



BMCHAIN White paper



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*Current version of White Paper should not be considered final and can be modified. Final parameters and data will be presented several days before ICO start.

1. About project

The project presents a decentralized platform for active participants of the largest business community in Russia and the CIS, which will allow to apply in practice the advantages of blockchain technologies. An ability to create your own blockchain application for any business with the necessary logic based on the developed TokenAPI solution without the need to study the technical level of blockchain will be an additional feature of the BMCHAIN platform. The web and mobile applications are used as the interfaces for user interaction.



Starting from 2016 Analytics Insight and Biznes Molodost companies have been collaborated in the research of blockchain technology for efficiently solving the tasks inside BM community which is at the moment the biggest network of entrepreneurs in Russia and the CIS with over

300 000 active participants from 13 countries. Having analyzed the opportunities for usage of existing blockchain solutions in IT infrastructures, the developers team came to conclusion that their application significantly reduced the cost of integration, maintenance and scaling of IT infrastructure for big socio-economic systems.

The BMCHAIN platform's work will be based on the high-productive industrial blockchain that will significantly reduce the cost of financial and communication transactions within IT system and effectively address the business needs requested. For example, the average transaction cost for such major payment systems as VISA or MasterCard is from 0.5 to 7 cents. The introduction of the blockchain system with comparable capacity (24000 / sec) into payment processing systems allows reducing the cost of one transaction by 2,500 times to an extremely low level of 0.0002 cents, without compromising the reliability of transactions.

Taking into account that breakthrough solution requires not only application of mathematics and cryptography, but also significant volume of researches in the area of social interaction, it's of great importance to have the opportunities for modelling and practical verification of various schemes of economic stimulus which allow the participants of the platform to efficiently use their resources in order to reach stable positive results. Biznes Molodost company succeeds in carrying out social researches having one of the largest and most active entrepreneurs audiences in the world. The website of the project is visited by over 1 800 000 people per month with the total number of participants approaching to 2 millions. In February 2017 the world business-marathon called "Struggle", held by Biznes Molodost, gathered 120 000 people and was nominated by the Guinness World Records.

The line of educational business products is in great demand not only among successful businessmen, but also among those who just start thinking about their enterprise launch. Business courses and

tutorials have been already visited by over 240 000 people which continue to actively participate in other projects of the company. Having expertise in teaching big groups of people to apply digital marketing tools and understanding blockchain advantages as well as its practical utility for people and businesses, Biznes Molodost is seeking to make blockchain integration and application extremely simple and understandable for ordinary users with no need to think through the technical peculiarities of the revolutionary technology.

The essential quality of blockchain technology planned to be applied in the own platform is inalterability of the information stored, which allows instantly and accurately evaluating the risks during the process of making transactions by the participants of the community, as well as realizing the efficient system of automated arbitration with minimal time and financial costs. According to the project founders properly organized architecture makes processing thousands of transactions per second absolutely free for the users with the guarantee of trustworthiness and verification. The operation doesn't require manual control and is fully automated, which makes such IT systems step to the new level of functionality and trustworthiness closed before.

After the successful pilot project as a part of which one of the business training courses has been launched on the BMCHAIN platform, the founders decided to start expanding the use of the system, which instruments would allow monetization and encouragement of each participant's activity useful for the ecosystem. The service is planned to be integrated into the business processes of thousands of entrepreneurs in Russia with subsequent expansion into foreign markets.

The implemented functionality will allow thousands of people and entrepreneurs to share their experience, resources, capabilities and knowledge by writing posts, voting and commenting, thus getting a real value expressed in digital tokens of the system, easily convertible into other types of digital property and fiat currencies. Rewards can be received not only by the participants who demonstrate useful activity, but also by those who estimate their contribution.



The platform will be extremely simple and understandable for usage even for those who are not familiar with blockchain technology. Users will be involved in the process in such a way that they begin to intuitively take advantage of blockchain and cryptocurrency.

