

**#metahash**  
CONCORDIA RES PARVAE CRESCUNT



# White Paper



**MetaHash AG,**  
Gartenstrasse 6, 6300 Zug  
Switzerland

Version: 6.9  
Last edit: July 26th, 2018

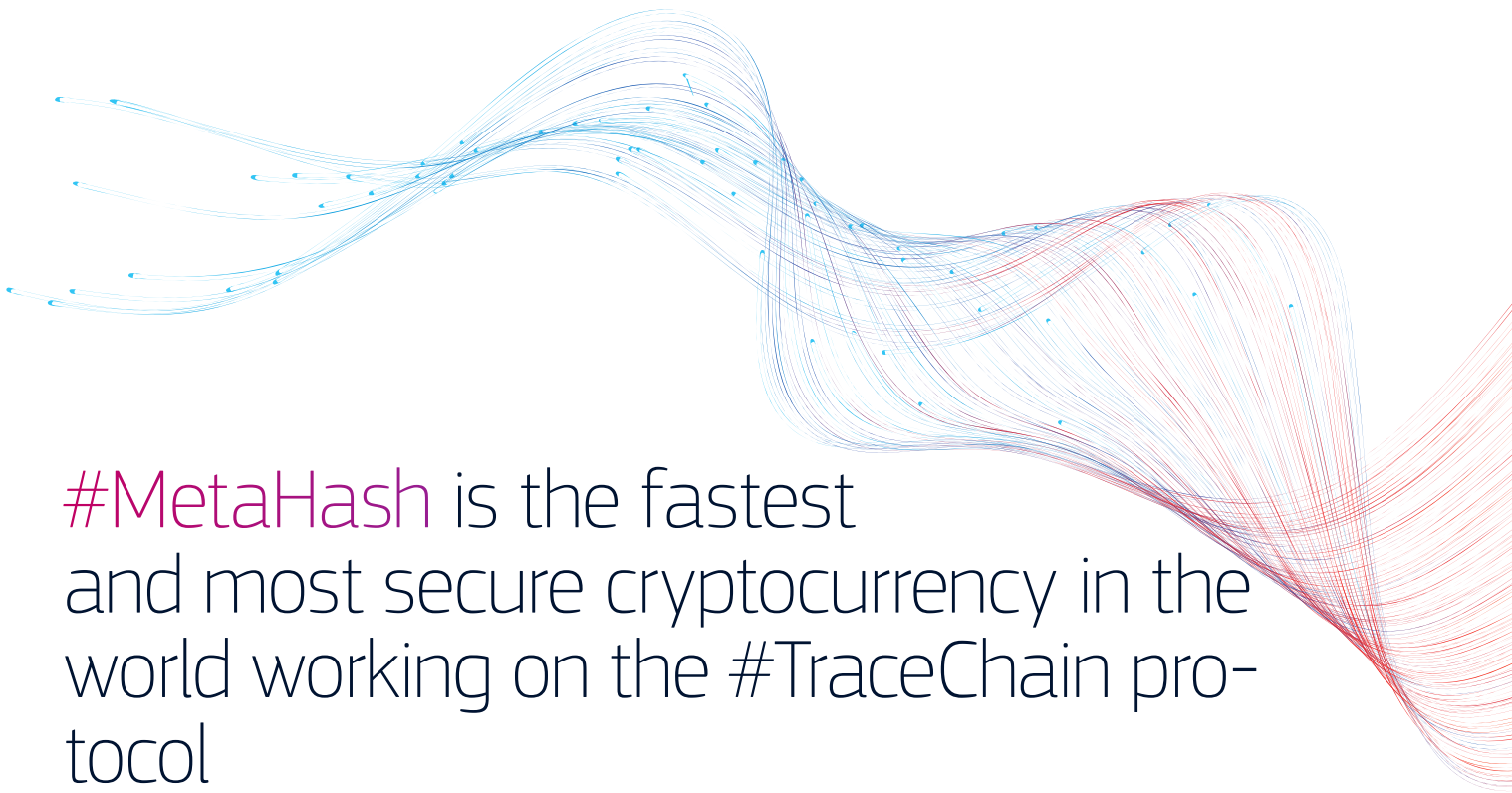
# Table of Contents

#MetaHash	4
Goals and Objectives	5
Problems and Solutions	6
#MetaHash Structure	7
#TraceChain	9
Main Advantages	9
What Makes #TraceChain Stand Out From Existing Projects?	12
Fast and Safe Operation	13
How It Works	14
#MetaApps	20
Self-financing Applications	21
Applications Developed by The #MetaHash Team	22
Censorship in #MetaApps	23
#MetaGate	26
#MetaHashCoin (#MHC)	28
Financial Model	29
Forging	32
#MetaHashCoins Emission by Year	34
Legal Disclaimer	34
Voting Functions in The #MetaHash Network	38
Roadmap	42
Advisors & Consultants	45
The Team	48
Glossary	54



The background is a dark, muted blue. It features several large, overlapping, semi-transparent geometric shapes in shades of purple and blue. These shapes are mostly trapezoids and parallelograms, some with rounded corners. They are arranged in a way that creates a sense of depth and movement, with some shapes appearing to be in front of others. The overall aesthetic is modern and minimalist.

#MetaHash



#MetaHash is the fastest and most secure cryptocurrency in the world working on the #TraceChain protocol

More than **5 billion** transactions per day

The validation rate is **under 3 seconds**

## #MetaApps

### Replacing smart contract

Decentralized applications running in real time like any regular web services that are written in any programming language including Solidity, PHP, C++, etc.

## #MetaGate

### Gateway to a decentralized internet

A multi-asset wallet that won't overload your computer.  
A decentralized app directory and browser.

The #MetaHash network is infinitely scalable as the capacity of its resources grows

# Goals and Objectives

#MetaHash is a decentralized network for digital asset exchange and a platform for building decentralized applications that work in real time

The popularity of cryptocurrencies in 2017 caused thousands of blockchain projects of different scales and focus to appear. However, the growth of most of these projects was limited by the technical capabilities of the existing blockchain / operators / networks.

The low speed, closed nature of blockchain networks, and their inability to interact with each other, are the real problems slowing down the development of this technology in general. #MetaHash is designed to create a single solution that allows blockchain systems of the future to unite into a single decentralized network, capable of recording each and every transaction.

The self-regulating #MetaHash network, in fact, creates a basis for the emergence of a fully-fledged branch of the decentralized internet. It doesn't depend on individual creators once launched and is managed by open voting<sup>1</sup> of users or #MetaHashCoins<sup>2</sup> holders.

A fully decentralized internet would bring freedom from the control of large corporations. Project management would be in the hands of end users.

The key distinction of decentralized projects running on open source<sup>3</sup> code is the fact that they are built the way users need them. Projects are created for users rather than for maximizing benefits to a limited group of stakeholders, which harms both the market and the users.



*The #MetaHash platform allows any project to become fully decentralized. Thousands of projects require decentralization right now, but the speed and capabilities of existing blockchain operators aren't sufficient to meet those needs*

## #MetaHash enables the creation of:

- **Decentralized applications** that work in real time like ordinary web services and applications and can respond to events both in any of the blockchain networks and on the regular internet;
- **Independent sub-chains protected by the main #MetaHash network that also operate** on the basis of the #TraceChain protocol. These sub-chains are created so thousands of #MetaApps can cost-effectively operate without overloading the main network and slow other applications. Lots of applications are waiting for a solution to build isolated, cost-effective and secure chains that would let them transfer the required data;
- **Digital assets in the form of tokens in the #MetaHash network for sharing within the network and converting to the tokens (digital assets) of other networks.** Any asset in another blockchain system (ETH, ERC20, Bitcoin) can be converted to #MetaHashCoins. #MetaHash supports the concept of blockchain interoperability assuming that the future of the internet lies in the ability of independent networks to interact and integrate with each other.

**1** Open voting means that any voter can get access to the results of voting and see the IDs of participating wallets and their decisions.

**2** #MetaHashCoins (#MHC) is the internal currency of the #MetaHash network.

**3** An open-source project allows any user to access its code and use it to create their own version of the application, or to improve the current version.

# Problems and Solutions

We believe in the future of cryptocurrencies. But today it is far from perfect. #MetaHash represents all the blockchain-powered opportunities of the future embodied in a single project

What needs to be changed	Why it is important	Existing cryptocurrencies	#MetaHash
Significantly increase the number of transactions per day	Will allow cryptocurrencies to come into the real world	Up to 2 million transactions per day	More than 5 billion transactions per day
Ability to send a transaction free of charge	The ability to use #MetaHashCoins for micro-transactions	Often up to \$80, or even \$400 per transaction including the reward to miners	Free for the user for most transactions. Fees appear as network load grows to protect the network against spam transactions
Transition from PoW (mining) to multi-PoS (forging)	Mining limits possible transaction speeds of the network and requires expensive resources to protect the network	Dependant on hardware that costs billions of dollars, wastes electricity and pays billions to miners	Forging #MetaHashCoins with nodes and wallets provides the most important resources and eliminates pointless ones
Protect the network from a "money attack" that could interfere with the network	The growth of cryptocurrency capitalization will inevitably lead to a growing number of hackers trying to block the network's operations	Less than 1% of the current capital of ALL leading cryptocurrencies is enough to block their work	An additional verification step provided by wallets will not allow hackers to block or corrupt the network, even if they possess 67% of nodes or coins
Increase the speed of transaction approval	Increasing the speed of the transaction affects the ability to implement the technology in everyday operations	Minimum 30 seconds for first approval and minimum 1.5 minutes for final approval	1 second for first approval and under 3 seconds for final approval for most transactions
Implement the built-in mechanism of "tokenization" of any assets	The ability to exchange digital assets used by blockchain networks makes the technology available to people who do not have special programming skills. This contributes to quicker introduction of the technology in the social sphere	Currently, the best solution only allows the creation of tokens if you have advanced programming skills, and can result in loss of money. The smart contract technology is not transparent to people who do not know programming	Any asset, even other networks' cryptocurrencies, can be instantly "tokenized" in #MetaHash without knowledge of programming. Token information is simple and easy to understand



# #MetaHash Structure

## The #MetaHash network consists of four parts

### #TraceChain

The solution to the speed problem is based on an automatic self-learning algorithm for routing signals over the network. Starting at a rate of 50,000 transactions per second (the capability of a 100-megabit channel), it grows as more nodes with higher bandwidth are added to the network forming the core of the network and improving the reliability of additional #DataChains which are needed for running applications.

*Four components of the system form a single, synergistic solution that allows complex decentralized applications to work in a real-time mode, even with high system loads. The technical complexity of the system is hidden behind a user-friendly interface, making it accessible to ordinary users*

### #MetaApps

Nodes added to the #MetaHash network are used by decentralized applications. The core code of #MetaApps optimizes the location of application copies based on required resources and financial motivation of the owners of nodes connected to the network. Any developer can create and publish an application in #MetaApps, and #MetaHashCoin holders will decide by open vote whether or not to approve it, reflecting the universal values of all the network members.

### #MetaGate

This is an open source interface using the #TraceChain protocol making it possible to work with #MetaApps and networks. Third-party developers can use the #MetaGate code to embed #MetaApps and #TraceChain/blockchain features into various applications and browsers.

### #MetaHashCoin

The network's digital payment currency. It is used to ensure consensus, to pay for all network services and to control self-financing. Recognised by FINMA on July 3, 2018 as Utility token with payment function. #MHC tokens are qualified as payment means in accordance with the Anti-Money Laundering Act.

The image features a dark, textured background with several large, overlapping geometric shapes in shades of purple and blue. These shapes are primarily trapezoids and parallelograms, some with rounded corners. The colors range from a deep, dark purple to a lighter, almost white-blue. The shapes are arranged in a way that creates a sense of depth and movement, with some appearing to be in the foreground and others receding into the background. The overall aesthetic is modern and abstract.

