

CREDITS

A new generation of blockchain

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INTRODUCTION

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CREDITS platform offers new and unique technical implementation of blockchain technology, smart contracts, data protocol and has its own internal cryptocurrency.

We strive to achieve unique technical parameters of the network – up to 1,000,000 transactions per second. The average processing time of each transaction is 3 seconds with a very low cost of each transaction reaching a hundredth of a percent. We have developed MVP (Minimum Viable Product) and have confirmed the technical feasibility of implementation by industry experts.

NEW PLATFORM

We offer a truly new product for users. These features are achieved through a new algorithm for finding consensus, a new scheme of the registry operation, processing and saving transactions, based on the algorithm for solving finite state machines using the model of federative node voting.

The CREDITS platform is designed not just for the financial industry. However, financial operations represent the main consumer of the blockchain technologies and now it demands a product capable of performing all the tasks set for business and users.

CREDITS is a new, unique blockchain platform with absolutely new technical capabilities of the network, response time, transaction cost and the number of operations per second.

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BACKGROUND

EMERGENCE

The first blockchain platform – Bitcoin – offered a new form of interactions between participants. The decentralized principle of interaction, where participants make the transfer of value through bypassing the central authority, which previously seemed impossible was actually developed and demanded by users.

The Bitcoin network makes only one transaction – transferring internal value from one participant to another. The Ethereum platform is the first and successful attempt to transfer complex interaction processes to the built-in programmable solutions called smart contracts, also acting independently and in a decentralized manner.

DRAWBACKS

But the first blockchain platforms had single followers and were mainly used by encryption enthusiasts. They were not initially designed for a significant number of users and are now able to handle several operations per second, which is not enough for mass use in a business with a significant number of users.

Virtually all the subsequent blockchain platforms are to some extent the continuation of the classical scheme of Bitcoin structure with minor changes in the principles of consensus or network operation.

CURRENT SITUATION

And now, as of 2017, there are not many platforms that can fully meet the technological demand from users and businesses, and fundamentally solve the problems of the blockchain platforms concerning the speed of transactions, the total network bandwidth, and the cost of transactions. These are three major groups of problems and there is a number of smaller issues. These problems are fully solved by the unique CREDITS technological platform based on a fundamentally new blockchain scheme, principles of transaction processing, finding consensus and of data saving.

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CURRENT PLATFORM

ISSUES

Currently, network latency is one of the main limitations in many blockchain networks. In the Bitcoin and Ethereum networks, the average transaction time is more than 10 minutes. In comparison, transactions for credit card payment networks take only seconds.

TECHNICAL PROBLEMS

We highlight the following problems:

Bandwidth – network capability to process a certain amount of transactions

Latency – actual response time compared to the expected response time

Transaction speed

Cost - a parameter for all operations and in particular for 2 groups of operations

1. Micropayments for a small transaction cost – for example, buying coffee, shopping, microloans
2. The Internet of things operations, for networking different objects.

The amount of data saved

At the moment, the amount of data saved is increased by tens of GB each week in the Ethereum network.

These problems prevent the widespread use of blockchain by many industries and in particular by financial companies.

«NETWORK LATENCY IS ONE OF THE MAIN LIMITATIONS FOR THE USE OF BLOCKCHAIN IN THE FINANCIAL SPHERE»

Blockchain Technology and Applications from a Financial Perspective



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PROJECT DESCRIPTION

WHAT IS CREDITS?

We present a solution to said problems that we propose to implement using the CREDITS platform.

A single distributed decentralized platform built on blockchain operation principles, built-in self, executing smart contracts, and the internal CREDITS cryptocurrency.

The CREDITS platform is trying to open a huge market and a new potential for using blockchain in projects and services built on blockchain and smart contracts in the financial and other industries. These services cannot fully develop due to technical and cost limitations.