The effectiveness of the interaction with the system and the value of the user's contribution in its development will be determined by the digital reputation. This coefficient is planned to be used for the calculation of the pool volume necessary for rewarding the users for their activity valuable both for the system and other participants. For the calculation of the system value the total reputation of all the community members will be taken into account. The other parameters will be calculated with the help of the platform's own patented econometric software called "Midas" to ensure that the main quality parameter reaches its maximum value with minimal resource costs.

Secure storage of significant data and files volumes will be provided by the decentralized IPFS file system.

The main peculiarities and uniqueness of the solution we are developing are the focus on the real

tasks and business processes existing now. The implementation of a number of existing projects based on the blockchain will make their operation cheaper, easier and more reliable. Entrepreneurs do not need to know all the parameters of the system, they need it to be simple, reliable and for less money.

It's expected that the platform development will allow effectively accumulate and exchange various types of digital assets, provided with goods, services, knowledge and other verifiable resources of participants in the system.

1.1 Main idea

The main idea of the project is to measure, preserve and monetize the value (benefit) that arises in the process of communication between people and is expressed as a change in the reputation coefficient.

Keeping the information about communication and monitoring the change in productivity, it is possible to effectively evaluate each participant's potential value for the system and its members, which can be expressed by the reputation coefficient.

Reputation is used as the main multiplier determining the size of the reward received by the user from the system and its participants.



1.2 Main advantage

Biznes Molodost community includes thousands of successful entrepreneurs providing a large number of goods and services which are demanded by real people and can be obtained in exchange for BMT tokens.

Many of these entrepreneurs have already signed the agreement on joining the «Blockchain-based loyalty system» project, which would be one of the applications using the platform's capabilities. Under the agreement the platform provides an opportunity to pay for goods or services using BMT tokens.

The partner accepting tokens for the payment is offered the automated possibility of conversion of the tokens received into roubles. To accept tokens the system participant must provide users with a list of goods or services including a real discount of at least 20%. The reputation of the partner providing quality products or services in exchange for tokens starts growing along with the bonus tokens credited for the usage of the system and the number of partner's incoming and outgoing transactions. The amount of bonus tokens obtained when making transactions depends on the reputation of the user and the partner. The efficiency of calculating the sum of additional tokens is being tested currently, at the moment.

1.3 Project structure

The BMCHAIN project is an integrated system with its own infrastructure, social and economic mechanics, implemented with the help of blockchain technology.

The central part of the system is BMCHAIN Core, which implements basic social and economic mechanics, stores information in the blockchain system and interacts with external systems through API.

The following BM services will be connected to the platform primarily:

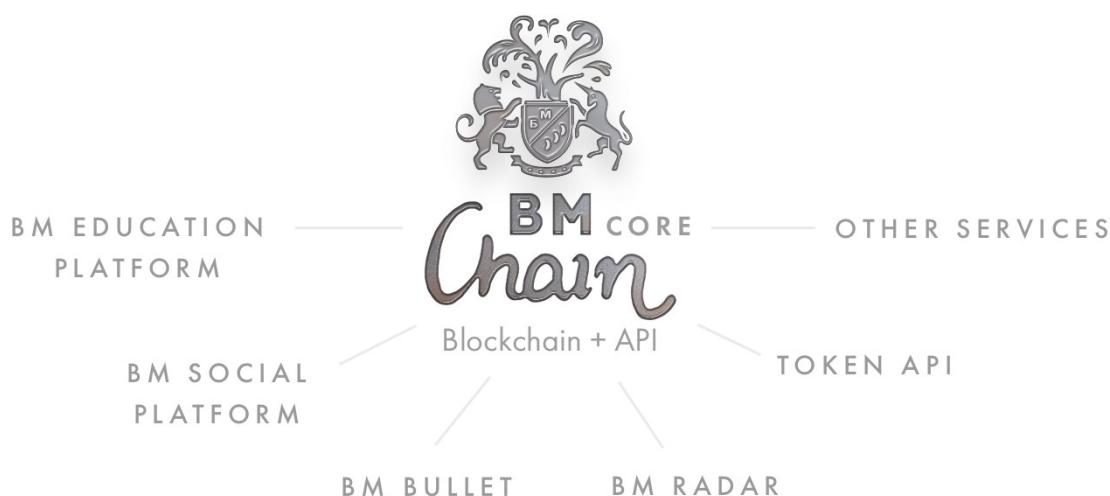
BM Educational Platform - the BM software platform, where educational programs are conducted. Each participant has a personal account, through which he or she studies, performs tasks of the training course and analyzes the statistics of the progress.