#TraceChain



# #TraceChain

## Technology

**#TraceChain is the new internet protocol that the #MetaHash network is based on.**

#TraceChain uses a mathematical model of optimal signal propagation across the network. The synchronization of thousands of computers overloads a network and slows it down. To solve this issue, #TraceChain relies on mathematical algorithms powered by #TraceChain AI - all signals go from the outer radius to the cores. The signals are synchronized in multiple powerful cores and go back across the network.

The more computers that need to be simultaneously synchronized, the higher the load on the network. The cores are not static and are constantly altered by voting. Adding high-performance computers to the network does not automatically make them cores, which protects the network against attacks. The core's segments are fully decentralized and protected by Trust algorithms and additional verifications. The performance of the network core's segments is checked and protected by external radiuses.

*All existing blockchain systems (those already available and those that are under development), are too slow and expensive or are not fully decentralized*

## Main Advantages

Comparison with current and prospective decentralized blockchain systems:

- Modern blockchain projects imply that cryptocurrency can only be used by technical specialists, traders and blockchain enthusiasts. Cryptocurrencies are complex and incomprehensible to a mass audience;
- Today, none of the existing or prospective systems provide sufficient speed and convenience to make blockchain solutions usable on an industrial scale;
- Speed, high transaction fees and huge complexity are the issues that the #TraceChain<sup>1</sup> protocol is designed to address.

1

*#TraceChain is an automatic self-learning signal routing protocol.*

Below is a comparative analysis of the systems that currently hold leading positions in the market



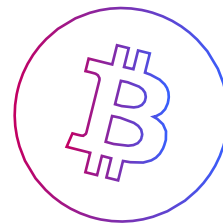
## Bitcoin

PoW (Proof of Work) is a reliable, but very expensive, network integrity protection mechanism. The four Bitcoin mining pools fully control the network and comprise 60% of Bitcoin hash power. These four pools form the longest chain, which is considered valid in case of conflicts.

The synchronization process in blockchain is renowned for the problem of slow nodes. The network is slow as long as its nodes are slow. A significant portion of the Bitcoin network is physically located in places with cheap electricity and slow internet (most often 3G).

A lot of Bitcoin nodes have such low bandwidth that increasing a block size limit from 1 to 4 MB would cut off a significant part of the network.

Bitcoin's most pressing issue is that its core resources are concentrated in the hands of people who are, most often, not stakeholders. Miners are interested in maximizing their income and exchanging coins to regular currency to cover electricity and equipment costs. Thus, PoW miners always act against the interests of the blockchain network. **At any time, any blockchain miner can redirect the mining power to another blockchain platform.**



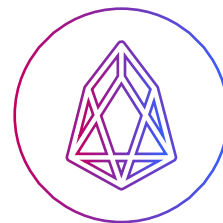
## Bitcoin forks and systems built on a similar code

Typically, they are characterized by higher bandwidth and a bigger block size. Bitcoin has enough power to store transactions, but it is still not enough to run applications.

## EOS

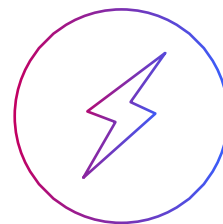
EOS is a reliable and fast banking system. However, it is centralized. 20 supercomputers control the network and provide a maximum number of votes. These top 20 computers synchronize transaction data and receive all commissions. Sometimes the commission is paid to one more computer which is chosen on the basis of the weight of votes cast in its favor.

As the top 20 servers are static, they attract high amounts of delegated coins and the system gets highly centralized as it is almost impossible to get a new server to the top 20.



## Lightning Network

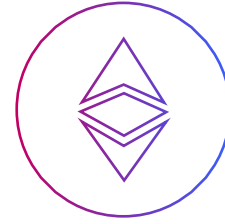
Lightning Network features an excellent concept of transferring data between several participants. The system works well if a group of participants needs to make a lot of transactions amongst themselves in the course of a day. The group's money is stored in the multi-signature wallets of the participants. However, this platform has a limited use, because the same group of participants are unlikely to need to exchange data multiple times. When a transaction has to move outside the organized group, there is no gain in speed and it is limited by the bandwidth of the network within which it operates.



## Ethereum

Ethereum features a good implementation of PoW, but at a very slow speed caused by direct synchronization between a multitude of participants and low throughput of many PoW nodes.

Its smart contracts are of particular value because they enable response to events in the Ethereum network, but unfortunately they cannot react to anything else and are unsuitable for real-time applications.



## Ethereum Plasma

This is a very good solution for increasing the bandwidth of the Ethereum network. Transfers of tokens and application data take place in separate blockchains and are based on the principle of PoS consensus, with anchors stored in the main Ethereum blockchain which operates on the PoW algorithm. This will significantly improve the performance of smart contracts that only respond to events in the Ethereum network. But the speed of the main network will remain low and average users will still be unable to use wallets due to a very low block download speed (up to several days), even after a weekly break in use and the huge size of the current chain which has to be fully downloaded onto your computer. Light wallets could be an alternative solution, but using them could be risky because projects associated with them are under-funded.

*Other projects we are aware of do not have the sufficient documentation or coding to be considered serious alternatives*

## Blockchain Comparison Table

	Bitcoin	Ethereum	EOS	#MetaHash
Transaction approval time	10 minutes	15 seconds	5 seconds	<b>under 3 seconds</b>
Transactions per second	up to 12	up to 30	from 1,000 to millions	<b>from 50,000 to millions</b>
The level of decentralization	high	high	minimal	<b>high</b>

# What Makes #TraceChain Stand Out From Existing Projects?

We couldn't find any project focused on creating a fully decentralized and synchronized network capable of quickly processing data on a large-scale, global basis, so we created #MetaHash

## **#MetaHash offers a solution that ticks all the boxes as a next-generation blockchain platform:**

- **Full decentralization**  
You should never trust a network that is not decentralized enough.
- **Full synchronization**  
If high speed and sufficient bandwidth are achieved through reduced network synchronization, transferring data between network parts will eventually become problematic, outweighing the benefit.
- **Transaction speed under three seconds**  
The longer a transaction takes, the less convenient it is to use the system, and the more difficult it is for decentralized applications to run in full capacity.
- **High bandwidth**  
The amount of transactions per second is not just another number. High bandwidth allows the network to keep transaction prices low because it has sufficient resources to process more transactions per unit of time.
- **Low prices**  
The lower the transaction price, the more potential customers are interested in using the platform to store their financial transaction info and technical data.

*Many of the current projects feature clear and useful ways of application yet fail to fully meet the needs of the market*

# Fast and Safe Operation

#TraceChain is a perfect solution for  
building isolated #DataChains

more than 100,000  
transactions per second on each node

## Phenomenal speed allows #MetaHash to:

- Process **ALL** global transactions in blockchain;
- Achieve the lowest price per transaction in the history of blockchain;
- Offer decentralized projects an adequate price for data storage in blockchain;
- Convert any Ethereum ERC20 digital asset (token) into #MHC and transfer it to the #MetaHash network, or convert it back.
- Make it possible for shops to instantly accept payments in #MetaHash digital assets.

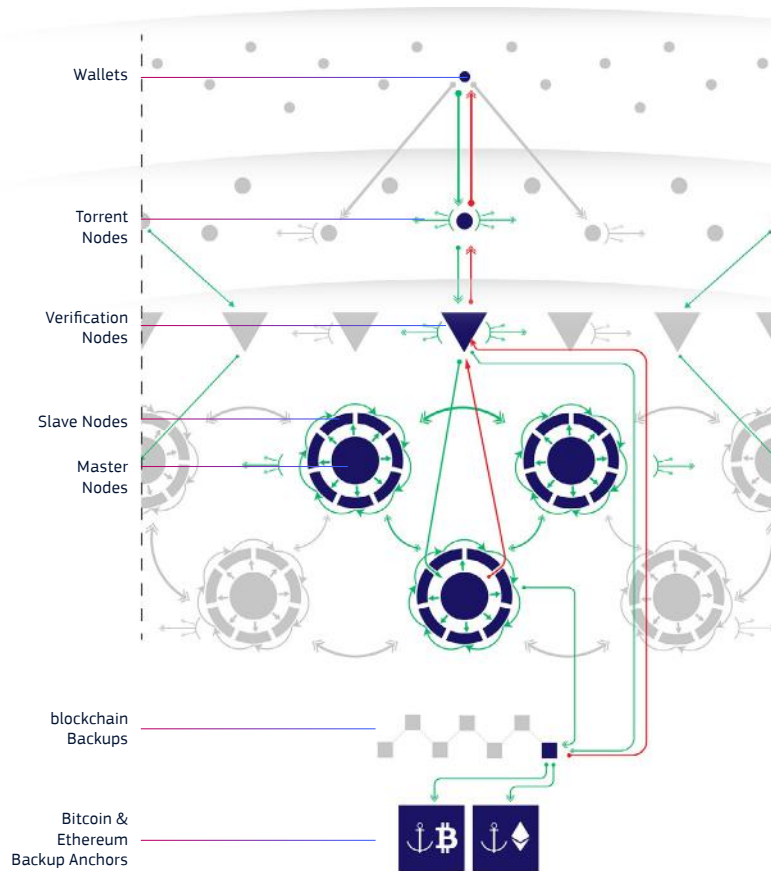
More than five billion transactions per day

Under three seconds transaction confirmation

Five stages of consensus building verification

#MetaHash block anchors in the Bitcoin and Ethereum  
networks

# How It Works



## Speed

- Up to 3 seconds to confirm a transaction with cores
- More than 5 billion transactions per day
- 1 node can handle more than 100,000 transactions per second
- Machine learning algorithm that defines the roles of nodes and their distribution across the network

## Reliability

- Each transaction is protected by 5 different consensus algorithms
- It's impossible to gain control over the network even with a budget of billions of dollars
- Real decentralization amongst real people rather than groups of dominant mining pools with gigantic mining farms

## Blockchain Interoperability

- Send transfers from #MetaHash directly to other networks
- Digital assets (tokens) of other networks can be used in the #MetaHash network - even Bitcoin, Ethereum and ERC20
- Any asset can be converted into a #MetaHashCoin
- #MetaHashCoins (#MHC) can be transferred to the Ethereum or Waves networks and sent back through mirrored smart contracts

# How did we attain such swiftness?

1

Transactions are distributed across the network by Peer Nodes

2

Transactions begin at the outer radius and then run into the core network using the fastest route

3

The fastest nodes of the core network verify and synchronize transactions between themselves

4

The core network returns the balance of the wallets to the network

5

Blockchain nodes contain information about all #DataChains and #MetaHash network transactions

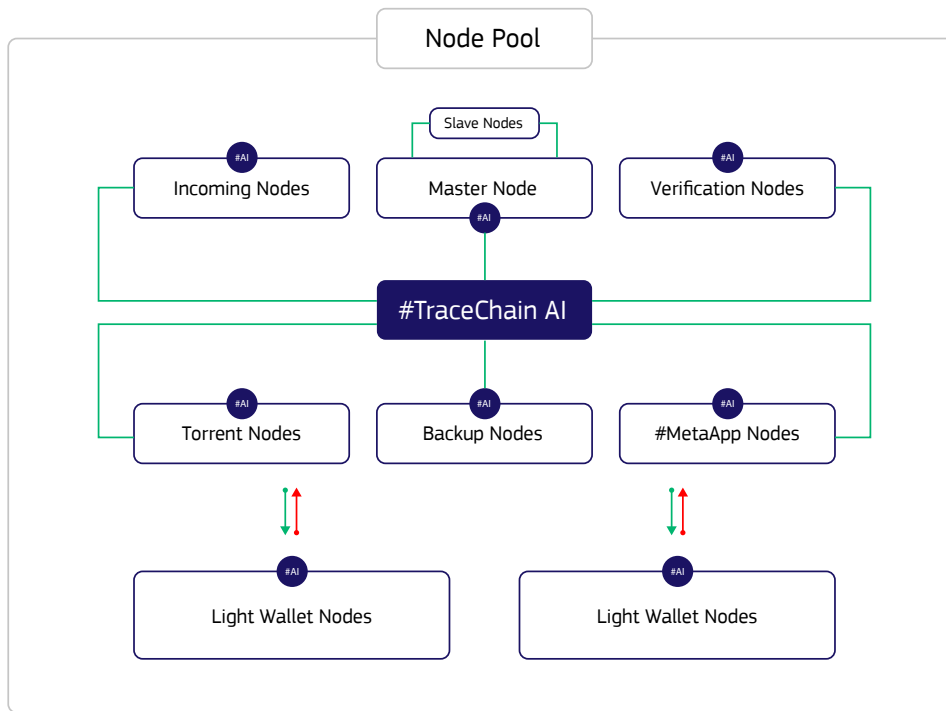
6

Every day, nodes belonging to the #MetaHash Company establish anchors (a hash from the latest block) of the Bitcoin, Ethereum and other networks.\*

\* If the system is successfully attacked, this will help to restore the network urgently through general voting. An anchor can be verified by any network member. In its early years, any new technology may be prone to vulnerabilities, so this method is an additional fail-safe which will be eliminated later.