CREDITS FACTORS

We are working to achieve new parameters of the network which are quite different from existing platforms Bitcoin and Ethereum. The factors indicate how CREDITS is different from the others.

Speed factor up to 100,000 times faster

Cost factor up to 10,000 times cheaper

WHY CREDITS?

1. A really new technological solution to problems
2. Aimed at a specific target audience – the financial industry
3. MVP Ready. Project prototype
4. Simultaneous processing of up to 1 million transactions per second
5. The average operation time is approximately 3 seconds
6. Very cheap operation cost of about 0.01%
7. Affordable operation cost for micropayments and the Internet of things
8. No existing, working analogs in terms of characteristics (as of summer 2017)

MANY PROJECTS TRY TO IMPROVE THE PRODUCT SLIGHTLY. CREDITS OFFERS A REALLY NEW IMPLEMENTATION OF BLOCKCHAIN TECHNOLOGY

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CREDITS SECURITY

Below are the consolidated ways to improve security.

1. HOMOMORPHIC ENCRYPTION

The use of homomorphic encryption allows us to work with encrypted queries at all steps of the iteration step (rank).

2. HASH SEARCH

In the beginning of the round of generation and the addition of a new transaction pool for the registry, hash (checksum) relevance is analyzed for the locally stored registry – as a way of identifying untrusted nodes.

3. HASH VALUE

The use of Blakes is a faster and crypto-stable function for getting the Hash value for the parameter sought.

4. DECISION-MAKING

Use the federative decision-making principle for added transactions – as a way of verifying the validity of transactions and minimizing the likelihood of illegitimate transactions.

5. C++

Abandon the use of third-party Frameworks, this allows full control of memory and code execution; it increases the resistance of code injections and minimizes the likelihood of memory impact as everything is stored in the heap.

6. ARCHIVING ALGORITHM

The use of the modified “deflate” compression algorithm is a way of making it more complex to get a clean registry to introduce a change.

7. RANK VALUES

The regulated selection of nodes and the assignment of rank values – is a way of avoiding an illegitimate environment for the main node.

8. NODE SELECTION

Each node can be either a main or a trusted node not more than once in a mathematically reasonable time interval, depending on the network complexity, which eliminates the possibility of transaction processing centralization.

9. DECENTRALIZATION OF OWNERSHIP

The capability to constantly increase the number of nodes is a way to minimize the centralization of the ownership of processing facilities.

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CREDITS TECHNOLOGY

BALANCED SYSTEM

CREDITS is a complex of technological software developed by the CREDITS.COM PTE. LTD team. Thanks to a deep analysis of user needs, we are developing a unique and balanced system to achieve high-speed operation processing speed while maintaining the blockchain system principles and the most strict security requirements.

SECURITY

We place the network security at the forefront. We use the appropriate network operation scheme, experience and all the latest advances in the field of encryption.

NO MINING

Transactions are transferred centralized for processing to the main node, where they are processed and written to the registry. It reduces transaction processing time. The node owner receives 50% of commissions.

SHORT TIME TO FIND CONSENSUS

A new consensus principle – with a time interval of 0.01 to 0.5 seconds. The one who calculated the function faster, who has a higher performance server and better network quality – wins in a competition for the right to be the main network node. It is calculated on the basis of the load and the number of nodes in the network, the more nodes the higher the speed and shorten the time to achieve consensus. And the user gets its 50% commission.

HOMOMORPHIC ENCRYPTION

Allows reducing the processing time of transactions by not having to completely decrypt the data package. At the same time, secrecy remains high. Hacking and change take significantly more time than voting for transactions and their further placement in the registry.

We create new technological solutions in the field of blockchain, smart contracts, and cryptocurrencies

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CREDITS TECHNOLOGY

ARCHIVING

Compressing information up to 90% allows both reducing the time to load data, and also saves the space of servers used for storage in network nodes.

