-  Trading signals and strategies
-  Asset and fund management
-  Internal payment system
-  Educational Materials
-  Crowd Predictions
-  General functionality



4.1 Analytics

Platform will support Analyst as a type of user. Analysts will research ICOs or major cryptocurrencies and produce their reports as a product of their research. Platform will have the capability to publish the reports on the platform web site. Reports will allow investors and traders to make their market decisions, so proper legal disclaimers should be included with the reports.

Reports usually describe mid-term to long-terms market effects and aim to predict price changes from one week to several months' time frame to facilitate low frequency trading. Therefore, platform functionality related to analytical reports will be designed with this time frame in mind.

Analytics section will contain analyst database and allow searching and filtering of analysts by certain attributes such as rating, their investment products / tools. Search result will be displayed as a list of analysts in a table, with filtering and sorting capability.



There will be free and paid reports:

- Whether report is paid or free, will be determined at the time of publishing by analyst. Free report cannot be converted to paid, but paid reports can be converted to free by the report publisher
- Free reports' goal is to demonstrate analyst's knowledge and capabilities, so report rating functionality will be implemented for free reports. Report rating will be used to calculate cumulative Analyst rating along with Analyst rating by users
- Investors and traders can search for Analysts with best reports as well as Analysts with best ratings, as well as for analysts with best aggregated rating (that includes both analyst rating and report rating)
- Free reports can contains references to paid reports that will allow to promote paid reports.
- Paid reports will allow to create a webinar for subscribers so that investors and traders can talk live with report publisher
- Paid reports will have commenting and rating functionality so that users can discuss/rate the report. This will add value to both report publishes as they will receive feedback, as well as for report consumers as they will receive crowd opinion and be able to discuss
- In case if report consumer needs a private communication with report publisher, "Ask expert" feature will allow users to contact report publisher personally within a pre-configured interval of time either by chat or by voice call
- Because timing after publishing the report is important, scheduling feature will allow to schedule private conversations leaving time gaps for the Analyst for non-private communication as well as scheduling webinars
- Platform will facilitate creation of legal disclaimers for free and paid analytics reports

Subscription feature will facilitate user access to paid reports. In order to read a report that user has a subscription for, user will have to authenticate on the platform web site, navigate to the report and open it. Reports can only be read, copying will not be allowed by the DRM system.

Subscriptions to paid reports will have different subscription levels:

- Single report: The subscriber will have access to one report
- Single analyst: The subscriber will have access to all reports published by one analyst for a limited period of time
- Unlimited: The subscriber will have access to all reports produced by all analysts for a limited period of time
- Single analyst and unlimited subscription plans will allow to pay for the subscription monthly or make a one-time payment for 6-month or 12-month subscription with appropriate volume discount

News section will be displayed on the authenticated user's home page and will contain most recent changes that include:

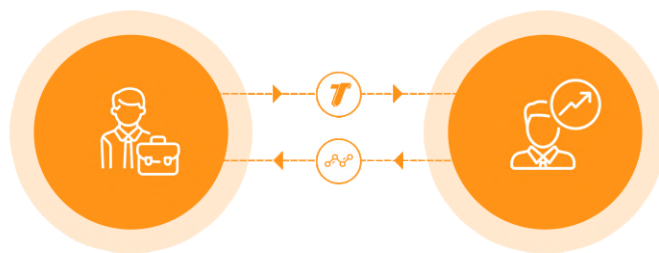
- New free reports published by analysts
- New analysts and trading instrument providers who recently joined the platform
- General Platform news and performance
- Analysts will be able to publish announcements of their paid reports in the news section for additional fee
- Traders will be able to publish announcements of their new management offers in the news section for additional fee

4.2 Trading signals and strategies

Trading signals mostly consist of numerical information that is aimed to provide short term market prediction in the time frame less than 1 day, therefore facilitating intraday (high frequency) trading.

Trading signals can be evaluated for quality by several factors:

- Correlation with price. Signal needs to be correlated with price statistically significantly more than 50% of time or statistically significantly less than 50% of time
- A sample strategy may be provided with trading signal. Sharpe ratio can be calculated for sample ratio
- Platform will support publishing of trading signals, as well as links to external trading signal APIs



Along with trading signals, trading instrument providers can publish trading strategies. A trading strategy instructs the investor whether they should make buy or sell decision. Trading strategies can have short term frequency or long term frequency. Even though strategies in modern financial markets include high frequency and ultra-high frequency trading, these require trading automation and are out of scope for Taklimakan platform. Taklimakan trading strategies will facilitate only medium and low frequency trading, i.e. with enter/exit cycle not shorter than 1 hour without any limitations on how long it can be.

Trading strategy include:

- Type, time, and amount of purchase (long, short)
- Exit strategy (time, price, market conditions, etc.)
- Performance indicators such as Sharpe ratio and/or Sortino ratio

Publishing trading signal will include:

- Publishing signal description. Signal provider may describe the method by which this signal is generated
- *Publishing python code for sample strategy
- Manual publishing of values of trading signal (for internal signal publishing)
- Chat feature will be available a certain period of time after signal value is published. Signal consumers will be able to get their questions answered in a timely manner by the signal publisher
- While chat time window is active, another signal value can be published for the same signal
- When chat with a user is initiated, the chat window indicates signal ID/Name and the value discussed
- *Automated publishing of values of trading signal (API will be provided)