In order to modify the data stored in the #MetaHash network, it would be necessary to successfully attack it as well as a number of other blockchain networks

# #TraceChain AI



#AI #TraceChain AI

## Testing function

It would be required to know the performance of each node and the data transfer rate between nodes to create an optimal TraceChain AI network map. Therefore, #TraceChain AI randomly puts some nodes into testing mode to collate information. The tests are specifically designed so that even if a node is corrupt, it will not be able to report the performance or speed above the claimed figures and will not be able to identify it is being tested, because this information is only revealed at the end of the interaction.

We also use the data on the actual node performance in the decentralized network under normal operating conditions of the system to calculate node performance, thus eliminating the inaccuracies of the testing methodology.

## Node trust evaluation

The best protection against a brute-force attack is blocking the node after an unsuccessful attempt. This is the method we use to evaluate node trust. If a node processes a transaction incorrectly, it resets its trust level. A node can achieve 99% trust value after approximately 6 months of continuous activity. If a node is used to disrupt or slow down the network, it loses the accumulated trust value and will not be used to its full potential for a long time. In addition, Trust Nodes also affect the votes required for other types of consensus.



# #TraceChain AI

Each node features a code that votes for the roles to be assigned to other nodes in the moment. As a result of the voting, every available node receives the roles for several subsequent cycles of the network's life.

## #TraceChain: Node roles

### 1. Peer Nodes

These nodes deal with wallets and external services. They protect the internal parts of the network from external overloading caused by signal reception and distribution, including dDos attacks. At the same time, they protect the network's core parts against the threat of corruption.

### 2. Master CoreNodes & Slave CoreNodes

The fastest and most reliable nodes become the core of the network; they receive the maximum reward and form commits. Any Slave Node can at any time become Master Node and start performing corresponding functions. In the Slave mode, they check the accuracy of Masters' work and reduce their workload in terms of signal distribution among verification nodes.

### 3. Blockchain Backup Nodes

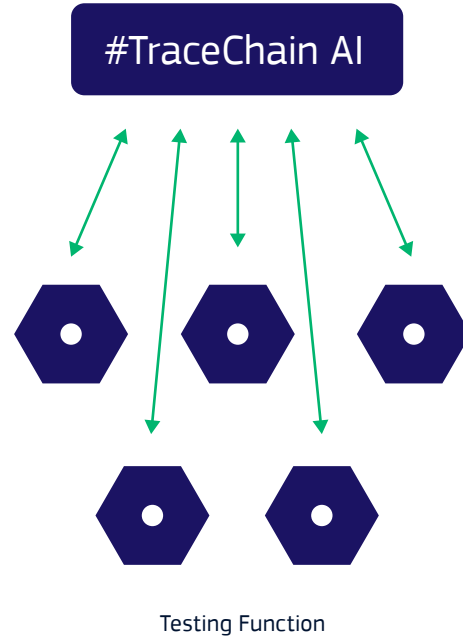
These nodes verify network integrity and check for correct functioning of the core. In addition, blockchain Backup Nodes run a voting procedure if the core of the network is successfully attacked

### 4. Verification Nodes

Approved transactions are sent to these nodes which verify the functioning of Master and Slave Nodes and transmit the information to Peer Nodes for distribution to wallets.

### 5. Proxy Nodes

Most wallets by default are light wallets that trust the network consensus, but any wallet can become a full wallet, decide not to trust the network and store all the transactions itself. This is a high load that requires a good internet connection and enough space on the disc to store large amounts of data. A wallet doesn't need to store all transactions; it can store the transactions following the last trim or work with trusted full nodes only.



### 6. #MetaApps Nodes

Many services, such as smart contracts and decentralized apps, require extensive resources in order to execute work. In #TraceChain, there is a separate fee for execution of work not related to transactions;

### 7. Test Nodes

All nodes go to test mode from time to time, collecting technical data concerning node speed capabilities and the speed of data transactions between nodes, which is used by #TraceChain AI to create an optimal network map and assign roles. Of course, the testing function is not the only one that determines node performance.

## #TraceChain Multi-consensus

To finalize the voting procedure, 67% of nodes in each of their possible roles must validate the transaction. The use of multi-consensus rules out the possibility of gaining control over the network even with a concentration of more than 67% #MHC on one hand or gaining full control over a network's part. In addition, the PoS multi-consensus regards every network member as important, not only the owners of the largest share of resources. 67% is a mathematically backed value that proves the need and sufficiency of exactly 67% of nodes.

*#TraceChain uses multi-consensus voting on node roles, supported by the multiPOS (Multivote Proof of Stake) principle*

## Technology Development

This document describes the principle of operation of the distributed network, which is launched together with the ICO Round A. While developing the current protocol, we are testing an alternative network synchronization option featuring unlimited transactions (up to millions of transactions per second), reduced latency and increased protocol security. In this regard, the version described below may be different from the final public release.



#MetaApps

# #MetaApps

Decentralized cloud for real-time applications

## High speed, decentralization and the ability to handle high loads shape the new, decentralized internet

With #MetaHash, any program written in any programming language under any operating system can become a decentralized app and work with both data from the internet and data from any blockchain system.

**#MetaApps run in real time as regular websites and services**, but they are decentralized and even their creator cannot change their behavior unless their users or owners of their digital assets (tokens) cast their votes.

**#MetaApps is an evolution of smart contracts and can be used to decentralize any service.** These are independent programs that can exist forever and do not belong to anyone. They work exactly as programmed and cannot be tampered with by third parties.

## Any developer can create a #MetaApp from code in any language

- Program and operation systems image uploads onto the network and starts automatically on numerous computers.
- Are created in any programming language including C++, PHP, Solidity and others. Compatible with any OS.
- Full support of smart contract functionality. #MetaApps can work with any blockchain or just with data from the internet.

## Ready-made modules for applications

The #MetaHash network will include an array of decentralized modules to accelerate the development of new projects.

For example, creators of each project will be able to use the existing #MetaChains service instead of creating their own Bitcoin or Ethereum parsing scripts. Projects requiring a decentralized database will be able to use #MetaDataBase. The basic functions of the protocol support the creation of #MetaTokens and data networks protected by the basic consensus of the #MetaHash network.



## #MetaApps

### Run in real-time mode

As fast as regular web services and applications

### GUI

Can look like ordinary applications or webpages

### Work exactly as programmed

No one can change the application's behavior by bypassing the update rules

# Self-financing Applications

The number of computers running a copy of a #MetaApp depends on the amount of #MetaHashCoins generated per day as well as its resource consumption. Anyone can top up the account from which #MHC will be debited. Alternatively, a certain percentage of an app's income may be transferred to its account.

Any app developer can program an application to use a certain share of its revenue to support its work in the network and keep the rest of the revenue to finance further app development. In this model, the team that develops an application can be selected by the users of the project by general voting. The issues of marketing and the need for other services can be addressed collectively, too.

**Following the logic described above, we can create a social network that:**

- Is controlled by general voting of #MHC holders and the project's active users;
- Encrypts data and user messages, so no one has access to them;
- Is self-financed.

**Here is an example of a decentralized self-financed social network based on the #MetaHash platform:**

- The Project Team launches a ICO Round A to finance the development of the project;
- The finished code of various project nodes is uploaded into the #MetaHash network and these nodes' wallets receive funds. The nodes' code is automatically deployed in #MetaHash;
- Users' publications are encrypted and stored in the #MetaHash data network. They can only be decrypted by users who are "added as friends" and therefore allowed to see updates. Thus, only those who are on the user's list will be able to get the key to decrypt and read current and past updates published by this user. Private messages are encrypted with end-to-end encryption and are only available to their recipients, despite the fact that they are stored publicly;
- After the ICO, the project is financed through ad sales carried out in #MetaHashCoins or through the "Disable ads" user function. The team supporting the project as well as the project's Marketing Team get paid in #MHC while a certain amount of #MHC is exchanged through the automatic decentralized exchange service and credited to the wallets of the project's nodes.

*This model gives rise to fundamentally new type of projects and the way in which they exist and are launched*

*Please note that the described example is just a concept.*

*The implication of such a project would require detailed planning, which cannot be done within the framework of this White Paper*

# Applications developed by the #MetaHash Team

## #MetaChains

Decentralized parsers of all popular blockchain platforms.

In order for #MetaApps to immediately respond to events in any blockchain system, we will release decentralized parsers allowing the use of API to get balance info and transaction history from wallets across various blockchain platforms.

This will allow applications to respond to different blockchain events and verify data accuracy by sending queries to network nodes.

## #MetaToken

The app's features include:

- Automatic tokenization of #MHC into ERC20 digital assets and others;
- Conversion of any digital assets into #MHC;
- Transferring digital assets between #MetaHash, blockchain and Ethereum wallets.

## Tokenization of digital assets:

Using the data provided by the #MetaChains app and taking advantage of the protected and automated decentralized data storage service, the user can convert any blockchain network's token into #MHC and use it in the #MetaHash network. If required, the asset can be automatically converted back and transferred to its original blockchain network. This way, any digital asset (token) can be turned into a #MetaToken and used in the #MetaHash network.

The protected and automated decentralized data storage service will be created under the supervision of #MetaHash Company, but financed from data storage fees. They will not belong to the #MetaHash Company.

*A digital asset, equal in value to the original token, is created within the #MetaHash network. At the same time, the original asset is frozen on the blockchain platform it belongs to. Tokenization has the retroactive effect of converting a #MetaHash asset into an original token*

## #MetaStorage

Decentralized data storage service allows you to work with public encrypted data stored in the #MetaHash network, as well as with individual data nodes that are funded by an application using this data.

## #MetaICO

The application allows the release of #MetaHashCoins through the #MetaToken interface without knowledge of any programming language, using a combination of settings.

In addition to simplifying the process of creating #MHC, it is very important to support the protocol and create a comprehensive protection environment against hackers by code verification on multiple applications.

At the moment, all ICOs are held using smart contracts. Creating, executing and understanding their results would require extensive knowledge of programming. #MetalCO offers a new ICO model. Absolutely anyone will have an opportunity to hold an ICO using tools similar to smart contracts. The tools offered by #MetalCO will be simple enough to be used by people who don't have any significant programming skills.

#MetalCO will accept any cryptocurrency using the data received from the #MetaChains app and convert the #MetaHashCoins into Ethereum tokens and other ERC20 tokens of other networks.

*#MetalCO application will allow any ICO participant to use their digital assets (tokens) in any network, not just the #MetaHash network, facilitating the storage of various projects' digital assets (tokens) and providing connection to various token exchanges*

## Censorship in #MetaApps

Although the idea of applications that cannot be blocked or deleted sounds wonderful, we must not forget that some people would want to use the system to harm others.

We believe that we have to apply censorship, but it is not for individual people to decide how this will be manifest, but rather for the whole #MetaHash community. This will be done through open voting.

*When defining content placement rules, the #MetaHash community will always take into account all applicable laws*

## Blocking an application

- The open voting procedure is initiated if 10,000,000 voting coins have been accumulated in favor of blocking an application. The voting takes a month.
- If an application gets 100,000,000 voting coins, the voting period is reduced to one week.
- If an application gets 500,000,000 voting coins, the voting period is reduced to 24 hours.