THE BLOCKCHAIN/ REGISTRY STRUCTURE

An array of data and transactions stored in the registry having a sequence number and hash at the current processing node. All verified transactions are loaded to the main node, and a list of candidates from which the register is formed is compiled.

ASYNCHRONOUS WORK OF CONSENSUS

Asynchronous work of consensus is parallel processing and building a whitelist of transactions. After the new processing node appears (is registered) the network, all newly loaded transactions are selected from it, a list of candidates is compiled and the whitelist is started. A signal is also sent to the network for the remaining nodes on the start of a new round of consensus.

NO MERKLE TREES

The Merkle tree is an algorithm (function) for finding a unique file identifier. We suggest using another faster function to find the last saved registry.

CREDITS technologies allows the platform to achieve excellent network performance with the highest security requirements and is significantly different from other projects.

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CONSENSUS

INTRODUCTION

The CREDITS platform uses its own combined consensus protocol to increase the speed of transaction processing, complete data storage security, processing and transfer of transactions.

The protocol is based on calculating the mathematical function of all registry transactions with the use of Proof of Work principles. It accurately determines the storage of the last up-to-date copy of the registry and software on this node (Proof of Capacity), by calculating the checksum of the values of the entire contents – the hash code. The file size is determined as well, the proof that this is the last up-to-date copy and the hash code of the last transaction saved in the system.

CONSENSUS STAGES

1. Search for the main network node;
2. Generating the list of trusted nodes;
3. Getting the list of transactions;
4. Processing the list of candidates, node voting;
5. Generating the list of confirmed transactions for addition to the registry;
6. Adding transactions to the registry with the timestamp and the hash code of the block that contained a transaction;
7. Sending a block with transactions to all network nodes. Upon receipt, it is added to the registries on all nodes.

REMUNERATION

As a material consideration, the owner of the main network node (nodes) will receive the 50% percent of remuneration in CREDITS from a number of transaction fees of this processed registry. The remaining 50% is distributed between trusted nodes (the nodes that are involved in the decision BFT consensus).



SWOT ANALYSIS

INTERNAL AND EXTERNAL FACTORS

SWOT analysis is a method of strategic planning to identify the factors of the internal and external environment of the company and dividing them into four categories: Strengths, Weaknesses, Opportunities, Threats.

STRENGTHS

- Quality and demanded product interesting to the users
- Experience and skills of the team. Experience in the financial sector and development of IT projects
- Really new technological solutions of the platform characteristics

OPPORTUNITIES

- Strongly developing market up to 500% per year. Many niches are open
- Today, there are no working analogs and they will not appear in the next 6 months
- Recognition of cryptocurrencies at the legislative level. More and more countries recognize cryptocurrency

WEAKNESSES

- It takes time to develop a product in a very rapidly changing market
- Financial limitations. Every year the market entry becomes more expensive
- Blockchain is generally a new technology and not everyone completely understands its pros and cons

THREATS

- State regulation. It strongly affects the exchange rate fluctuations
- Competitive activity. More and more companies are entering this market
- The reduction in the growth of the market a year from several hundred to more now low



COMPARISON OF THE PLATFORM

TECHNICAL COMPARISON OF SIMILAR PLATFORMS

Below is a technical comparison of similar platforms that are under development or ready.