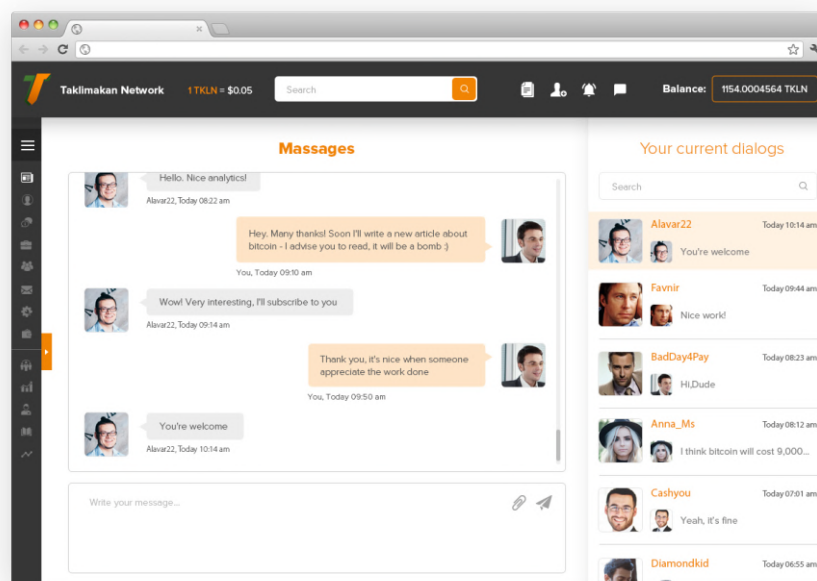
* Out of MVP scope

Platform will also provide:

- *Automated signal sharpe ratio calculation and signal search filtering by sharpe ratio
- Signal commenting and rating features will allow users to provide feedback about signals and single signal values, as well as signal providers. Rating of signal providers will be an aggregate value of user ratings
- Signal search and filtering by user signal ratio, product, provider ratio, signal quality, and sharpe ratio*

Publishing a trading strategy includes:

- Publishing description of strategy, signals, and algorithms used, as well as cryptocurrencies and assets that are used in the strategy and stock exchanges that strategy is designed for
- Publishing stock exchange descriptions and registration terms and instructions to help users acquire individual accounts on the cryptocurrency stock exchanges needed
- Every decision that investors and traders should make is published. The decision includes enter/exit conditions, specifies which cryptocurrency/asset should be used in transaction and specifies stock exchange(s) where the transaction should be made
- Platform will analyze strategy for Exchanges used and will filter out users who are not allowed to have accounts of these Exchanges due to their citizenship: Such users will not be able to see this strategy in search results or the strategy will be marked as unusable for this user



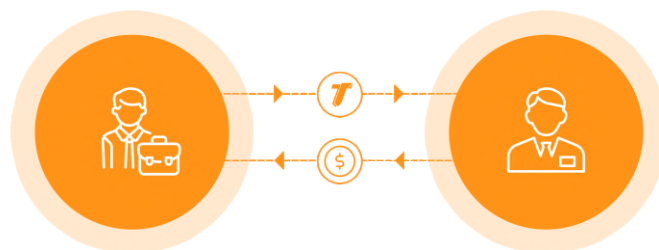
* Out of MVP scope

4.3 Asset and Fund Management

One of the main goals of the platform is to securely connect traders with investors by allowing traders to manage invested funds. First, traders will be able to customize and publish crypto asset management offer on their personal page.

Customizations include certain offer variations such as:

- Trade Instruments used
- Portfolio (cryptocurrencies and assets traded with proportions)
 - Traders may choose to utilize existing Taklimakan portfolios or create their own.
 - Traders will be required to invest at least 3% of the portfolio in TLKN tokens
- Exchanges used
- Terms and conditions between trader and investor
 - Trader commission
 - Deposit and withdrawal rules and limitations
 - Vesting periods
 - Other terms
- Dates when funds for this offer are accepted from investors
- Dates when trading starts and ends
- Minimum and maximum investment caps



Once trader published their offer or multiple offers, investors will be able to find them on the Asset and Fund Management trader search page. If investors like a trading offer, they may choose to invest.

The investment process begins with acceptance of management offer. After the management offer is accepted, it becomes management agreement, and investor needs to transfer funds from investor wallet to the wallet that is controlled by the platform. Funds may be transferred within dates defined in management offer. If maximum cap is reached before the investment end date, the investment stage is closed and no more funds will be accepted. After investment dates close, investment evaluation happens: If minimum cap is not reached, funds are returned to investors with no trader commission charged.

Platform though may charge some small operations fees to cover gas and management costs. If minimal cap is reached, trader may begin trading operations at the trading start date. Some terms in management agreement are automatically enforced by the platform. For example "Cash in if portfolio drawback becomes greater than 10%".

As traders make trading decisions, platform will automatically query information about these decisions from the exchange and publish for the investors. Investors will not see all decisions made by the trader, but only decisions related to the portfolios they are invested in. In order to protect trading secret, trader's decisions will only be published after they have executed on the market. If a decision is cancelled, it will not be published.

Besides trading decisions, current portfolio performance will be published, which includes:

- For each invested portfolio: Overall portfolio performance starting from the time of user investment, which includes current alpha, beta, and sharpe ratio, as well as historical data for these values (including graphs)
- Investor stake in each portfolio
- Performance of user investment aggregate across all portfolios (alpha, beta, Sharpe ratio current and historical data)

After trading terms are finished, traders should convert all assets / funds into a predefined withdrawal currency common for all investors such as ETH or BTC. If trader does not make a decision within a certain predefined period of time (one to three days), conversion is done by the platform.

The withdrawal amount is calculated using the following formula:

- 1 User invests X amount of a cryptocurrency in portfolio P
- 2 At the time when trading starts, investors' stakes in the portfolio are calculated using current conversion rates
- 3 At the time of withdrawal, trader's commission is transferred to trader's address and platform fees are transferred to platform address
- 4 The remaining amount is distributed between investors proportionally to their stakes in the beginning of trading so that investors share gains or losses proportionally to their investment in trader's portfolio

Some trader strategies include simultaneous trading on more than one exchange. In order to trust funds for management under such trading strategy, investor needs to accept management agreement, and transfer funds to multiple exchange wallets according to the agreement.

Before investor can accept agreement, platform will verify that adequate funds are available in investor's wallet.

Trader will receive payment for their services (trader's commission) according to the agreement. The payment will be made in predetermined cryptocurrency (ETH, BTC, and such or TKLN).

After trading is finished, Performance Information Report about portfolio managed by this trader will be generated and will affect the search results when investors search for the trader: Better performance in the past will improve trader's chances to be selected for future investments.