As a protective measure against numerous malicious applications, a deposit sufficient for three months of hosting the application (not less than 10,000 #MHC) will be required in order to upload an application. This figure may be changed by a general vote. If an application is blocked, the remaining deposit is frozen.

If 67% of votes in favor of blocking the application are gathered by the end of the voting period, it is blocked.

The application owner can file an appeal, unblock the application and return the deposit. The appeal is subject to the same rules as blocking and is successful if 67% of votes are cast in favor of unblocking the application by the end of the voting period. A second appeal can be filed one month after the first one. The appellant may offer a modified version of the application, eliminating the reasons that made **the community members decide against it**.

The background is a dark, muted blue. It is decorated with several large, overlapping, semi-transparent shapes in shades of purple and blue. These shapes are mostly trapezoidal or parallelogram-like, with some having rounded corners. They are arranged in a way that creates a sense of depth and movement, with some shapes appearing to be in the foreground and others receding into the background. The overall aesthetic is modern and minimalist.

#MetaGate



# #MetaGate

## Gateway to Decentralized Internet

#MetaGate is not just another cryptocurrency wallet and browser for decentralized applications. It is a gateway to the decentralized internet which exists in parallel with the usual internet but follows its own rules. It cannot be modified or blocked. It is everywhere and nowhere at the same time. It belongs to no one and everyone.

With all the technical complexity, #MetaGate is much easier for the user than the usual cryptocurrencies. All the necessary elements that provide network security function in the background, leaving the end user with a concise and clear interface.

*#MetaGate is an open-source program, so all developers can embed parts of its code into their applications and browsers*

### #MetaGate consists of:

- **A multi-asset wallet that supports "light mode" without downloading the entire blockchain.** Data comes from different sources of the decentralized network and is checked by the user. Of course, the wallet can work in "full node" mode or by selecting trusted nodes that have a copy of the #MetaChains application. (Private keys from all blockchains used will be stored only by the user.) The wallet which can be built from the source code in order to ensure the source code is validated by the community and that the wallet does in fact belong to the user.
- **A catalogue of decentralized applications and a browser to work with them.** Any decentralized application built on #MetaHash can be accessed, not only through the standard internet domain, but also via #MetaGate or it can be allocated to a separate program.

The background is a dark blue gradient. It features several large, overlapping, semi-transparent geometric shapes in shades of purple and blue. These shapes are primarily trapezoids and parallelograms, some with rounded corners. They are arranged in a way that creates a sense of depth and movement, with some shapes appearing to be in the foreground and others receding into the background. The overall aesthetic is modern and digital.

#MetaHashCoin

# #MetaHashCoin (#MHC)

#MetaHash is a self-financing system with self-development process embedded in its genetic code

## #MetaHashCoin is used for payment:



### Transactions

Instant and reliable transactions of any assets at an adequate, fixed price.



### Operation of applications

Any decentralized application or smart contract requires resources for deployment, including the #MetaHash network itself

## The value of #MetaHashCoin

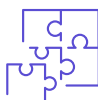
*Offers a real product that people and companies need rather than creating speculative demand*

*#MetaHash does not use ineffective resources to reach consensus*



### Data storage

For applications that need to store data, but require a greater speed or a higher volume of data than available in conventional blockchain systems



### Other services

Payment for public addresses, listing in #MetaApps, advertising in #MetaGate and other sources

## Resources for #MetaHashCoin Forging

### Servers

Used for the operation of the transaction network. Free resources are used for the operation of decentralized applications

### Wallets on computers

In "full" mode, nodes are used for system backup and recovery and as Torrent Nodes.

### #MetaHashCoin

To strengthen the security of consensus on the hybrid voting model for PoW + PoS components

In order to start earning #MHC with your servers, you need to deposit coins to ensure network security. This generates additional demand for #MHC



# Financial Model

9,200,000,000 #MHC will be released for circulation within the next 10 years. 1% of the final amount is 92,000,000 #MHC

- **3% of #MHC** are distributed among #MetaHash founders for the price offered during the Private Round.

**Founders are obliged not to sell these until January 1, 2020.**

- **2% #MHC are reserved during Private Round**

#MetaHash shall in a mandatory manner inform all Private Round participants about their rights and terms of participation. The Private Round is required to verify the idea in the expert environment, to complete the team, launch a PR campaign and hire the project's advisers.

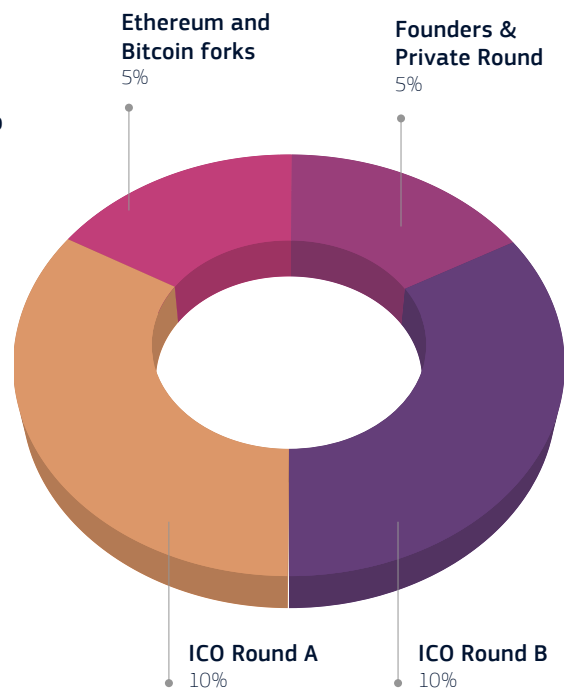
**Timing: applications are accepted from December 20, 2017 to February 28, 2018.**

- **10% of #MHC are distributed during ICO Round A.** The funds collected at this stage will be used to pay for a marketing campaign and to finance further project's development.

**The launch of ICO Round A is scheduled for Q2 2018. The ICO Round A period can be changed or postponed by 3 months.**

**Estimated value: 0.0000625 ETH = 1 #MHC.  
Round A amount: 36,000,000 USD\***

*Emission of #MHC during the first year*



## Initial emission of #MHC (#MetaHashCoin) All prices are in ETH (Ethereum)

Stage	%	#MHC	Price (ETH)**	ETH Value
Founders & Private Round	5	460,000,000	-	-
ICO Round A	10	920,000,000	0.0000625	57,500
ICO Round B	10	920,000,000	0.000125 (min)	115,000 (min)
Ethereum and Bitcoin forks	5	460,000,000	-	-

\* The total amount of coins sold at Round A cannot exceed 36 million US dollars. 1 #MHC = 0.0391 USD. During each round, #MHC will remain on sale until they are sold out.

\*\* The exchange rate is fixed at 626,09 USD per 1 ETH (the rate as of 26.04.2018). Please note that at the time of #MHC sale, current exchange rate of ETH will be used to calculate the number of #MHC coins sold.

- **10% of #MHC are distributed during ICO Round B. Launched only after Forging.**

We warn all participants that if Round A closes early, we may cancel Round B unilaterally. In this case, all participants of the Founders & Private rounds as well as participants of ICO Round A will have 21 days to sell their #MCH before #MetaHash launches on crypto exchanges. The only exception is the founders of the project who are obliged not to sell their #MHC until January 1, 2020.

#Metahash reserves the right to buy back #MHC from the Founders & Private Round participants at the price of 0.0000625 ETH per 1 #MHC as an anti-dumping measure. This is a right of the #MetaHash project rather than an obligation. The only exception is the founders of the project who are obliged not to sell their #MHC until January 1, 2020.

The White Paper regulates the relations between #MetaHash and ICO participants. Additional terms and conditions can be found in the documentation posted on the [#MetaHash website](#).

During ICO Round B, the project's team reserves the right to regularly and repeatedly raise the token value, according to the market situation and current demand. The starting value of #MHC in this round shall not be lower than the price offered at Round A, multiplied by two.

**In case of an early listing on crypto exchanges, 10% of #MHC initially planned for the distribution during ICO Round B will be sold at crypto exchanges at twice the Round A price. The project will then begin the process of its transformation into a DAO.**

- **5% of #MHC are reserved for building a fork of Ethereum and Bitcoin. This is 460,000,000 #MHC.**

In order to implement additional system protection, #MetaHash will leave anchors in the Ethereum and Bitcoin blockchains. 5% of #MHC will be used as a motivation for ETH and BTC digital asset holders because we wish to recognize the merits of these blockchain systems.

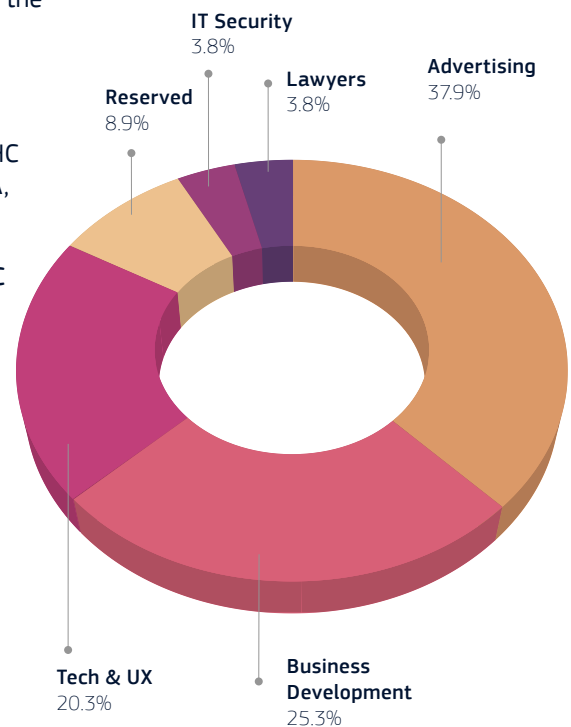
Owners of the most popular cryptocurrencies will be able to get a share of #MHC. Thus, we want to attract the most active members of the crypto community regardless of the size of their contribution to the ICO and motivate them to use the #MetaHash network. In order to participate, you will need to buy one or more #MHC using an Ethereum or Bitcoin wallet. A bonus is awarded at the time of transaction signature verification procedure. Bonuses will be distributed until the sum of 460,000,000 #MHC runs out.

A bonus is awarded to the wallet used for the transaction at the time of the start of ICO Round B or the launch on crypto exchanges. The bonuses are given to the owners of Ethereum and Bitcoin, in proportion to their wallet balances.

**"Bonus amount:  
4,000 #MetaHashCoins per 1 Bitcoin  
2,000 #MetaHashCoins per 1 Ethereum**

**"The total bonus amount must not exceed 100,000 #MHC per 1 #MetaWallet.**

*ICO Round A  
Funds Distributon*



*The offer will start on the day of the ICO Round B launch or on the first day of crypto operations at the discretion of #MetaHash. This will be announced in advanced via public news channels. The offer period will last 21 days; unclaimed #MHC will remain with the #MetaHash Company.*

- **#MHC emission: 1% per year for 10 years to encourage the project's development.**

10% of #MHC will be issued in the course of 10 years to stimulate the development and promotion of the project. In fact, this reserve may be used by #MetaHash if necessary.

- **#MHC emission: 1% per year for 10 years to stimulate Project Team.**

10% of #MHC will be issued in the course of 10 years to drive the team's performance. Every 2 years, the team that develops the project is elected.

- **50% #MHC will be issued in the next 10 years to stimulate forging.**

Starting from 15.5% in the first year and ending in 5.9% in the 10th year.

The project has a high potential to successfully exist as a self-financing entity once the funds raised during the ICO period are exhausted. However, if the team that develops the project offers to increase the share of commission paid to #MetaHash, and #MHC holders find it necessary, they can vote in favor of this plan.