Parameter	Credits	Bitcoin	Boscoin	Ripple	NEO	EOS*	Plasma*	Kasper*	Tezos	Ethereum
Project Type	Platform	Platform	Platform	Service	Service	Platform	Platform	Platform	Platform	Platform
Block Type	Ledger	Classical	Classical	Ledger	Classical	Sidechain s	Sidechain	Classical	Classical	Classical
Project stage	In progress	Ready	In progress	Working	Partial	in progress	in progress	in progress	in progress	Working
Focus	Financial and IoT	Financial	Total	Financial	Financial	Total	Total	Total	Total	Total
Type of consensus	dPoS	PoW	mBFA	FA	dBFT	DPoS (TaPoS)	PoS	PoS	PoS	PoW
Transaction speed	1-3 sec (target)	10 - 15 min	1 min	5 sec	20 sec	10 sec	5-10 sec	30 sec	3 min	5 min
Network transaction volume	1M (target)	7	1 500	100 000	1 000	1M (target)	1M (target)	100 000 (target)	500	25
Cost of 1 transaction	Low	High	No*	Low	Low	Low	Low	Low	Low	High
Block interval **	0,5 sec (target)	10 min	5 sec (target)	10 sec	15 sec	1 sec (target)	0,5 sec (target)	5 sec (target)	1 minute	15 sec
Decision Making Process	Democratic Congress	non-systematic	Democratic Congress	CDM	Democratic Congress	Non-systematic	Non-systematic	Non-systematic	Non-systematic	Non-systematic
Smart contract	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
API	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes	Yes

* - Presumptive assessment in connection with or lack of information

** - the average block creation time is determined by the mathematical calculation, which depends on the complexity of the network



USE CASES

USE CASES

Solutions prepared by the UBIN report on the use of blockchain in the financial industry may be used as certain examples of using the CREDITS platform technology.

Trading operations

Blockchain unites different parties to transactions in a single public data registry.

Cross-border payments

Payment transfer almost instantly, directly and significantly cheaper than today's cost.

Digital identification

Data generation, storage and confirmation by network participants (for example, KYC).

Clearing

Clearing and mutual blockchain settlements provides for a reliable mutual settlement of mutual claims

Origin

Blockchain offers invariable and irreversible source of information to track the true owner throughout the supply chain.

Common data registries

Blockchain can be used as universal data storage for different industries

Independent contracts

Blockchain with smart contracts allows building public and independent solutions in different industries

Insurance

The occurrence of insured events can be programmed and saved in the blockchain

Use cases were prepared by Deloitte and the Ministry of Finance of Singapore together with Bank of America Merrill Lynch, BCS Information Systems, Credit Suisse, DBS Bank, HSBC, J.P. Morgan, Mitsubishi UFJ Financial Group, OCBC Bank, R3, Singapore Exchange and UOB Bank



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USERS

USERS

The main feature of the platform developed is the direct consideration of the interests of consumers in the system design. The structure of potential consumers by types of companies is given below.

PLATFORM

All the below examples of companies can use the CREDITS platform as a basis for creating products and services.

Companies can transfer part of their operations to the CREDITS blockchain, and financial services can use blockchain and self-processing smart contracts to build algorithms for the services.

CREDITS is the platform to create products and services by third-party users.

TYPES OF COMPANIES

Banks - 20%

Payments, document circulation, loans, deposits, etc.

Payments and transfers- 25%

P2P payments, cross-border transfers, payment for purchases

Financial companies- 20%

Clearing, cryptocurrency exchanges, stock and bond exchanges

Financial services - 15%

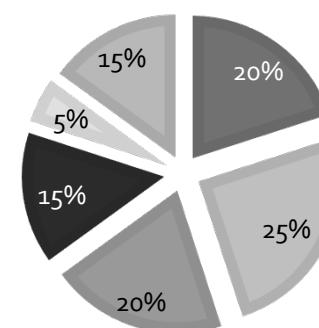
Loans, deposits, letters of credit, etc.

Internet of things - 5%

Blockchain-based projects and services

Others - 15%

Users and Services



90% central banks engaged in blockchain.

by Deloitte and the Monetary Authority of Singapore

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CREDITS CRYPTOCURRENCY

PAYMENT FOR USE

Any use of the platform other than data reading is paid.

Users shall pay a certain price in the internal currency (CREDITS).

Only with it can you create, execute a smart contract and save the information in the blockchain or perform an operation with the CREDITS currency. Also, the CREDITS cryptocurrency can be used as a stand-alone currency unit outside the platform.