BM Social Platform - the BM social platform developed for the business community, where participants can introduce themselves and their business, communicate with other participants and get new useful business contacts.

BM Bullet - a simple and intuitive landing page designer, through which you can create high conversion sites in a couple of clicks.

BM Radar - a mobile business contact application that organizes meetings using geolocation.

TokenApi - a simple tool for creating your own token on the Ethereum blockchain platform in 3 clicks.



These projects will accept BMT token as a reward for the services rendered. Besides, any project connected to the BMCHAIN platform will be able to independently charge BMT tokens to its users in case the economic mechanics of the project allows it.



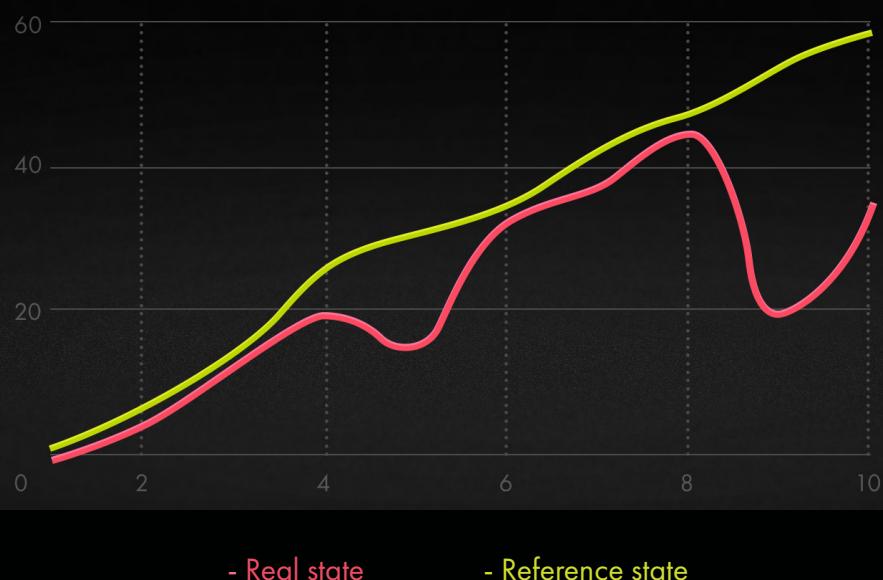
In the future, it is planned to organize open access to API and give an opportunity to everyone who wants to participate in the formation of a new digital economy, based on the contribution of each community member.

1.4 Economic regulation of the system

Any socio-economic system has a set of parameters that reflect its current state. The regulation of the key parameters of the system is one of the main tasks aimed at ensuring the most efficient functioning and sustainable development of the system. Sustainable development means the process in which all elements of the system function consistently and at the same time interact with each other, thereby ensuring a high level of productivity and quality.

With the application on the BMCHAIN platform of the experience and know-how accumulated by Analytics Insight company in the field of machine learning and data analysis, an effective algorithm will be implemented to support the functioning of the system. The main tasks of the algorithms are the analysis of the current parameters of the system and decision-making on changing the parameters of the system based on the analysis results. The analysis of the current parameters of the system is performed using an innovative approach based on the method of eigenstates. When using the method of eigenstates, the system can be described at any time by a weighted combination of eigenstates. Thus, the state of the system is described not by a set of initial factors, a set of principal components, but each major component already reflects not a separate initial indicator, but a group of initial indicators (the system's eigenstate).

Within the framework of this model, the indicators of the system vary in proportion to the weight coefficients of the eigenstate and their values depend on one factor.