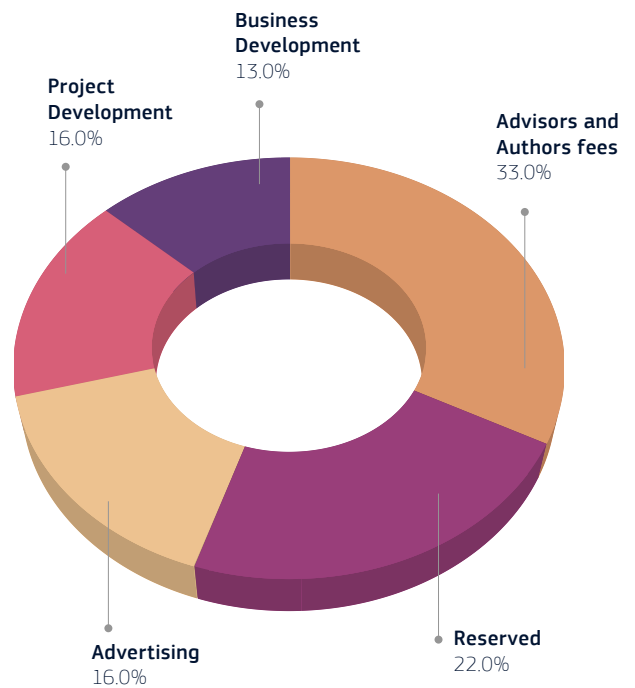
Project Authors, Experts and Advisors are paid a share of commission and can buy #MHC at the ICO price (on general grounds).

Authors fees will be paid from project's income during 25 years from launch date regardless of the people or companies managing #MetaHash in the future.

To maintain competitive prices, the network's commission fees may be changed by a general vote based on the value of #MHC.

If data transactions start to interfere with the network, they will be allocated an isolated network with the same consensus as the main network. **With standard load on the network, no commission fees are charged for #MetaHash transfers.**

Total ICO Funds Distribution (including planned expenses)



### Commission on Transactions in the #MetaHash Network

Network Load	up to 20%	up to 40%	up to 60%	up to 80%	more than 80%
#MHC	0.0 #MHC	1 #MHC	10 #MHC	50 #MHC	100 #MHC
#MHC assets	1 #MHC	10 #MHC	30 #MHC	100 #MHC	1,000 #MHC
Data transactions	1 #MHC	30 #MHC	60 #MHC	200 #MHC	2,000 #MHC

# #MHC Forging

Forging rewards come from the forging pool and transaction commissions. Rewards are calculated every 6 hours when a new block (trim) is formed. The frequency of calculations and payments may vary depending on technical requirements, at the discretion of the #MetaHash Team.

Unlike the PoW system, #MetaHashCoins forging servers don't go out of date and don't lose their effectiveness, as their number is limited and depends on #MHC stakes. The only thing that will need improvement is the system's core, (if scaling becomes necessary,) but transaction commissions at this stage will fully cover the upgrade.

## 50% of all rewards for forging are distributed among #MetaHashCoins owners

Coin holders can entrust their voting rights to any of the network nodes including their own nodes. This can be easily done via the wallet interface. Delegation initiates a technical transaction in the network. Instead of establishing their own node, an #MHC holder may give their voting right to the operator of the node they trust and get a share of the commission. In this way, large numbers of votes are concentrated at nodes that the community trusts, making attacks on the system more difficult.

Commission paid to #MHC holders amounts to 50% of the total pool regardless of the stake limits that are taken into account when the voting power for each commit (block) is calculated. The amount of #MetaHashCoins received for the forging process (also known as mining) of #MetaHash commit (block) is calculated by the following formula:

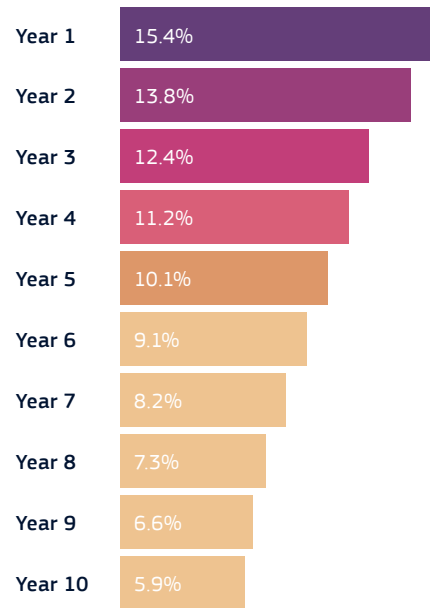
$$\frac{h}{t} * (fp + c)$$

*h* - Holder's Stake    *t* - Total at stake    *fp* - Forging pool    *c* - Commissions

## 40% are distributed among the owners of the network's nodes

Nodes with the highest technical performance and a large number of delegated coins can become the core of the network. The system is designed to encourage users to add nodes with maximum capacity. Rather than requiring a multitude of computers, the system needs a limited number of computers with high processing capacity, as well as weaker computers that could perform the role of Peer Nodes and protect the network's core. As the network fills with high-performance nodes, the amount of transactions that the network can carry out per unit time increases.

Forging Stimulation by Year



## Minimum stakes:

To become an active node, a minimum of delegated coins is required.

- 1,000,000 #MHC to act as a Master/Slave/Verification/Blockchain Node with a maximum voting strength of 10,000,000 delegated #MHC per node.
- 100,000 #MHC to act as a Peer Node with a maximum voting strength of 999,900 delegated #MHC per node.
- 100 #MHC to act as a MetaApps/Proxy/Wallet Node.

## 10% is paid to the owners of active wallets

Winning wallets for a new round are chosen with a mathematical formula providing a random distribution of active wallets based on the previous trim's hash value (that is, from all transactions that occurred before the end of the last round). Thus, winners become known immediately at the start of a new round and their wallets receive corresponding notifications. Since the hash of the past trim is known throughout the network, all users can easily check the correctness of the calculation using the same mathematical formula. During multiple hash upon hash calculation, a wallet that is closer to the current hash number in this round gets its place and the next hash is calculated to determine a new winner. Let's calculate the awards for wallets assuming that the forging reward pool on this day is 1,904,000 #MHC (the daily pool during the first year) ignoring commissions that increase the reward pool.

*Wallets protect the integrity of the system. Thanks to wallets, the system can't be controlled by anyone even if they own more than 67% of all #MHC. In contrast to nodes, wallets can't generate significant rewards but may still bring a nice bonus to any network user*

## All active wallets with more than 1 #MHC are eligible

5%: first place (95,200 #MHC)

1%: second place (19,040 #MHC)

0.5%: third place (9,520 #MHC)

0.34%: fourth place (6,473 #MHC)

0.235%: fifth place (4,474 #MHC)

0.95%: from 6th to 100th, 0.01% 190 #MHC each

1.8%: from 101st to 1,000th, 0.002% 38 #MHC each



## Below is an example of how mining/ forging rewards are calculated

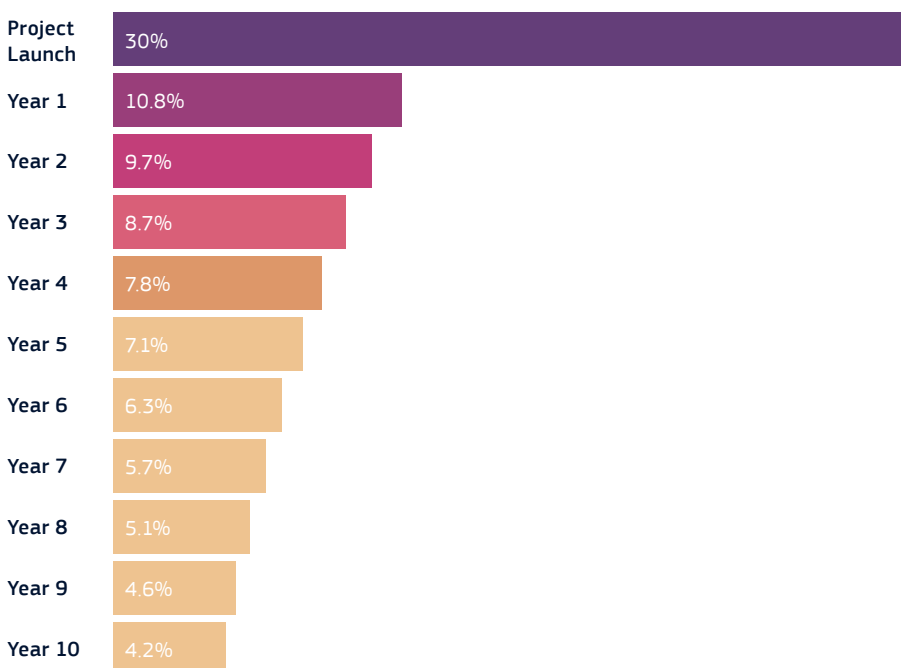
As an example, let's calculate the awards assuming that the forging reward pool is 1,904,000 #MHC

- 50% of reward is given to voting coins and is 10,000 #MHC;
- Alice took part in the voting with 1,000,000 #MHC, and a total of 10,000,000 #MHC participated in the voting procedure;
- Alice will receive 10% of 5,000 #MHC = 500 #MHC;
- If Alice bought a node and voted for it with her coins, she will receive another 400 #MHC for the node;
- If Bob, who doesn't have a node, uses his 1,000,000 #MHC to vote for Alice's server, she'll get 400 more #MHC;
- So Alice will earn 1,300 #MHC in this commit (block);
- 1,000 #MHC will be distributed between wallets.

## #MetaHashCoins Emission by Year

30% of all #MetaHashCoins will be distributed among the participants of Founders' round, Private Round, ICO Round A, ICO Round B and participants of Bitcoin and Ethereum fork.

The remaining 70% will not exist at the time of the ICO and will be issued at planned times in accordance with #MetaHash code. 70% is made up of 50% for #MetaHash mining (forging) stimulation, 10% to support the Project Team, and 10% to support the project's development.



# Legal Disclaimer

## GENERAL INFORMATION

The MetaHash Coin (“#MHC”) does not have the legal qualification of a security, since it does not give any rights to dividends or interests. The sale of #MHC is final and non-refundable. The #MHC are not shares and do not give any right to participate to the general meeting of MetaHash AG, a company incorporated in Zug, Switzerland (hereinafter referred to as “MetaHash”). The #MHC cannot have a performance or a particular value outside the MetaHash Platform. The #MHC shall therefore not be used or purchased for speculative or investment purposes. The purchaser of #MHC is aware that national securities laws, which ensure that investors are sold investments that include all the proper disclosures and are subject to regulatory scrutiny for the investor’s protection, are not applicable.

Anyone purchasing #MHC expressly acknowledges and represents that she/he/it has carefully reviewed this White Paper and fully understands the risks, costs and benefits associated with the purchase of #MHC.

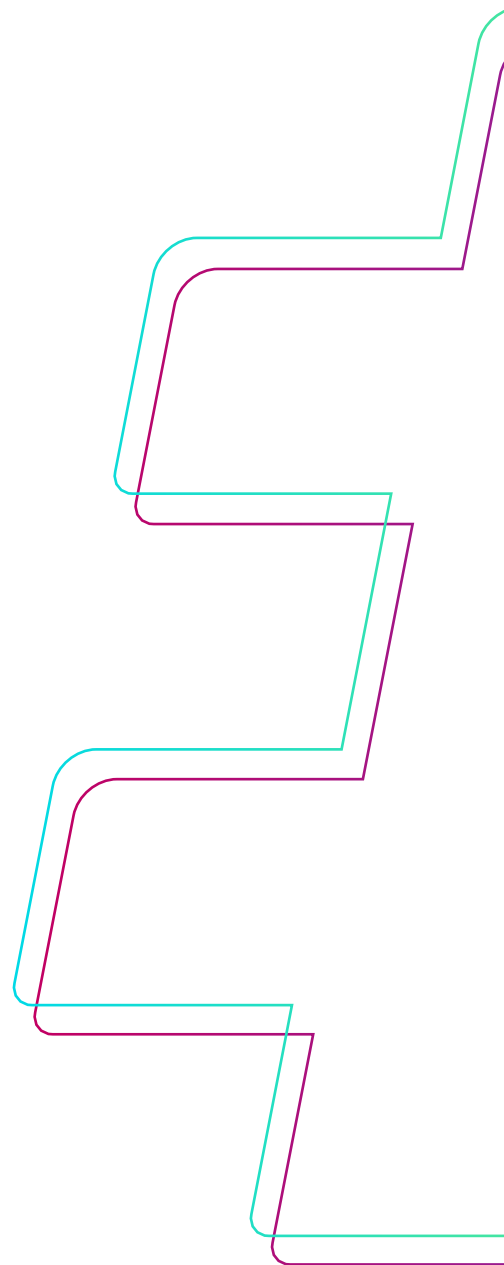
## KNOWLEDGE REQUIRED

The purchaser of #MHC undertakes that she/he/it understands and has significant experience of cryptocurrencies, blockchain systems and services, and that she/he/it fully understands the risks associated with the Initial Coin Offering (“ICO”) as well as the mechanism related to the use of cryptocurrencies (incl. storage).