4.4 Internal Services

TKLN Token

Taklimakan token (TKLN) complies with ERC-20 token standard, and can be transferred to external ERC-20 wallet or traded on 3rd party trading platforms. TKLN is also the internal Taklimakan Platform currency that will be used to compensate platform users (such as analysis, traders, and trading signal providers) for their services. Initially, when users purchase or pre-purchase TKLN tokens during the ICO or Pre-sale, they receive certain amount of TKLN tokens, which they can choose to transfer to an external ERC-20 wallet or leave in their wallet to allow their circulation inside the platform.

Token Economics

TKLN token will be supported by constant stream of revenue from Taklimakan platform. Platform paid services will be priced in fixed amounts of USD and can be purchased for amounts of TKLN equivalent to USD prices according to current exchange rates. Portion of paid services payments will be spent to pay service providers such as analysts, traders, signal providers, etc.



Paid services include:



Paid Subscriptions*

- \$10 per month for Premium account
- \$25 per month for Expert account
- \$100 per month for Pro account



Trader Services

- Portfolio management
- Paid Chats



Analyst Services

- Analytical Reports
- Paid Webinars
- Paid Chats



Trading Instruments

- Trading Signals
- Trading Strategies



Educational Materials

- Articles
- Webinars
- Courses



Crowd Predictions*

- Monthly subscription
- Annual subscription

*Subscriptions can be set up as recurring payments TKLN Tokens from user address. Auto-payment will occur for the next subscription period as soon as previous subscription period expired.

How to Obtain TKLN

In order to obtain TKLN tokens, investors may purchase these tokens during pre-sale or ICO, or, after the ICO is closed on the exchange according to the current market price, where TKLN will be sold by traders, trading signal providers, analysts, or speculators. This mechanism will allow circulation of TKLN token between paid and paying platform users.

Price for the TKLN token shall be:

- Pre-sale: 30,000 tokens per ETH
- ICO: 15,000 tokens per ETH

For both the pre-sale and main sale

- Buyers have access to a bonus based on the amount they purchase. The more they purchase they more of a bonus they earn
- Buyers who purchase more than 10 ETH will be entered into a lottery which will randomly pick and pay out the top 10 buyers
- The only form of payment that is accepted is Ethereum (ETH)
- If buyer sends an amount of ETH that produces a fractional amount of TKLN, they will receive integer number of TKLN tokens that the transferred amount can buy, and the remaining fraction will be refunded

Platform will also facilitate post-ICO purchasing of TKLN from exchanges at market prices for a small platform fee.

TKLN tokens also can be obtained in exchange for services provided by platform users:

- Traders, analysts, and educators will be paid for their work
- Participation in programs such as Crowd Predictions will be rewarded

4.5 Education Services

Platform will facilitate user education for crypto assets and cryptocurrency investments. Experienced users may publish their education materials such as articles, lessons, or courses or organize webinars. Platform will facilitate course and webinar schedules. There will be free and paid educational materials. Paid materials will be available to subscribers similarly to analytics. Educators will be rewarded in TKLN tokens for every paid subscriber.

All useful materials will be collected into a well-organized knowledge base, which will provide free access to many articles. This knowledge base will be continuously supported and expanded by platform moderators, as well as educators. Educators will have capability to limit access to their articles to only paid subscribers.



4.6 Crowd Predictions

Platform will utilize crowd wisdom to predict prices of certain cryptocurrencies or ICO performance for its users.

In order to use this service, users may subscribe to it on monthly or annual basis. Subscription to crowd predictions will be paid in order to create bonus reserve for contributors.

All users may choose to participate in crowd predictions. If they do so, they will be regularly asked questions about their subjective opinion on a cryptocurrency, an asset price or ICO performance. Users will be rewarded for correct answers if their answers are statistically significantly correct. In simple words, we will prevent guessing game using mathematical statistics and reward use of deeper market knowledge.

The examples of questions are:

- What will be the price of BTC in one week?
- Will the XYZ ICO reach their goal?



Paid subscribers will see aggregated answers to the questions, which will include average answer, standard deviation of answers, and prediction probability that is based on previous predictions of similar assets and ICOs. Subscribers will also be able to add their questions to crowd predictions pool of questions.

4.7 Control and Monitoring

Centralized control and monitoring system is designed for supporting high uptime requirement and quick reaction to anomalies observed in system function.

Monitoring is done at four levels:

- 1 System Level. Data about using system resources such as CPU, GPU, RAM, Network resources and channels is collected at this level. Monitoring is done by means of selected management solution for server administration or by means of 3rd party agents for metric collection;
- 2 Infrastructure Application Level. At this level Databases, message buses, and web servers are monitored. Data about health status, activity, and degraded performance is collected. Concrete metrics are defined for each subsystem individually and its purpose and use cases are taken into consideration. Monitoring is conducted with the purpose of reliability and timely service. 3rd party agent applications configured specifically to every object monitored are used to collect metrics;
- 3 Application Level. This level monitors results of application function: Output to DB, logs, direct transfers of data to monitoring system. Special modules are embedded into applications during development for this purpose. These modules collect information in unified manner. In case if metrics collection is possible by means of collecting application artifacts (created DB records, log files, etc.) specific agent applications will be used to send this collected data to monitoring system;
- 4 Business Activity Monitoring Level. Business processes are the object of monitoring on this level. This level is used for determining of correctness of system function on the highest level, as well as monitoring changes in user behavior. Based on the analysis of information collected, decisions are made about system development and deployment of new functionality;

Each level of monitoring has its own metrics and performance indicators defined.

4.8 General functionality

Registration and Personal Information

Every user will need to register on the platform in order to access most of its features. During the registration process users will be asked for their personal data such as full name, age, photograph, citizenship, passport number, tax identification, trader resume, etc. Users may choose to remain anonymous, but it will limit their ability to access some features directly related to trading like entrusting funds to traders for management. User's personal information will be stored off-chain on the secure Taklimakan servers.

Account page on the platform's web portal will allow users to view and modify some of their personal information, as well as setup external ETH, BTC, ERC-20, etc. wallets for funds input and output.

Subscription Plans

Platform will provide several subscription plans that will allow different access levels to platform features.