The state of the system at any time is described by the values of some indicator of its activity. If we mark the values of the variables x_i on the axes of a rectangular coordinate system in n -dimensional space, then the state of the system will be described in this space by some point. Considering the values of indicators as the coordinates of a point in an m -dimensional space, one can geometrically represent the corresponding state of the system by means of this point in space. Such a point is often called a phase point, and space is called the phase space of the system. The temporal change in the state of the system is depicted as the motion of a phase point along some line (the so-called phase trajectory).

The trajectory of sustainable development of the system will consist of states that meet the requirements of sustainable development of the system. Trajectories of sustainable development of the system in the state space can be considered as target trajectories, to which the actual states of the system should seek to ensure their sustainable development. Deviations of the real trajectories of the system development from the target trajectories can be interpreted as a measure of the system development instability and used to assess its stability.

The methodology for building the system economic sustainability model includes the following steps:

Forming a set of indicators describing the development of the system. Indicators should describe all processes. All indicators should be normalized. Normalization includes the elimination of errors, missing data, as well as the alignment of indicators variation range (that is, indicators should vary in one range of numbers, for example, from 0 to 1000).

Formulation of the requirements of the economic stability of the system, representing either restrictions on the changes in a number of indicators or a set of indicators of stability with their normative values. Most often, the system of indicators of economic sustainability includes ratios of liquidity and solvency, financial stability, business activity, profitability. The choice of sustainability coefficients depends on the aspect of economic sustainability analysis, the scope of activity and the size of the system.

Calculation of the eigenstates of the system. The weighting coefficients of the eigenstates are determined by the eigenvectors of either the covariance matrix or the matrix of the initial second moments of the set of parameters. When calculating the covariance matrix, a centered set of parameters is used. As the distribution center, the average arithmetic values of the indicators are used. When calculating the matrix of the initial second moments, the initial set of parameters without centering is used. The eigenvectors of the matrices are calculated by Householder's method. Each eigenvector has the same dimension as the vector of the system state, and the coefficients of the eigenvector are interpreted as the weighting coefficients of the eigenstate parameters. Thus, each eigenvector describes the eigenstate of the system, which characterizes a certain tendency of its development. All the selected eigenstates are independent (the first property of eigenstates), i.e. the development of one tendency (eigenstates) does not affect the

development of other tendencies (eigenstates). Therefore, the removal of some eigenstates does not lead to changes in other eigenstates. Within each tendency (eigenstate) the indicators vary in proportion to the weighting coefficients of the eigenstate (the second property of eigenstates).

Building of the sustainable development model based on the eigenstates obtained in the previous step. During the modelling the compliance of eigenstates with the requirements of sustainable development of the system is checked.

If the requirements are presented in the form of restrictions on the changes of a number of indicators, then the compliance of the changes in the initial parameters within each eigenstate with the requirements of the system economic sustainability is checked using the second property of eigenstates.

If the requirements of sustainable development are presented in the form of sustainability indicators with their normative values, then for each eigenstate the values of the indicators are calculated. Let the stability indicator represent the ratio of the exponents x_i and x_j .

Within the h -eigenstate the values of these parameters are determined by the formulas $x_{ki}^h = V_{hi} Z_{kh}$ and $x_{kj}^h = V_{hj} Z_{kh}$, where V_{hi} — is the coefficient of the h -eigenstate of the i -exponent, Z_{kh} — is the principal component of the h -eigenstate for the k -observation. In this case the coefficient of the process sustainability described by the h -eigenstate is calculated as $K_h = V_{hi} Z_{kh} / V_{hj} Z_{kh} = V_{hi} / V_{hj}$. Thus, the sustainability index of the h -eigenstate is equal to the ratio of the weighting coefficients x_i and variables x_j . Comparing the value of the indicator with its normative value, it is decided to choose the eigenstate for the model of sustainable development.

The selected eigenstates are used to form the system economic sustainability model (reference model). The obtained model is an idealization of real activity and serves as a benchmark for the system under study from the point of view of the stability of its development.