MetaHash shall not be responsible for any loss of #MHC or situations making it impossible to access #MHC, which may result from any actions or omissions of the user or any person undertaking to acquire #MHC, as well as in case of hacker attacks.

## RISKS

Acquiring #MHC and storing them involves various risks, in particular the risk that MetaHash may not be able to launch its operations, develop its blockchain and provide the promised services. Therefore, and prior to acquiring #MHC, any interested person should carefully consider the risks, cost and benefits of acquiring #MHC in the context of the ICO and, if necessary, obtain any independent advice in this regard. Any interested person who is not in the position to accept or to understand the risks associated with the activity (incl. the risks related to the non-development of the MetaHash Platform) or any other risks as indicated in the Terms & Conditions of the ICO should not acquire #MHC.



## IMPORTANT DISCLAIMER

This White Paper shall not and cannot be considered as an invitation to enter into an investment. It does not constitute or relate in any way nor should be considered as an offering of securities in any jurisdiction. The White Paper does not include nor contain any information or indication that might be considered as a recommendation or that might be used to base any investment decision. This document does not constitute an offer or an invitation to sell shares, securities or rights belonging to MetaHash or any related or associated company. The #MHC is a utility and payment token, which can be used only on the MetaHash Platform, and is not intended to be used as an investment.

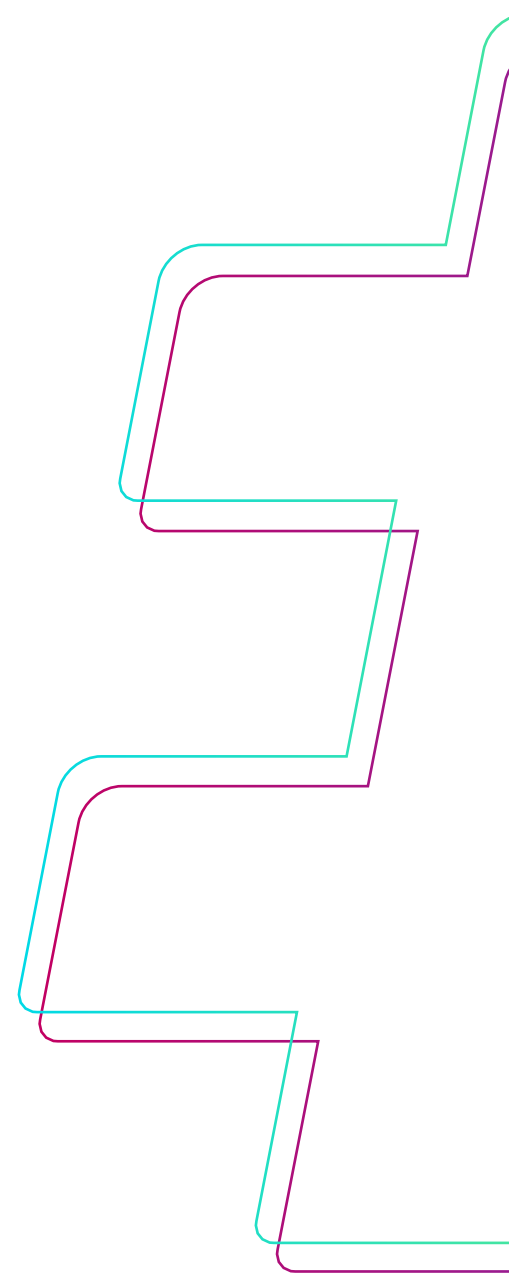
The offering of #MHC is done in order to access the MetaHash Platform, purchase services related exclusively to the latter and not for speculative purposes. The offering of #MHC Tokens on a platform is not changing the legal qualification of the token, which remains a simple means for the use of the MetaHash Platform and is not a security.

MetaHash is not to be considered as advisor in any legal, tax or financial matters. Any information in the White Paper is given for general information purpose only and MetaHash does not provide with any warranty as to the accuracy and completeness of this information. Given the lack of crypto-token qualifications in most countries, each buyer is strongly advised to carry out a legal and tax analysis concerning the purchase and ownership of #MHC according to their nationality and place of residence or incorporation.

MetaHash today is a financial intermediary according to the Swiss Federal Act On Combating Money Laundering and Terrorism Financing (AMLA). As a consequence, MetaHash has concluded an agreement with the company Eidoo AG, a Swiss financial intermediary affiliated to a self-regulatory organization according to the AMLA. With this agreement, MetaHash, in application of FINMA guidelines for enquiries regarding the regulatory framework for initial coin offering, published on 16 February 2018 («FINMA ICO guidelines»), has fully delegated to Eidoo AG the execution of the AMLA requirements in relation to the acceptance of the funds that will be raised through the ICO. According to the FINMA ICO guidelines and in consideration of the agreement concluded with Eidoo AG, MetaHash has not to be itself affiliated to an SRO or to be licensed by FINMA. .

The #MHC confer no direct or indirect right to MetaHash's capital or income, nor does it confer any governance rights within MetaHash; the #MHC is no proof of ownership or a right of control over MetaHash and does not grant the purchaser any asset or share in MetaHash, or in the MetaHash Network. The #MHC does not grant the purchaser any governance or right to participate in control over MetaHash's management or decision making set-up, or over the MetaHash Network.

Regulatory authorities are carefully scrutinizing businesses and operations associated to crypto currencies in the world. In that respect, regulatory measures, investigations or actions may impact MetaHash's business and even limit or prevent it from developing its operations in the future. Any person undertaking to acquire #MHC must be aware that the MetaHash business model, the White Paper or Terms & Conditions may change or need to be modified because of new regulatory and compliance requirements from any applicable laws in any jurisdictions. In such a case, anyone undertaking to acquire #MHC acknowledge and



understand that neither MetaHash nor any of its affiliates shall be held liable for any direct or indirect loss or damage caused by such changes.

The MetaHash Platform will function and provide access and services at the closing of the ICO Depending on further potential developments of the MetaHash Platform, other services may be released and offered to the users.

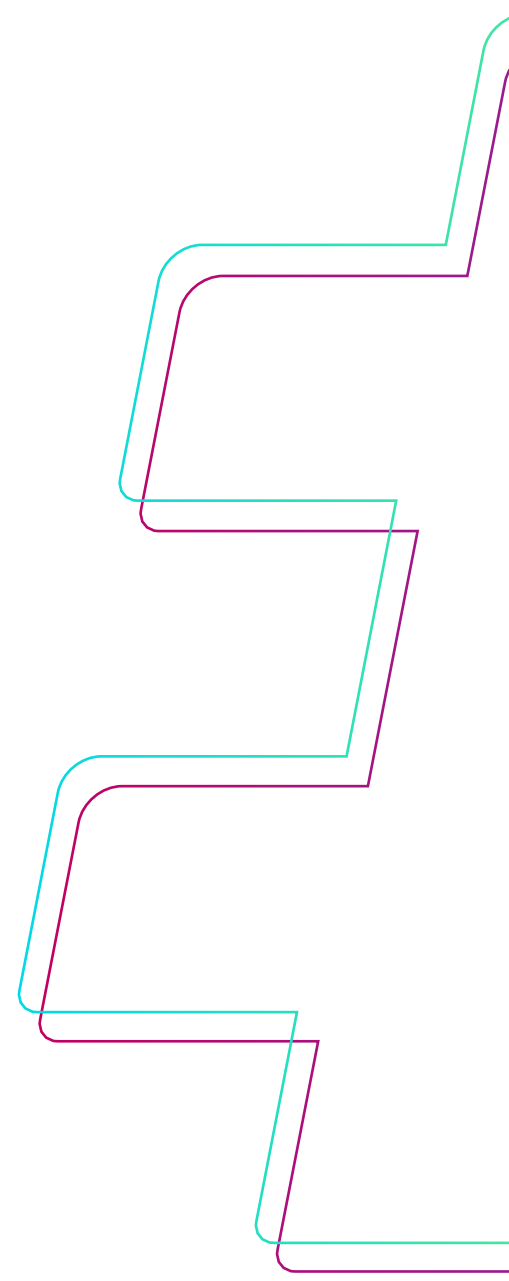
On concluding the commercial operation, The #MHC will be issued by a technical process referred to as “Blockchain”. This is an open source IT protocol over which MetaHash has no rights or liability in terms of its development and operation. The token distribution mechanism will be controlled by a Smart Contract; this involves a computer program that can be executed on the Ethereum network or on any blockchain network that is compatible with Smart Contract programming language. Any person undertaking to acquire #MHC acknowledge and understand therefore that MetaHash (incl. its bodies and employees) assumes no liability or responsibility for any loss or damage that would result from or relate to the incapacity to use the #MHC, except in case of intentional misconduct or gross negligence.

The #MHC are based on the Ethereum protocol. Therefore, any malfunction, unplanned function or unexpected operation of the Ethereum protocol may cause the MetaHash Network or the #MHC to malfunction or operate in a way that is not expected. Ether, the native Ethereum protocol account unit may itself lose value in a similar way to the #MHC, and also in other ways.

## REPRESENTATIONS AND WARRANTIES

By participating in the ICO, the purchaser agrees to the above and in particular, she/he/it represents and warrants that she/he/it:

- have read carefully the Terms & Conditions attached to the White Paper; agrees to their full contents and accepts to be legally bound by them;
- is authorized and has full power to purchase #MHC according to the laws that apply in her/his/its jurisdiction of domicile/place of incorporation;
- is not a U.S. citizen, resident or entity (a “U.S. Person”) nor is she/he/it purchasing #MHC or signing on behalf of a U.S. Person;
- is not a Chinese resident or entity nor is she/he/it purchasing #MHC or signing on behalf of a Chinese resident;
- is not a South-Korean resident or entity nor is she/he/it purchasing #MHC or signing on behalf of a South-Korean resident;
- lives in a jurisdiction which allows MetaHash to sell the #MHC through an ICO without requiring any local authorization and are in compliance with the local, state and national laws and regulations when purchasing, selling and/or using the #MHC;
- does not live in a jurisdiction which is qualifying token issued through an ICO as securities;

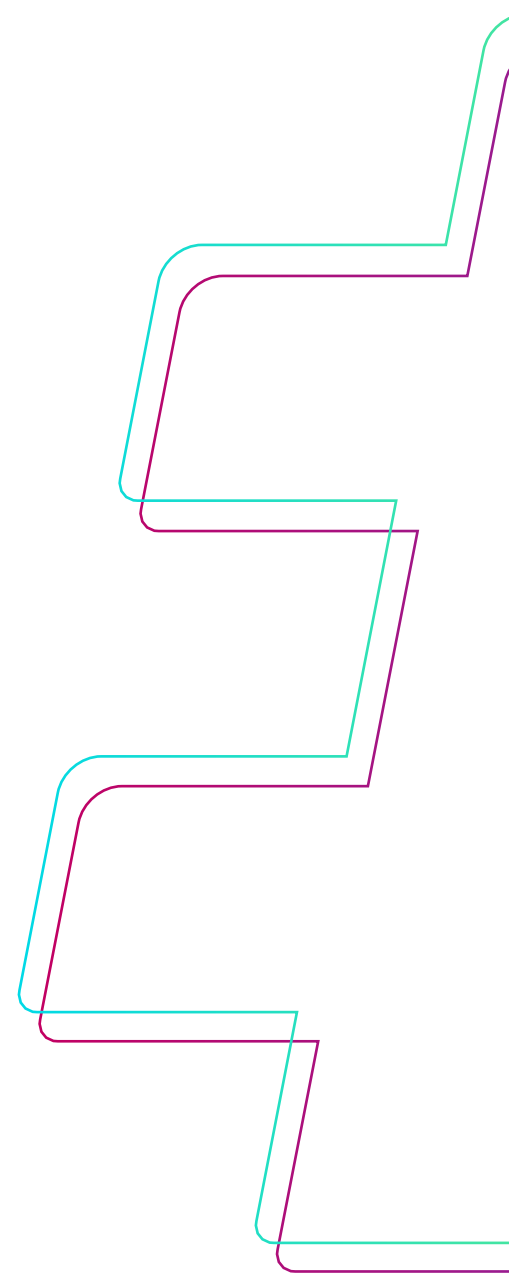


- is familiar with all related regulations in the specific jurisdiction in which she/he/it is based and that purchasing cryptographic tokens in that jurisdiction is not prohibited, restricted or subject to additional conditions of any kind;
- will not use the ICO for any illegal activity, including but not limited to money-laundering and the financing of terrorism;
- has sufficient knowledge about the nature of the cryptographic tokens and has significant experience with, and functional understanding of, the usage and intricacies of dealing with cryptographic tokens and currencies and blockchain based systems and services;
- purchases #MHC because she/he/it wishes to have access to the MetaHash Platform;
- is not purchasing #MHC for the purpose of speculative investment or usage.