- Premium plan will provide full access to educational knowledge base, advanced platform functionality (such as advanced search for experts, etc).
- Expert plan will allow traders and analysts to create mailing lists or publications, and includes tools for traders such as drawing graphs of market data, market indicators and financial accelerators. Also this plan will allow creating articles that include advanced media such as video and images, as well as provide trading tools such as trading signals and strategies. Also, expert plan includes all features of premium plan.
- Pro plan is aimed for managing traders (portfolio managers) and allows creation of investment offers. It also includes all features of premium and expert plans.

Security

- User account will be protected by two factor authentication* with a strong password.
- All users who choose not to be anonymous will have their identities verified.
- *Two-factor authentication is out of scope for MVP.

Communications

Platform will have internal communication feature that will allow users to send messages to each other. Messages may have attributes that associate them with other users, platform objects, or events such as analytics report, signal value, trader, portfolio, etc. For example, a message can be "about" this trader.

*Platform will also have integration with external instant messengers such as WeChat, WhatsApp, Telegram, Viber, etc., which will allow users to send messages outside the platform. Such messages may contain public information that is allowed to be shared with outside users such as free reports, prices, etc.

* Out of MVP scope

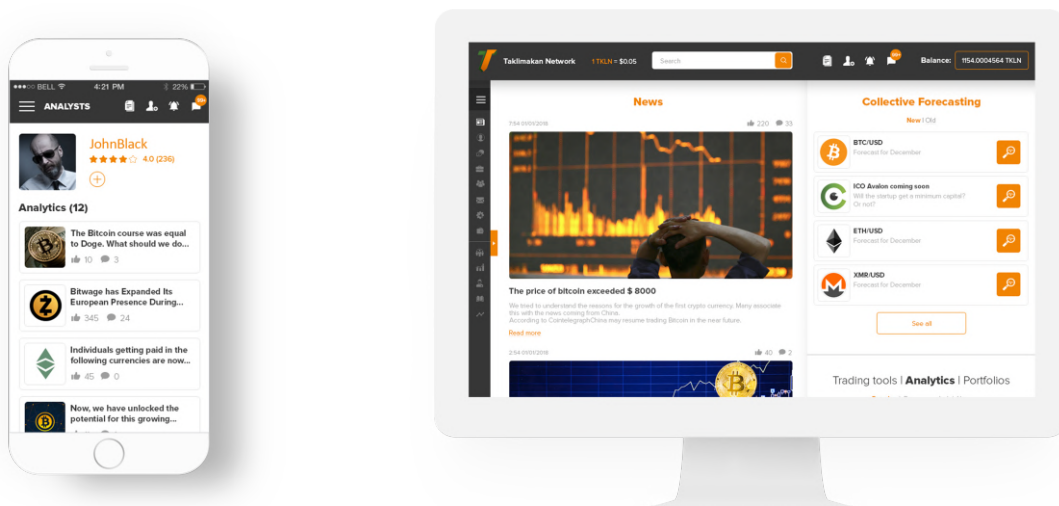
Starter Kits (Marketing Tools)

Newly registered users will receive free promotional items, which are not free otherwise. Examples of such items are free analytical reports, subscriptions of beginning levels, signal values, etc. Users will be notified about their promotional items via internal message from platform, and may activate their item in order to receive it. For example, they may press “Activate” button for a single analytical report subscription and then select the report from the list.

ICO investors will be provided with Premium subscription for 12 months, and all new users will be provided with Premium plan for 1 month.

Providers of paid items will be paid for these items at the regular rate from platform marketing funds.

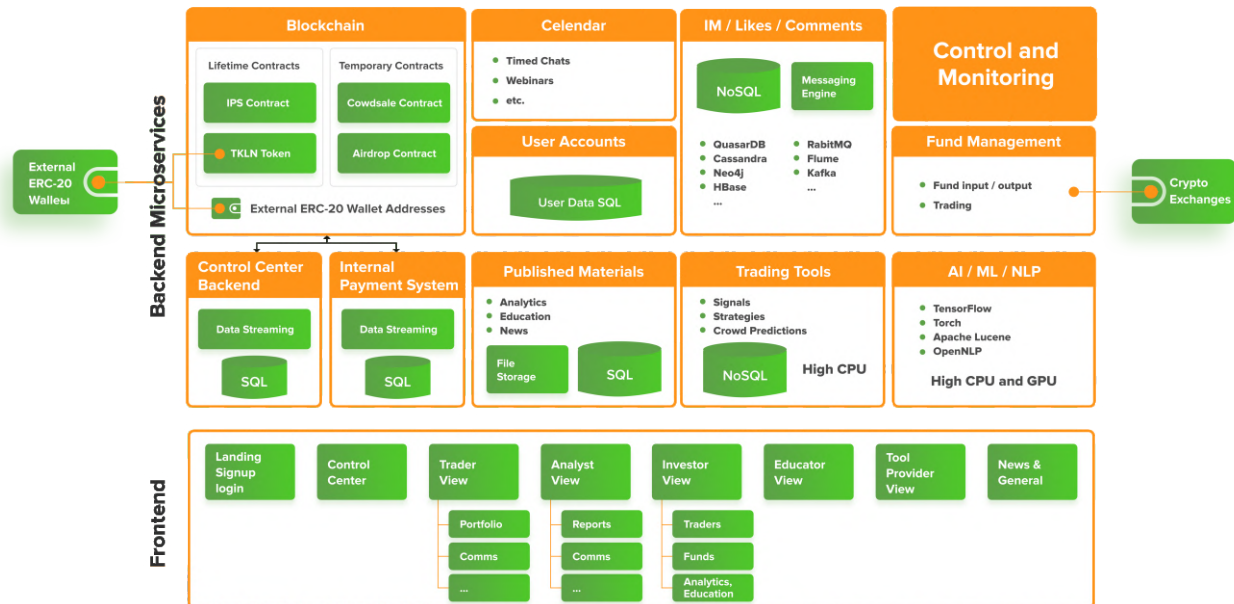
A starter kit is meant to be a promotion and will discontinue as soon as funds allocated for it are depleted.



Mobile vs. Web functionality

Platform will be available via web interface on desktop devices as well as on mobile browsers. For security and performance reasons mobile applications and web pages may have slightly different functionality.