The sustainable development model uses the trajectories of sustainable development of the system to determine the coordinates.

$$x_{ki}^{et} = \bar{x}_i + \sum_{f=1}^p V_{hf} z_{kf} \quad (1)$$

where $h=l(f)$, $l(\dots)$ — a list of numbers of eigenstates, p — the number of eigenstates used for modelling.

To assess the system development sustainability, it is offered to use complex indicators of sustainability. The values of complex sustainability indicators are determined by comparing the actual and reference values of the indicators by means of the penalty function method. The reference values of indicators are calculated using the system sustainable development model according to the formula (1).

The value of penalty functions depends on the type of indicators (cost and result).

If the value of the cost indicator exceeds that of the reference one by a given level, this excess is

considered a sign of inefficiency and is measured by a penalty function equal to:

$$f_{kj} = \left| (x_{kj} - x_{kj}^{et}) / x_{kj} \right| - \varepsilon_{don} \quad (2)$$

where j — value index, k — observation number, ε_{don} — acceptable deviations.

If the value of the effective indicator is lower than the value of the reference one by a given level, then this result is also considered a sign of inefficiency and is measured by the penalty function calculated by formula (2).

Thus, the main task of the system management is early detection of deviations destabilizing the activity and identification of possible threats, investigation of their sources and causes as well as their elimination, aimed at maintenance of economic sustainability.

System sustainability complex indicator can be calculated according to the formula:

$$I_y = I - \bar{f}_k \quad (3)$$

where \bar{f}_k — mean square value of indicators' penalty functions, which is calculated according to the formula:

$$\bar{f}_k = \sqrt{\frac{1}{r} \sum_{j=1}^r f_{kj}^2} \quad (4)$$

In the formula (4) f_{kj} — is the value of the penalty function of j -indicator for k -ro observation, r — a number of indicators used for building the complex indicator of sustainability.

1.5 Project privileges

We are developing the platform through which people with real value for society will be able to access the resources necessary for them and achieve maximum productivity. The major part of BMCHAIN's economy is based on the reputation. Both users and projects will possess the reputation.

The more the participant contributes to the community, the faster their reputation grows. The higher the participant's reputation is, the more tokens will be credited to him by the system. The participant's reputation is determined by the amount and quality of all user's interactions, so the evaluation that will be obtained using this method can be considered more objective in comparison with other evaluation systems.

1.5.1 For active participants

Any active participant will be able to access the resources of the community without investing their own money, providing others with the following types of benefit claimed: knowledge, assistance, work or other actions recognized by the community as useful. The degree of this utility is estimated by the community itself. For example, after writing a useful article about the rules for compiling a high-conversion advertisement, a participant can receive a number of tokens from the community, through which one can create their own site on a specialized service connected to the platform. In addition to tokens, the participant increases their reputation for being active.

Social mechanics of the system is arranged in such a way when assessing the material the participant transfers a part of their reputation to the author of the material being evaluated. Having prepared a high-quality and up-to-date material, the participant can get a positive evaluation from a respected member of the community and thereby substantially increase the reputation.

All received BMT tokens can be used by any participant at their own discretion, including withdrawal to a personal wallet.

1.5.2 Investment attractiveness

Unlike most projects that attract funds through crowdfunding, the business community Biznes Molodost has been existing and developing steadily for over 7 years. The company is represented and conducts its courses in more than 780 cities all around the world. The audience of the project is more than 2 million participants. The number of permanent active members of the community is over 200 thousand increasing each month.

Since 2016 the project team has been testing the developed concepts and technical functionality on the real already existing Biznes Molodost loyal audience consisting of more than 2 million participants. This approach allows to get the promptest feedback from the most progressive layer of society - entrepreneurs - and not only develop the project in terms of technological and conceptual perfection, but also constantly improve its economic efficiency.

The value of BMT tokens is likely to multiply with a high probability, since the BM value and its effectiveness have already been proven by numbers and easily verifiable facts.

BM brand unites the largest and most active community of entrepreneurs in the CIS consisting of more than 250,000 entrepreneurs, whose total assets exceed \$11.4 billion.