## GOVERNING LAW - ARBITRATION

The purchaser acknowledges and accepts that the MetaHash ICO operation is taking place within a Swiss legal environment that is still under development. The Parties agree to seek and amicable settlement prior to bringing any legal action. All disputes arising with the White Paper and any document provided in the context of the ICO, shall be resolved by arbitration in accordance with the Swiss Rules of International Arbitration of the Swiss Chambers of Commerce in force on the date when the Notice of Arbitration is submitted in accordance with these Rules. The arbitration panel shall consist of one arbitrator only. The seat of the arbitration shall be Zug, Switzerland. The arbitral proceedings shall be conducted in English.

For your convenience our legal consultants' opinions are available upon request at [legal@metahash.org](mailto:legal@metahash.org)



The background features several large, overlapping, semi-transparent geometric shapes in shades of blue and purple. These shapes are primarily trapezoids and parallelograms, some with rounded corners, arranged in a way that creates a sense of depth and movement. The colors range from a deep, dark blue to a lighter, more vibrant purple. The overall aesthetic is modern and minimalist.

# Voting Functions

# Voting functions in the #MetaHash network

## Voting procedure

All types of voting are started with a notification in the #MetaGate interface and alerts in corresponding channels. Proposed update details are published in English, with links to the main discussion thread and threads in other languages.

## Vote counting

The voting system is based on the amount of #MHC belonging to voters. A "Vote" is a technical transaction signed by a private key of the voter, available publicly. In order to win, a suggested proposal needs to accumulate 50% + 1 vote.

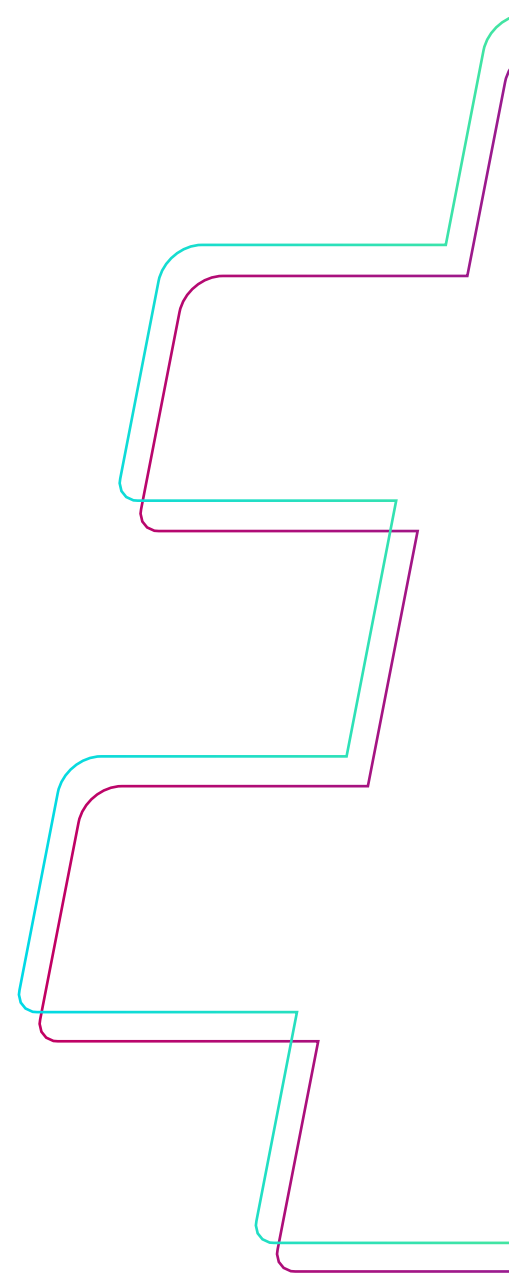
## Types of voting by time frames

- **"Emergency Voting": the community has 24 hours to vote**  
Used only when necessary. If more than 10,000,000 votes are against the proposal, the status of the procedure is changed to "Fast".
- **"Fast Voting": the community has 1 week to vote.**  
If more than 100,000,000 votes are against the proposal, the status of the procedure is changed to "Standard".
- **"Standard Voting": the community has 1 month to vote.**  
The voting is initiated publicly or by switching from the "Fast" mode.

## Types of voting by the type of proposed changes

### Voting to change the Constitution

The project's Constitution, which is the highest legal authority, is made up of provisions embedded in the program code. These provisions regulate the project. They include the rights and obligations of the project's participants and rules for voting on changes to the project's features and interface. **The first version of the Constitution is created by the team launching the project.**



## Electing the Project Team responsible for its development

Every 2 years, elections of the Project Team are held.

In the first 10 years, 1% of #MHC is allocated to finance the Team's work. Once 10 years have passed, the income of #MetaHash Company should be sufficient to self-finance its activities.

Once the first 2 years have passed, those wishing to continue supporting the project should publish their budget plan and the list of proposed project development measures for the next 2 years, as well as the names of suggested team members.

## Methods of updating #MetaHash software

When a decision regarding software updates has to be made, the "Standard Voting" procedure is initiated, accompanied by a public notification.

If a real need exists, "Emergency" or "Fast" voting may be initiated, but if 25% of votes are cast against the proposed change, the voting period is extended to "Fast" or "Standard". It is #MHC owners, rather than node owners, that are eligible to take part in the voting process. Only nodes running the latest version of the software are allowed to operate on the network.

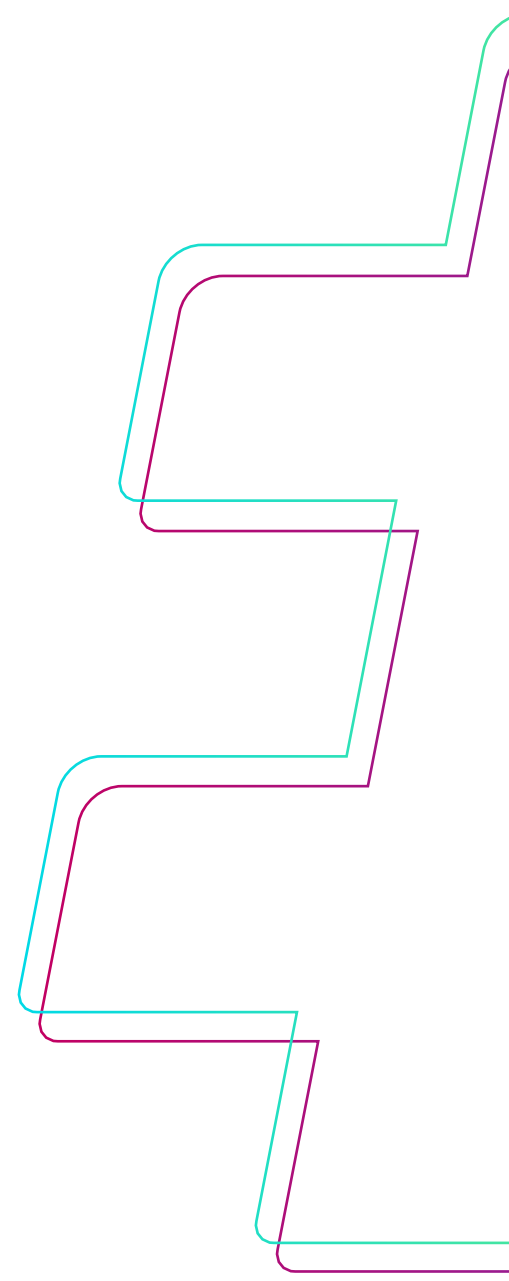
## Change to commission fees, budgets and tools of self-financing

The project's financial plan should reflect a balance between short-term and long-term interests of #MHC holders.

Any changes to financial instruments are decided by means of "Standard" voting, accompanied by a public notification.

## App blocking and appeals

It requires 10,000,000 votes to initiate the "Standard" voting on app blocking and appeals. The status of the procedure changes to "Fast" if 100,000,000 votes have been accumulated, and to "Emergency" if 500,000,000 votes have been cast. 67% of votes are required to block an app or win an appeal.







# Roadmap

# Roadmap

## 2012-2016

The technical part of the project was based on the achievements of AdSniper, created in 2012 through 2016 in the field of advertising technologies:

- A network library for receiving signals, working on C++ and capable of simultaneously receiving and sending more than 1,000,000 requests per second to one inexpensive standard server;
- A network library for synchronizing signals within a cluster that manages gigantic data flows between cluster machines;
- A machine learning system that decides in 10 milliseconds to respond to a signal taking into account multifactorial interrelationships;
- Own analogue of Hadoop's for similar systems in C++ for distributed processing of large data.

*We received a lot of requests from different companies for the application of blockchain technology and came to understand that current technologies cannot satisfy requests for such types of systems. So in 2016 we started developing our own protocol #TraceChain*

Now, each of the geographically dispersed nodes belonging to AdSniper accepts requests from the entire internet at the rate of more than a million requests per second and can be scaled without limits by adding more servers.

## 2017

<b>May</b>	Development of #TraceChain protocol (Alpha version)
<b>August</b>	Development of #TraceChain protocol (Beta version)
<b>September</b>	AdNow team joins us
<b>October</b>	Agranovsky IT team joins us
<b>November</b>	Formation of Business Development team
<b>December</b>	Formation of Operational Team
<b>January</b>	#MetaHash webpage launch
	Start of the Operational Team office construction

In 2017, we created Alpha and Beta versions of #TraceChain protocol and joined forces with the strongest companies and people in the fields of international marketing and business development. By the beginning of 2018, we started to build a network of experts in blockchain, security, trading on exchanges, legal services, marketing, and financial technologies who will contribute their expertise and support the release of the project in 2018.