5.7 Technical solution



Frontend

Taklimakan portal will be developed in JavaScript with use of AngularJS framework due to following reasons:

- Advanced databindings enable modern design patterns such as MVVM and MVP, which provides great flexibility and gives a good choices for architecture design
- Great performance due to direct operation with DOM and bulk Model/View updates
- Ability to create native cross-platform apps if needed
- Extended features and support

Backend

Backend Introduction

All Taklimakan backend components can be divided in two groups: Blockchain contracts and containerized cloud microservices.

Blockchain smart contracts are deployed to Ethereum blockchain and reside there during their lifecycle.

Containerized cloud microservices are deployed into a cloud infrastructure provided by a 3rd party as IaaS, utilize its services such as databases, and scale on demand. This decision is dictated by necessity to expand services on demand and deploy services in regions where most users are located. This will benefit access times and also enable Taklimakan compliance with national regulations for user data storage location.

Platform prototype will be developed with consideration of horizontal scaling requirement. Expected number of users is approximately 1,000,000 geographically distributed people. Besides scalability, this will also require balance loading. Capabilities of NGINX are sufficient for intermediate scale balance loading, and we may select Hadoop or OpenStack technology stack to enable automatic scaling, which is going to be determined after initial load testing of platform prototype.

Blockchain Contracts

There will be four main smart contracts deployed to blockchain: TKLN Token Contract, Crowdsale Contract, Internal Payment System Contract, and Airdrop Contract. Two of Taklimakan smart contracts (TKLN Token Contract and Crowdsale Contract) are developed for the purpose of ICO funding, but TKLN Token will be later used as platform currency for the whole platform lifetime. Airdrop contract will be used for initial promotion, and IPS (Internal Payment System) Contract will serve as a ledger to record token transactions when they are used as platform currency.

Blockchain smart contracts are developed in a recent version of Solidity language, the version is fixed to prevent incompatibilities. Unit testing is done in NodeJS using Truffle framework. The main reasoning behind the test framework choice was to prevent copy+paste when writing unit tests, as well as avoid limitations of test sizes.

Cloud Microservices

Microservices will be containerised in order to achieve necessary separation and performance. In order to achieve close to bare metal performance LXD or Docker containers will be selected.

Primary choices for Cloud Apps development language will be Java, C#, or Python mainly for flexibility, wide usage, support, and good integration capabilities with both SQL and NoSQL databases.

Custom configurations of concrete microservices will be described below.

Control Center Backend

Control Center is used to interact with blockchain smart contracts.

Control center backend consists of several components: Ethereum node, ethereum client, and control application. Ethereum community pretty much dictates technology choice due to extensive support of GETH - Go Ethereum Client, and Web3.JS Ethereum JavaScript API, so control application will be developed in JavaScript.

Also, Control Center will play a role of a link between blockchain and off-chain databases. If any immutable data is read from blockchain, it will be cached in the microservice database to prevent additional fees.

Event monitors will be running in this microservice in order to record events emitted by blockchain smart contracts that are relevant to the functionality of the platform. Events will be recorded in an SQL database. Also, events will be communicated to other microservices that will be able to subscribe to these events via streaming modules such as RabbitMQ, Flume, or Kafka.

Internal Payment System

IPS is used to facilitate inter-platform payments made in TKLN tokens between users and platform.

For the reasons of scalability, data integrity, and transaction support, best DataBase choice for this microservice is one of relational DBs such as PostgreSQL, MySQL, or MS SQL. This microservice will have average to high load due to number of transactions, and requires good scaling capabilities. For this reason we will utilize data sharding, slicing, and denormalization when we design and configure the DB. Also, SQL based solution is chosen due to reporting capabilities requirement and requirement to integrate with analytical tools.

Internal Payment System will utilize IPS smart contract as a blockchain transaction ledger. Smart contract will record off-chain receipt ID with off-chain transaction data hash. We will use strongest hash algorithms such as salted MD5 or SHA-512. This will guarantee data integrity of transactional data stored in off-chain database.

IPS will also allow recurring payments in the platform to enable miscellaneous service subscriptions. Recurring transactions will be initiated by the microservice on the payment date and time.

User Accounts

This microservice stores and operates information about user accounts and user data.

User data is considered to be sensitive information and will be handled appropriately. The encryption and data integrity capabilities will be driving factors in defining technology. For this reason we will consider relational databases for storage of user data.

Calendar

Calendar keeps and operates scheduling information of all platform users and events.

Certain smart scheduling features such as required gapping between events or event dependencies require custom implementation of calendar in opposite to using existing solutions from Google or Microsoft.

Transaction support and data integrity is not highly prioritized, so the priority is put on performance. For storage purposes NoSQL databases will be selected such as Cassandra, Tarantool, or Neo4j, and application will be custom developed in C# or Python to satisfy high load requirements. Additional reasoning towards NoSQL based solution is more flexible schemas, which allow creation of events of different structures and provide data access of adequate performance for the calendar application needs.

Published Materials

Published Materials stores and operates materials such as analyst reports or knowledge base articles.

This microservice includes both database for document storage and file storage. NoSQL DB such as MongoDB or, as a general solution, Cassandra, may be used for document storage. OpenStack Manila shared file storage or Hadoop File System (HDFS) may be used to implement a scalable and distributed file storage depending on the technology stack preferred at the time of implementation.

Trading Tools

This microservice facilitates publishing, managing, and generating of trading tools such as trading signals and trading strategies.

Trading Tools require high data integrity and high computational performance. This microservice will require high CPU and RAM capacity, as well as SQL database for data storage. The load on the microservice is considered to be high, so the application will be developed in C# or Python with certain high performance modules developed in unmanaged C++, possibly with use of GPU computing power.

ML / AI / NLP

Certain Machine Learning and Artificial Intelligence modules (such as TensorFlow or Torch) and Natural Language Processing libraries (such as Apache Lucene, OpenNLP, etc.) may be deployed within this microservice to empower signal providers to create state of the art trading signals and strategies.

In the future this microservice will be extended with administration module and automated re-training of artificial intelligence algorithms to enable constant improvement of prediction quality.

Machine Learning algorithms place additional requirements to storage and computational performance, which may be achieved by using respectively distributed scalable solutions such as Hadoop and Spark and GPU hardware.