EXAMPLES OF USE

1. Payment for the smart contract creation
2. Performing operations on smart contracts
3. Adding information on the operation to blockchain
4. Payment for the transfer of CREDITS cryptocurrency between the platform participants
5. Purchase of information from third-party sources for services within the system (the use of oracles)
6. For operations on the exchange of different currencies within the system
7. Fee for the transfer of tokens created on the CREDITS platform

EMISSION OF COINS

The platform does not provide coin mining.

No additional emission of CREDITS cryptocurrency will be provided.

The primary emission will be produced only for the initial sale as part of ICO. In the future, tokens of the ERC 20 standard will be exchanged for proprietary CREDITS cryptocurrency.



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CURRENT ACHIEVEMENTS

PROJECT STAGE

We have been actively working on the CREDITS platform since the beginning of 2016 and at the moment have gone through several stages of work on the project, and to date, we have already done:

1. Concept development
2. Technical evaluation
3. Prototyping
4. MVP development
5. Working on the Alpha version

MINIMUM VIABLE PRODUCT (MVP)

At the moment, a platform with minimal functionality is developed. This functionality can be checked at credits.com.

MINIMUM VIABLE PRODUCT

At the moment, MVP has a minimum of features implemented:
A node – a network node that stores data
System member ID is a public and private key
Transfers – transferring values between network participants
Consensus – implementation of the algorithm for selecting the node responsible for storing data in blockchain
Saving transactions – saving data to blockchain
Wallet – a visual representation of the system operation with a minimum of features at a third-party service at credits.com.

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ABOUT US WHITE PAPER TEAM TECHNICAL FEATURES ROAD MAP F.A.Q

Transfer (Wallet balance: 100)

Recipient number wallet

Enter recipient wallet number

Transfert count

0

Account number wallet

0xyCJO0XvQ67yPuGta1w8vxZp1Qx2tm3h1k2BNmzf

Private key

etmhgx414bb67pawrnvv5bxbp7x5ds2bk4iqrhaoaw5v4x7f5o0ii7jsz1zg6f

Transfer



SHORT-TERM PLANS

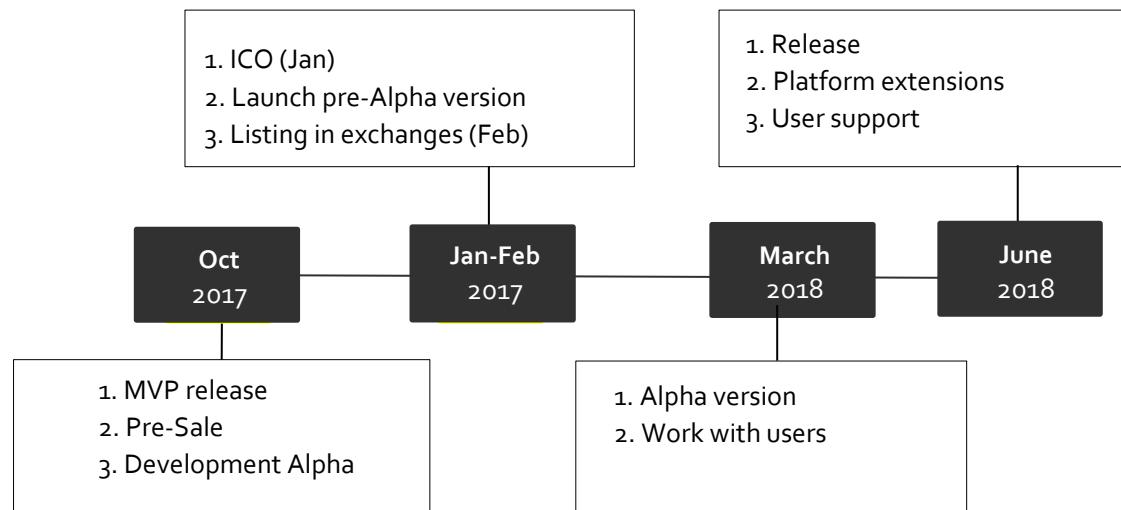
PROJECT CREATION

We started working on the project in 2016 with an attempt to create a single CREDITS cryptocurrency. The final technical concept of the project was formed when we faced the demand for a blockchain solution from the financial sector, but with a number of limitations of the existing platforms such as high cost and low transaction speed. In 2016, a full-fledged work on the project began with the elaboration of the concept and terms of reference.