Currently BM courses are translated into English, Spanish, and Chinese; IT platform has been developed in order to automate the learning process; BM projects are actively developing, constantly expanding, that gives good chances to have the leading positions in the world ranking of business-applied education.

The unique experience of mass launch of advanced digital solutions with more than 20 courses launched, which are used on free and paid basis by more than 2 million people.

The ability to earn not only on the capitalization growth, but also participating in company's projects and community development.

Only at the first stage of the project implementation more than 100,000 participants were involved.

Just during the first year the audience of the project only in Russia will be more than 500,000 people.

BM is one of the largest well-structured communities and on this basis it is possible to quickly undertake sufficient research in order to create the most effective communication tasks platform in the world of blockchain.

1.5.3 For partners and developers

BMCHAIN Core API provides the ability to integrate any online and offline services that will participate in the community economy and use BMT token as a value carrier. The BMCHAIN project will be launched within the Biznes Molodost community and integrated with its internal projects initially.

After the complex testing of the platform and preparation for work with external services, full access to the documented API will be available.

1.6 Project goals

The main concept of the project is to create user-friendly information environment - the system, which combines the advantages of blockchain and the latest mathematical methods of sustainable development, that will allow participants to reach a high level of personal and social productivity in a short time. An obligatory function of the system will be the ability to convert personal utility expressed by a personal reputation factor into financial asset types.

2 BMT token

The main BMCHAIN value transfer tool is BMToken (BMT)

Tokens distributed during ICO will allow all its holders to exchange generated on Ethereum blockchain BMT tokens (ERC20) to BMT tokens created on a separate blockchain in the ratio 1 to 1 after the development and start of the BMCHAIN platform based on the industrial blockchain. Some mechanics implemented into a separate blockchain through which the BMCHAIN platform will operate can be tested in terms of separate projects carried out using Ethereum smart contracts.

2.1 Distribution of tokens

1 000 000 000 BMT (100%) - the maximal amount of tokens

- 700 000 000 BMT (70%) - the maximal amount of tokens issued for the distribution during ICO
- 200 000 000 BMT (20%) - the maximal amount of tokens issued for the fund of participants of the affiliate program, bounty, system maintenance.
- 100 000 000 BMT (10%) - the maximal amount of tokens issued for the fund of founders and developers of the platform.



2.2 Issue of tokens and distribution mechanism

The initial issue of tokens is generated using a smart contract based on the Ethereum blockchain platform. The address of the smart contract for the distribution of BMT tokens will be published before the start of ICO (token distribution).

The distribution of tokens is divided into 6 periods.

The price of tokens for each period is given in the table below.

ICO schedule

Period	BMT price, ETH	Discount	Terms
Private presentation	0,000064	55%	14 Aug 2017 - 16 Aug 2017
Pre-ICO	0,000071	50%	20 Aug 2017 - 09 Sep 2017
1 period	0,000107	25%	10 Sep 2017 - 19 Sep 2017
2 period	0,000114	20%	20 Sep 2017 - 24 Sep 2017
3 period	0,000121	15%	25 Sep 2017 - 29 Sep 2017
4 period	0,000143	0%	30 Sep 2017 - 10 Oct 2017

Parameters of BMT token

Name: BMToken

Token symbol: BMT

Max tokens amount: 1 000 000 000 BMT (1 billion)

Token standard: ERC20

BMT tokens can be easily transferred between all the participants using Ethereum network addresses.

2.3 How to get tokens

There are several ways to get BMT tokens:

Purchasing BMT tokens during ICO (token distribution);

Purchasing BMT tokens on the exchanges;

Social activity within the BMCHAIN platform (writing articles, actively discussing and evaluating materials, completing assignments);

Assisting in the testing, development and promotion of the project (rewards from the bounty fund);

Active participation in projects integrated into the BMCHAIN platform.

2.3.1 Obtaining BMT tokens

To obtain BMT it is recommended to use the token distribution interface available on the site <https://ico.bmchain.io>.