IM / Likes / Comments

Facilitates inter-platform communications between users, likes, comments, and communications with non-platform external users via external messengers.

This microservice requires mainly two components: Data Storage and Messaging Engine.

Data Storage choice is dictated to be non-relational due to high level of interconnection between non-homogeneous data such as “user likes user”, “user likes product X”, “comment about product X”, “comment about user”, etc. In order to simplify technology stack, best choices will be universal no-sql databases such as Cassandra, Neo4j, QuasarDB, Tarantool, or HBase.

Engine that powers messaging can either utilize functionality of RabbitMQ as one of the most direct solutions or be implemented on top of data streaming technologies such as Apache Flume or Kafka.

Integration with external messengers such as WeChat, Telegram, WhatsApp, and Viber will be implemented using corresponding services APIs. Also, in order to enable broadcast messaging, integration with social networks such as Facebook and Twitter will be implemented.

Fund Management

Fund management microservice will play the role of coordinator between Traders, Investors, and external Exchanges.

Information handled by this service is highly sensitive, so data integrity for this microservice is prioritized over performance. For this reason SQL database will be preferred for data storage, and Python or C# will be chosen for the reason of integration simplicity.

In order to display information about current portfolio management performance, input and output funds to/from external exchanges, and control trading activities, Fund Management microservice will integrate with external Exchanges via RESTful, WebSocket, or FIX interfaces, depending on the frequency of communication and external exchange support.

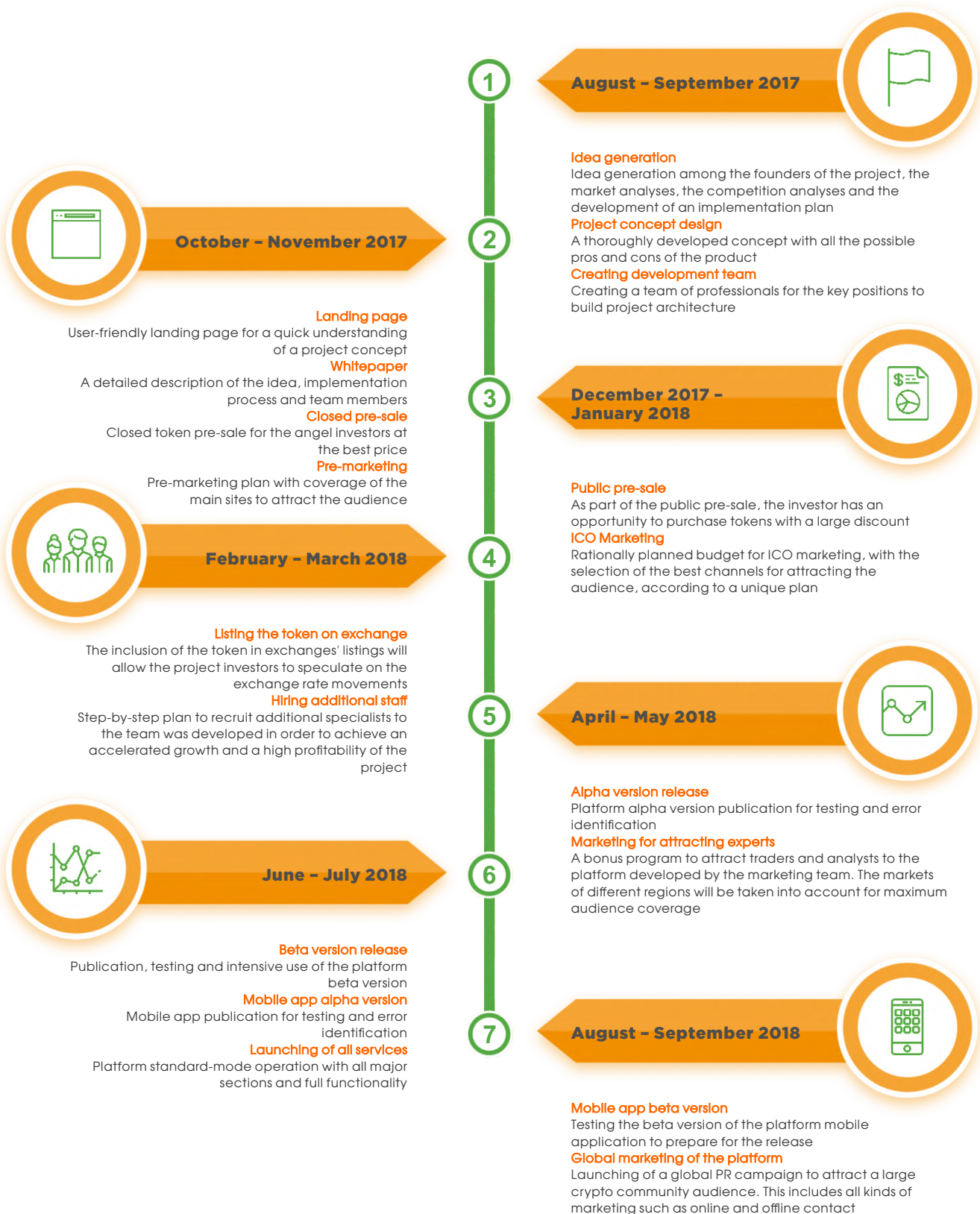
Control and Monitoring

Control and Monitoring system will be implemented with use of Elastic stack applications and services:

- Logstash. Logstash is a dynamic data collection pipeline with an extensible plugin ecosystem and strong Elasticsearch synergy.
- Elastic search. Elasticsearch is a distributed, JSON-based search and analytics engine designed for horizontal scalability, maximum reliability, and easy management.
- Kibana. Kibana gives shape to your data and is the extensible user interface for configuring and managing all aspects of the Elastic Stack.

6.7 Road map

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An international team of professional investors, traders, analysts, marketers and blockchain developers.



Yong Ming Hong

Managing Partner | Co-founder

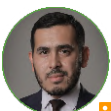
Blockchain evangelist and professional expert in conducting detailed financial and economic analysis and evaluation of investment projects. Has significant experience in conducting pre-investment analysis on technological startups. Monitored and conducted an in-depth analysis of Asian markets. Participated in the development of fintech projects in Asian markets. Entrepreneurial experience specializing in online business in the Chinese market since 2004.