ROAD MAP

Below is the road map of the CREDITS platform project implementation in the short term up to 9 months.

At the moment, we have developed an MVP project and are working on the Alpha version. Pre-Alpha version for public testing in Feb 2018.



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LONG-TERM PLANS

LONG -TERM GOALS

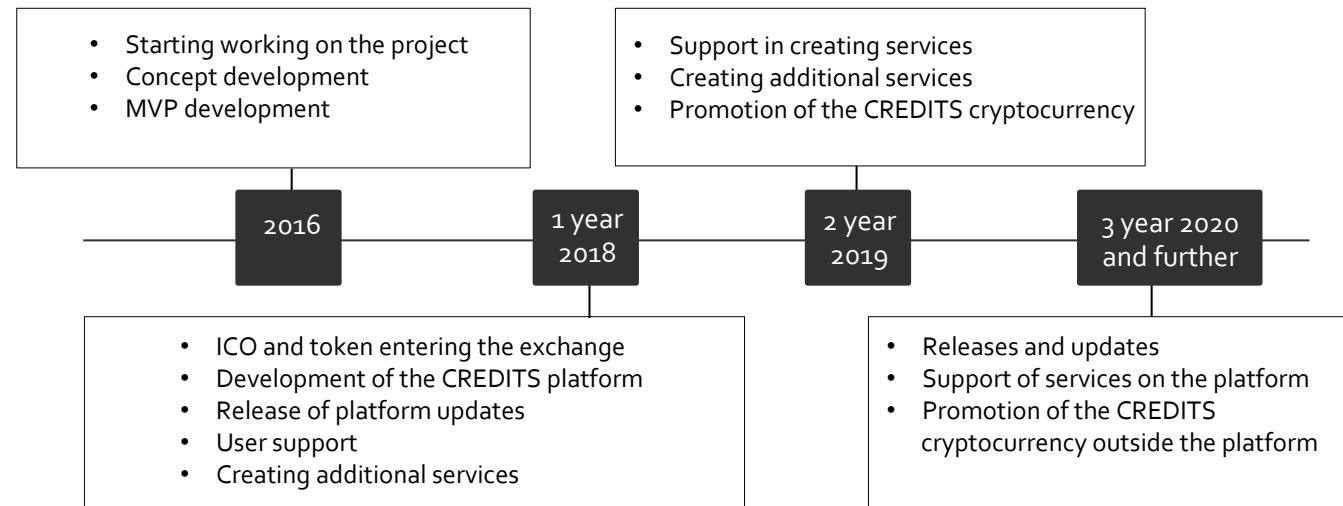
The main goals for the next 3 years are:

1. Creating the most secure, perfectly working platform with a regular release of updates
2. Support for CREDITS users creating services and blockchain platforms
3. Promotion of the CREDITS cryptocurrency as a means of payment outside the platform

STRATEGIC GOALS

We are confident that the financial sector is moving towards decentralization. The role of the cryptocurrency and decentralized services will grow exponentially:

- Achieving number of users of the services created on the platform to 1 million in 3 years. Based \$ 50 USD as the cost of user acquisition (Customer Acquisition Cost)
- The rising price of CREDITS cryptocurrency in 1000 times in 3 years



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PRODUCT LOCALIZATION

PROJECT LOCATIONS

Singapore is one of the world's main financial centers.