The process of obtaining BMT tokens consists of 2 stages:

It is necessary to send not less than 0.1 ETH to the address of the smart contract through the token distribution interface or direct transfer. In this case you become a participant in the current period of token distribution.

Once ETH is received to the smart contract, tokens are automatically credited to the address which was used for sending the transaction.

2.4 Transfer of tokens

A month before the launch of its own blockchain network, a token transfer mechanism will be published and the possibility of transferring tokens to a new platform will be provided.

After the release of the BMCHAIN platform, all token transactions will be blocked, leaving only the ability to convert BMT tokens from the Ethereum platform to BMT tokens on the BMCHAIN platform.

3 Issue of BMT token

The technical possibility of issuing BMT token is embedded in the BMCHAIN system (however, there is no additional emission of tokens on the Ethereum platform). The decision on issuing of additional tokens will be entrusted to the algorithm for maintaining the functioning of the system described in Section 1.3. Emission is considered as one of the parameters of the system, the regulation of which allows achieving sustainable development.

4 Distribution of bounty fund

After the pre-release of the BMCHAIN platform any critical vulnerabilities found in the system will be rewarded in the amount of 1,000,000 BMT tokens.

Critical vulnerabilities are vulnerabilities that allow:

Transfer, destroy or by any other means change the number of BMT tokens on the account of system users. Such actions should be performed without knowledge of the private key of the system user.

Block the work of the system for all platform users. Blockage of the system's work should be associated with a technical vulnerability in the node's code. Successful DDOS attacks are not rewarded.

The reward is credited only if the conditions are fulfilled: the vulnerability is not used against the system and is not published on public resources. Charging occurs only after the vulnerability has been successfully eliminated. In case several users find the vulnerability before it is eliminated, the total reward fund will be equally distributed among all participants.



5 ICO (Token distribution)

ICO - Initial Contribution Offering.

5.1 Parameters and terms

Number of tokens for ICO distribution	700 000 000 BMT 70% of the total amount
Dates of ICO	Start: 10.09.2017 00:00 GMT End: 10.10.2017 00:00 GMT
Number of ICO periods	4
Period duration	5-10 days
Duration of ICO (token distribution)	30 days

5.2 Mechanism of implementation

ICO of BMCHAIN will be conducted on the BMCHAIN Token Distribution platform, located at <https://ico.bmchain.io>.

In general, the process of obtaining BMT tokens is described by the following algorithm:

The ICO participant chooses the participation period and the amount of ETH that he or she is ready to exchange for BMT tokens.

The ICO participant sends some amount of ETH to ICO smart contract and waits for the end of the period.

The smart contract automatically distributes tokens among the participants of the current period according to the token price set for this particular period.

After tokens are received and transferred to the personal addresses, ICO participants can use them according to their own wish.

6 Roadmap

Date	Stage
January 2018	Launching a public test network (testnet).
June 2018	Implementation of a cost-effective model for the BMCHAIN platform participants interaction.
July 2018	Development of the BMCHAIN block explorer service
September 2018	RPC interface. Development of documentation
December 2018	Integration with main BM projects
January 2019	Launching a public mainnet network. Transferring tokens from the Ethereum platform to the BMCHAIN platform
February 2019	Freezing of Ethereum network tokens. From that moment participants can transfer tokens only to the BMCHAIN platform
May 2019	Implementation of open API for connecting other projects

7 Developers team

Analytics Insight

kaggle
TOP



BNP PARIBAS



Yelp Restaurant
Photo Classification



Telstra Network
Disruptions



Santander Customer
Satisfaction



Patent for
unique research

Approved by Skolkovo

Analytics Insight company has developed a plan for "Virtual Manager" and "Virtual Director" projects, approved by the innovative center "Skolkovo"

Biznes Molodost

The biggest entrepreneurs community in Russia
and the CIS founded in 2010



2 367 000

active participants
in the community

70

cities and 13 countries
having regional BM
communities

280 000

entrepreneurs
having completed commercial
training courses
for 6 years

5000

participants
undergo training
every 3 months

* Current version of White Paper should not be considered final and can be modified. Final parameters and data will be presented several days before ICO start.