Rashid Yussup

Managing Partner | Co-founder

An experienced investor with more than 9 years of experience in financial markets. Founder of the investment focused on asset management. A high professional in developing trading strategies and building investment portfolios. The ideological inspirer and innovator of IT projects, with experience more than 5 years. He invests in the cryptocurrency market since 2014. More than 8 years of entrepreneurial experience in the offline business in UAE and Kazakhstan. Professional hobby – film directing.



Rustam Kairy

Managing Partner | Co-founder

An entrepreneur, private investor, social and political activist. Over the course of his career he managed complex projects and was actively engaged in business development. More than 8 years invests in securities and currencies. 7 years of experience in creating and promoting online businesses in the markets of Kazakhstan. He started to study and invest in the cryptocurrency market in 2015.



Gregory Zaitsev

Project Manager

Responsible for Project, requirements and architecture management of blockchain solutions. Gregory has overall experience in software development over 17 years, which includes 4 years in information security, 10 years in PM/team lead role in US R&D centers of Lenovo and ARCA, as well as application development for Linux, Windows, and Android. Representative of UseTech.



Constantine Pozdnikin

Front-end / Full-stack Developer

With 10 years of IT experience, Constantine specializes in front end development. He has deep experience in technologies like Angular, React, jQuery, JavaScript, Node.js, PHP, MySQL, PostgreSQL, Redis, RabbitMQ, Mongo, CSS, HTML5, and others. Representative of UseTech.



Sinichkin Alexander

Back-end / Full-stack Developer

With 7+ years of IT experience, Alexander is specialized in developing in back-end development in Python. He has deep experience in technologies like Python, Django, AioHTTP, Tornado, Postgres, Mongo, Celery, Redis, and others. Representative of UseTech.



Viktoria Kovalenko

Community Relations Manager

Excellent skills in planning, organizing and maintaining workflow for senior management. She is also responsible for the preparation and visualization of different work materials, organization and support of negotiation processes and meetings.



Venera Osman

Marketing Manager

Supervised and managed projects in different market segments with various degree of complexity. Her extensive experience includes: conducting research on markets and industries, analyzing competitors, developing marketing strategies, evaluating and optimizing marketing systems, developing scenarios for business negotiations.



Aysilu Khayrullina

Business Analyst

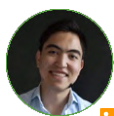
Responsible for Product requirements – design, description and management of business processes. Having an Associate degree from "Yeongjin College (Seoul, Korea) and a BSc in Data Analysis from Innopolis University (Kazan, Russia) Aysilu is a key team member in charge of research of users/customers needs, identification of important software functionality and detailed structuring of that functionality, all elements of the successful product design. Representative of UseTech.



Andrey Zaitsev

Smart Contract Developer | Architect

Blockchain entrepreneur and enterprise architect. Has over 11 years of experience in commercial software development, including distributed information processing systems. He worked four years on managerial positions. Faculty of Cybernecs of MTU. Representative of UseTech.



Berik Yernazarov

Financial Analyst

Great experience in managing and analyzing portfolios of bonds, equities and derivatives. Successfully graduated from the top ranked British university Cass Business School and was recognized as the best student of the university in 2015. He worked for Russell Investments, one of the largest investment firms in the world, as an analyst for the government and corporate bonds market and also replaced the portfolio manager when required. Has an experience of managing a portfolio of 2 billion USD. Moreover, he also achieved good results in trading with cryptocurrencies and in the construction of an optimal portfolio with the best risk/return characteristics.



Maralbek Zeinullin

Business Communication Manager

Responsible for business negotiations. Also engaged in administration of the community of the project and the news portal as a part of consulting the English-speaking audience. With a Bachelor's degree from the University of Arizona (USA) and work experience at Nazarbayev University, Maralbek is a key member of the international cooperation team.



Birzhan Belgozhaev

Internet Marketer

The founder and director of the agency performance-marketing Genesis Company. Internet marketer with experience more than 7 years. Engaged in the construction and automation of the marketing department and sales department. Agile specialist. Analyst.



Denis Purgin

UI/UX Designer

Has an experience in design of more than 3 years. Art director and acting teacher of UX design in the Indigo agency. More than 150 completed projects. 50 trained designers. He cooperated with such customers as Bond cigarettes, mobile operator MTS, Icos, Total and Elf engine oils.



Ramin Abdusalam

IT Specialist

Web-developer, an expert in the information technology, programmer, administrator of networks and databases, moderator. Has a rich experience in the field of information security.



Ramil Japar

Platform Tester

Developer of software and applications. Testing Wizard platforms by developing a set of functions to search for inconsistencies in applications and devices. Banks and large companies that produce mobile applications for the operation of their systems are amongst his clients.



Dmytro Krupych

Account Manager

Responsible for coordination of employees' work schedule and its timely execution. Also has an experience in the management of competitiveness. Specialist in investor relations.



Lei Ling

Social Media and PR - China

Highly qualified specialist in the fields of digital social media, mass media and network communication services. Also has an experience in conducting PR campaigns in China, bringing the product development to a new level.

7.1 Advisors



Alexander Mitrovich

Advisor & Developer Relations

IT Executive with over 15 years of managerial experience in Global Technology Services and an entrepreneur who built several successful small and medium size international businesses. Blockchain enthusiast since 2015, Alexander builds the Blockchain Practice and runs Global Operations at USEtech, a 250+ person Software Development company. Having a MS in Engineering, and an MBA, as well as completing TGM Executive Education at INSEAD, Alexander started his IT career with FAME (now Sunguard) in New York. After that he was part of the Management team that built Luxoft (NYSE:LXFT), one of the largest Software Development companies to come out of Eastern Europe by serving top-tier Investment Banks like UBS and Deutsche Bank, Manufacturing and Energy companies. Prior to joining UseTech, Alexander created several EdTech startups and ran an IT consultancy.