Thanks to the support of the government, the Ministry of Finance of Singapore for fintech projects, the unique business environment and proximity of the world center for the development of the world economy as the Asian countries, we see great prospects and opportunities for the company-operator of the CREDITS platform in Singapore

SINGAPORE



PROJECT TEAM

The project team, management, development departments will be located in Singapore

PROJECT DEVELOPMENT

The development will mainly be concentrated in Singapore

USER SUPPORT

The development will mainly be concentrated in Malaysia and Russia

We believe that Singapore is an ideal place to create and develop global financial services and promote it in the world market.

The following were recognized as the largest international financial centers, according to the study of GFCI/Global Financial Centers Index 2016:

1. London
2. New York and
3. Singapore

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TEAM



IGOR CHUGUNOV
CEO & FOUNDER

Entrepreneur more than twelve years of experience in the field of Internet projects, financial Internet services, advertising, affiliate marketing for banks and microfinance companies. Great experience in financial and banking projects. Ability to achieve goals.



EVGENY BUTYAEV
CTO & FOUNDER

Programmer and managing the development team for more than 10 years. Experience of blockchain more than 3 years. Development in Ethereum, Hyperledger and private blockchains. Huge experience in creating highly loaded and secure systems, including blockchain.

TEAM



ADVISORS



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LEGAL SUPPORT

PLATFORM OPERATOR

For the platform development, a company located in Singapore is specially established. In the period of development and after the completion of development and production, this company will be the sole and official representative of the platform.

CREDITS.COM PTE.LTD

The platform operator is a company registered in Singapore and operating under the laws of Singapore.

Name: **CREDITS.COM PTE.LTD.**

Reg. No.: 201725929C

Address: 79 Ayer Rajah Crescent
#05-08 Singapore 139955

OPERATOR RESPONSIBILITIES

- Platform development and release of new versions of the platform
- Maintaining the current versions of the platform in a working and safe condition
- Promotion of the CREDITS platform among users of commercial organizations and individuals worldwide.

HOW DO WE WORK

- We strictly work in accordance with the laws of Singapore
- We do not use offshore schemes
- We have legal opinions of licensed lawyers in Singapore
- We interact with the Ministry of Finance of Singapore
www.mas.gov.sg

LEGAL ASSESSMENT OF THE TOKEN

The CREDITS token is not a security in any form in accordance with the Securities and Futures Act (Cap. 289) (SFA) of the Republic of Singapore with the provisions of the Securities and Futures Act (Cap. 289) (SFA) in accordance with the explanation dated August 01, 2017 of the Monetary Authority of Singapore (MAS)



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ICO

PURPOSE OF ICO

We conduct ICO for the subsequent development, maintenance and promotion of the CREDITS platform.

The amount from the sale of tokens will be spent for the following goals:

1. Development of software for the CREDITS blockchain platform with smart contracts and the cryptocurrency
2. For general administrative, operational, capital, marketing and other expenses of the platform operator activities
3. Fund for supporting projects created on the CREDITS cryptocurrency and platform.

CREDITS TOKENS FOR ICO

ICO will be based on the Ethereum platform in the ERC20 standard.

CREDITS tokens after ICO will be put on the stock exchange in accordance with the road map in November 2017.

ICO DATE

- PRE-ICO – November 2017
- ICO Jan-Feb 2018

The total number is 1,000,000,000 tokens.

The total expected amount of sales of tokens considering several rounds is 15 mln USD in one of ICO. Not sold tokens will be burned

TOKEN DISTRIBUTION

Total amount 100%

1. Bounty 2%
2. Bug bounty 2%
3. Founders 15%
4. Operations 20%
5. Advisors 1%
6. Pre-ICO and ICO 60%

After the release of the platform Beta version, these tokens ERC20 will be replaced with the CREDITS cryptocurrency.

One of the main tasks is to promote the projects created based on CREDITS.

CREDITS CURRENCY VALUE GROWTH

To this end, we will create a fund that will help to create products based on the platform and using the CREDITS cryptocurrency.