8.7 Pre-sale and ICO conditions

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Token information _____ Taklimakan Network
Token symbol _____ TKLN
Token standard _____ Ethereum ERC20

Token price at Pre-sale _____ 1 ETH = 30 000 TKLN
Token price on ICO _____ 1 ETH = 15 000 TKLN

Token supply at Pre-sale _____ 100 000 000 TKLN
Token supply at ICO _____ 550 000 000 TKLN
Total token supply _____ 1 000 000 000 TKLN

Soft cap _____ 3 333 ETH
Hard cap _____ 36 667 ETH
Accepted currency _____ ETH

Date of the Pre-sale _____ 12 December 2017 10:00 UTC – 12 January 2018 10:00 UTC

Date of the ICO _____ 20 January 2018 10:00 UTC – 20 February 2018 10:00 UTC

Benefits for the ICO investors

- Attractive price of the token as well as receiving free premium account registration for 12 months as a bonus.
- Buyers have access to a bonus based on the amount they purchase. The more they purchase they more of a bonus they earn.

BONUS SCHEDULE

Tier	ETH payment (Lower Bound)	Percentage Bonus	Tier	ETH payment (Lower Bound)	Percentage Bonus
Tier 1	ETH 3	1.00%	Tier 6	ETH 150	6.00%
Tier 2	ETH 7	2.00%	Tier 7	ETH 250	7.00%
Tier 3	ETH 15	3.00%	Tier 8	ETH 500	8.00%
Tier 4	ETH 30	4.00%	Tier 9	ETH 750	9.00%
Tier 5	ETH 75	5.00%	Tier 10	ETH 1,000	10.00%

- If buyer sends an amount of ETH that produces a fractional amount of TKLN, they will receive integer number of TKLN tokens that the transferred amount can buy, and the remaining fraction will be refunded.
- Buyers who purchase more than 10 ETH will be entered into a lottery which will randomly pick and pay out the top 10 buyers.



Pre-sale and ICO conditions

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LOTTERY TOKENS					
1. Buyer's who spend ETH 10 or more in either the main sale or pre-sale are entered into the lottery.					
2. 1,000,000 TKLN tokens are allocated to a lottery wallet.					
3. These tokens are to be subsequently awarded and transferred to the winners of the pre-sale lottery according to the allocation shown in the table below.					
4. The tokens will be locked for 90 days, which begins when the main sale is concluded.					
Lottery Place	Share of Prize	TKLN	Lottery Place	Share of Prize	TKLN
1	30%	300,000	6	7%	80,000
2	20%	200,000	7	6%	70,000
3	10%	100,000	8	5%	60,000
4	9%	90,000	9	3%	30,000
5	8%	90,000	10	2%	20,000

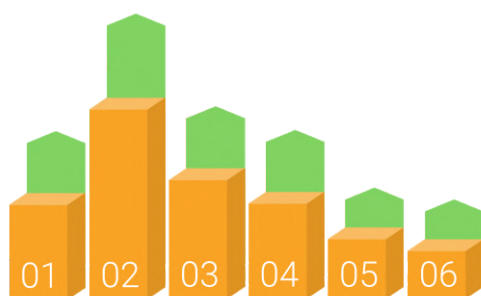
Other conditions

Proceeds from the Pre-sale will be used for:

- Preparing and conducting a comprehensive marketing campaign for the ICO
- Engaging professional lawyers to resolve any legal issues associated with the ICO

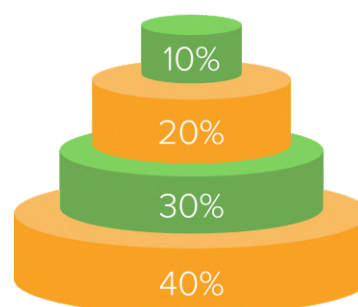
Tokens that were not placed during the ICO will be burned.
Issue of additional tokens is prohibited.

8.1 ICO structure



Distribution of tokens

1. Pre-sale - 100 000 000 TKLN
 2. ICO - 550 000 000 TKLN
 3. Team, Advisors and Early investors - 180 000 000 TKLN
 4. Platform Reserve - 100 000 000 TKLN
 5. Strategic Partners - 50 000 000 TKLN
 6. Bounty and Promotion - 20 000 000 TKLN
- Total - 1 000 000 000 TKLN



Distribution of funds

- 40% - Software Development
- 30% - Marketing
- 20% - Administrative expenses
- 10% - Legal costs

THE ACQUISITION OF TOKENS IS ASSOCIATED WITH A HIGH DEGREE OF RISK. BEFORE ACQUIRING TOKENS, INVESTORS ARE ENCOURAGED TO CAREFULLY EXAMINE ALL THE INFORMATION PRESENTED IN THIS DOCUMENT BY TAKING INTO ACCOUNT THE FOLLOWING RISKS:



Limitations of the smart contract

The technology of smart contracts is still at an early stage of development and its application is of an experimental nature. This can lead to significant operational, technological, regulatory, reputational and financial risks.



Regulatory and legal risks

Blockchain is a new technology in some jurisdictions and might be subject to regulation and be the cause of any restrictive laws and regulations. It is possible that this may lead to the need to adjust the work of the company in such jurisdictions. TKLN tokens may be subject to regulatory supervision in some countries, including restrictions on the use or possession of digital tokens, which may slow or limit the functionality or redemption of TKLN tokens in the future.



Technological risks of the Ethereum platform

TKLN tokens will be issued on the Ethereum blockchain platform. Therefore, any malfunctioning of the Ethereum protocol may lead to the fact that the trading network of TKLN tokens may work in an unpredictable manner. If this risk arises, the Fund will not be liable for any potential losses incurred by investors.



Risk of losing investments

Funds raised on the ICO are not insured. In case of loss or loss of value, there is no private or public insurance representative to which investor can apply.



The risk of using new technologies

In addition to the risks mentioned in this document, there are additional risks that the Fund team can not foresee. Such risks may materialize in other forms of risk, other than those specified in this document.

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11.7 **contacts**

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NETWORK

If you have any questions about Taklimakan Network, Our team, Private investing or Partnership, feel free to reach out.



taklimakan.io



info@taklimakan.io



t.me/taklimakan_news



t.me/taklimakan_en



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[wechat support](#)