# 2018

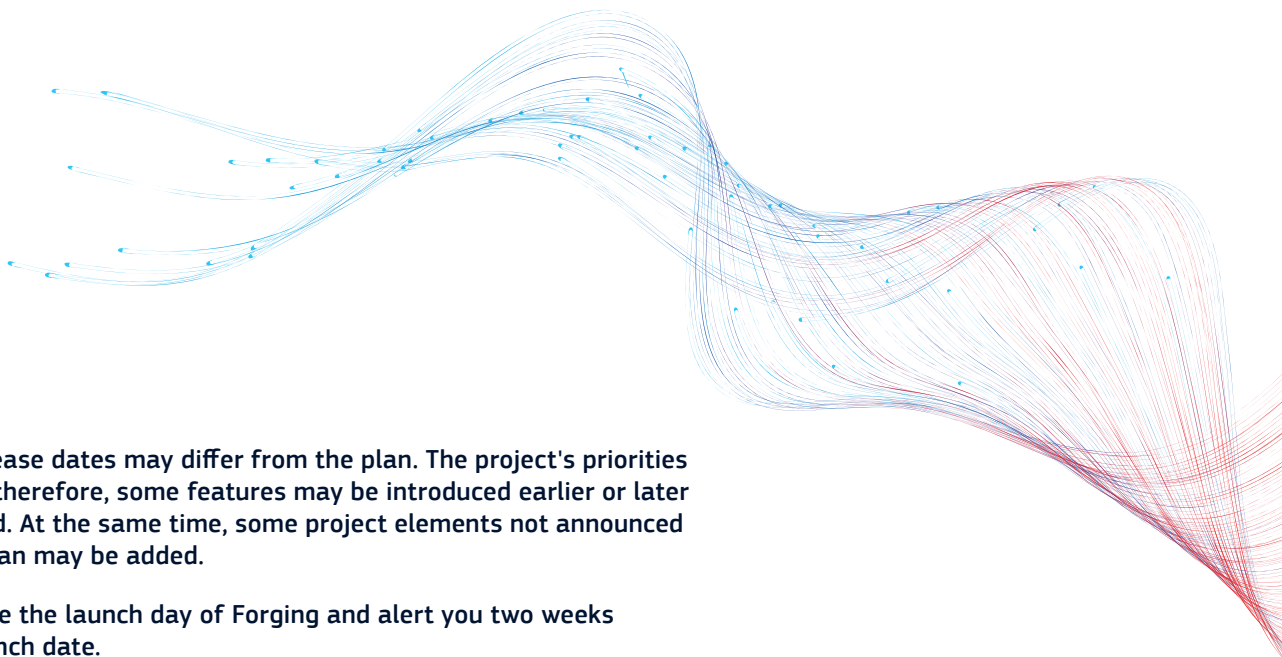
## Q1

- Onboarding of experts and advisers
- Development of #MetaGate (v.1.0). Multi-asset wallet featuring the ability to transfer #MetaHashCoins between wallets on multiple servers that stores data on transactions between crypto wallets.
- Development of #TraceChain (v.1.0)
- Development of #TraceChain (v.2.0). #TraceChain data download API
- Development of #MetalCO (v.1.0). The ICO interface on the #MetaHash platform that accepts assets from various blockchains (Bitcoin and Ethereum), distributes tokens in the #MetaHash network and carries out multichain transactions, including ERC20 in the Ethereum network
- Development of #MetaChains (v.1.0). Converting #MetaHashCoins to ERC20 and withdrawing them to the Ethereum network so that #MHC holders can choose which network to use and automatically convert ERC20 tokens into #MetaHashCoins
- Development of #MetaApps (v.1.0). Application Platform

## Q2

- Development of #MetaChains (v.2.0). API featuring transaction history and balance of wallets associated with different blockchain platforms. Decentralized application containing information about transactions in the Ethereum and Bitcoin networks which is necessary to provide blockchain interoperability in #MetaApps
- **Release of #MetaGate (v.2.0).** Encrypted messenger for public notifications and messaging between wallets
- **Release of #TraceChain (v.3.0).** Peer nodes that connect to TestNet to be installed on any server
- Opening of the Operational Team office
- ICO Round A scheduled start
- #TraceChain (v.4.0). Network core performance testing service (1,000,000+ transactions per second)
- #MetalCO (v.2.0). Interface for creating tokens inside the network #MetaHash
- #MetalCO (v.3.0). Release of ICO project platform at #MetaHash.  
  
#MetaHash makes it possible to tokenize any asset without knowledge of programming. Essentially, it is a platform with smart contract settings. Anyone can learn to use it without studying its code because #MetaHash Smartapp is created by the platform itself and features all necessary settings, making it possible for a person who doesn't know programming to get contract details. Since this is a SmartApp, not a smart contract, it is not tied to any specific blockchain platform and can work with any blockchain and accept payments in any cryptocurrency

- #TraceChain (v.4.0). Voting functions in the #MetaHash network
- #TraceChain (v.5.0). AI managing the routing of signals between nodes for providing maximum speed of #MetaHash block creation and bandwidth and 100 test nodes in different geographical locations for testing node interaction
- Q3**
  - #MetaICO (v.4.0). Release of the #MetaToken application, tokenization of ETH, ERC20, Bitcoin to #MetaHashCoin for use in the #MetaHash network
  - #TraceChain (v.6.0). #MetaStorage, service for decentralized applications
  - #MetaApps (v.2.0). The platform for self-deployment of third-party decentralized applications
  - #MetaGate (v.3.0). Final release of #MetaGate wallet for Mac/Win/Unix/Android/iOS with #MetaApps catalogue
- Q4**
  - #TraceChain (v.7.0). Start of forging
  - **ICO Round B** or conclusion of the Listing Agreement with the duly organized and regulated cryptoexchange
  - Further planned announcements
- Beginning of 2019**
  - Extensive security testing
  - Source code release upon the completion of testing
  - Launch of a fully decentralized system



The actual release dates may differ from the plan. The project's priorities are changing; therefore, some features may be introduced earlier or later than scheduled. At the same time, some project elements not announced in the initial plan may be added.

We may change the launch day of Forging and alert you two weeks before the launch date.

The background features several large, overlapping, semi-transparent geometric shapes in shades of blue and purple. These shapes are primarily trapezoids and parallelograms, some with rounded corners, creating a layered, architectural effect. The colors range from a deep, dark blue to a vibrant, bright purple. The text is centered in the middle of the composition.

# Advisors & Consultants

# Legal Advisors

**KPMG AG, Switzerland**, served as advisor to #MetaHash in the evaluation of the Swiss regulatory, tax and legal aspects in respect of the Initial Coin offering (ICO)



## Daniel G. Viola

**Partner, Head of Regulatory and Compliance Group at Sadis & Goldberg LLP**

Daniel G. Viola is a partner of Sadis & Goldberg LLP and the Head of its Regulatory and Compliance Group. He structures and organizes broker-dealers, investment advisers, funds and regularly counsels investment professionals in connection with regulatory and corporate matters. Mr. Viola has been active in the Blockchain and Virtual Currency verticals since 2014. He is also the Founder of the Crypto Asset Webinars, the Blockchain Shift conferences and serves as an advisory board member to several ICOs. Mr. Viola also served as a Senior Compliance Examiner for the Northeast Regional Office of the SEC, where he worked from 1992 through 1996. During his tenure at the SEC, Mr. Viola worked on several compliance inspection projects and enforcement actions involving examinations of registered investment advisers, ensuring compliance with federal and state securities laws. Mr. Viola's examination experience includes financial statement, performance advertising, and disclosure document reviews, as well as, analysis of investment adviser and hedge fund issues arising under ERISA and blue-sky laws.



In late 2006 Mr. Viola founded his own law firm and eventually merged it into Sadis & Goldberg's law practice.

**wenger & vieli**  
Rechtsanwälte

## Wenger & Vieli AG

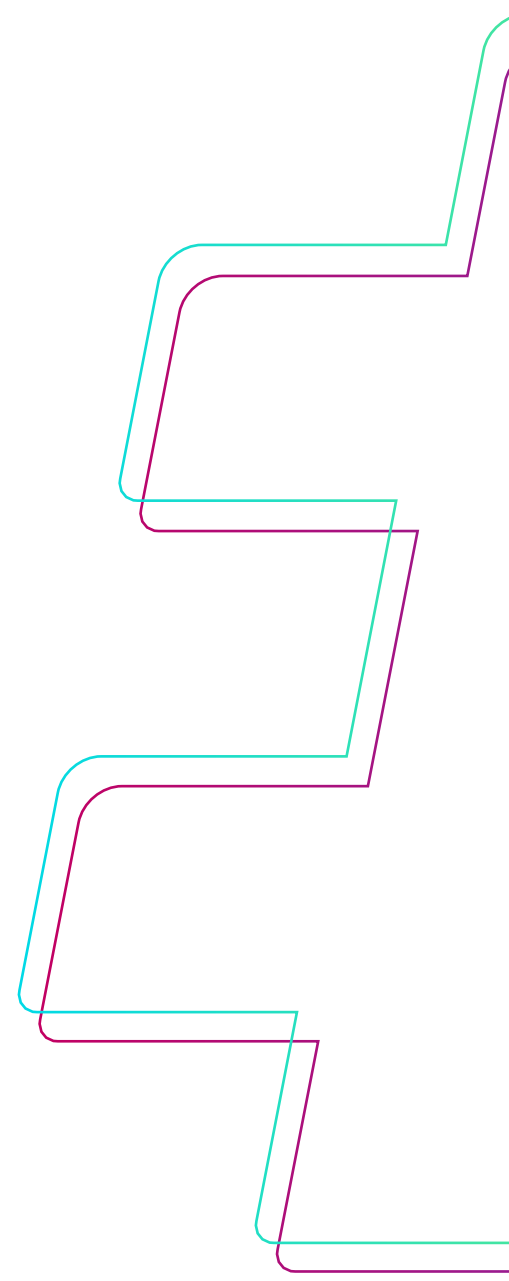
**A global law firm with offices in Zurich and Zug**

Wenger & Vieli AG served as advisor to #MetaHash in assessing the regulatory aspects of the Initial Coin Offering. A member of Meritas, one of the largest international associations of law firms with members in all major cities of the world. In the area of tax law, Wenger & Vieli Ltd. cooperates with WTS Global, a worldwide network of selected consulting firms, present in more than 100 countries.

# Oliver Ciric

Partner at TA Advisory

Experience in international jurisprudence for more than 20 years. Oliver graduated from Boston University of Law in 2006, majoring in banking and finance law, and the Geneva University of Law in 1998, specializing in "License and Law". Previous work experience: Nationale Suisse Assurances, Matile Brosset Stickel-Cicurel & Gianninazzi, Poncet Turrettini Amaudruz Neyroud & Partners, Akin Gump Strauss Hauer & Feld LLP (formerly Hogan & Hartson LLP). Provides legal support for blockchain projects, and also advises on cooperation with FINMA.



The background features several large, overlapping, semi-transparent geometric shapes in shades of light blue and purple. These shapes are primarily trapezoids and parallelograms, some with rounded corners, creating a layered, architectural effect. The central text is white and stands out against the dark blue background.

# The Team



# The Team

This project is a result of the joined forces of three visionaries and their companies' best specialists. They invited a number of experts in international marketing, PR and business development to join them



**Gleb Nikitin**

*Co-Founder, Partner, CRO*



Serial entrepreneur with more than 20 years of experience in the development of large-scale technological projects. Founder of AdSniper.

Over the past 10 years, the company has created highly loaded advertising networks. The company's own large data processor incorporates servicing petabytes of data, fast NoSQL and SQL databases, artificial intelligence systems and C++ libraries for highly loaded advertising services, processing requests for advertising from the entire internet.

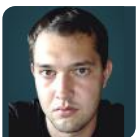
## Key staff



**Oleg Romanenko**

*CSA AdSniper*

The architect of real-time services at AdSniper and system analyst of AlfaBank online banking system. Creator of highload network library capable of serving over 1 million request per second on 1 node.



**Mikhail Zarutskiy**

*CTO AdSniper*

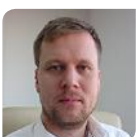
Head of AI, Big Data and real time services teams to create Ra-zoom AI capable of handling millions of requests in real time combining neural networks calculations with other machine learning algorithms.



**Sergey Raylyan**

*CIO AdSniper*

Plans and coordinates implementation of dozens of different technologies and interfaces forming AdSniper's technology stack.



**Dmitry Borisenko**

*TL AdSniper*

Leading C++ developer, the creator of an alternative to Hadoop systems exceeding the speed of analogues by more than 100 times.

**ad-sniper.com**  
**29 employees**





## Vladimir Bashkin

CEO AdNow,  
CMO



Ad network with more than a billion impressions per day. One of the strongest teams in the world for buying advertising across all advertising networks with its own staff of translators and advertising specialists in local markets.

adnow.com  
89 employees

### Key staff



**Artem Kravchenko**  
*Marketing Communication Manager*  
CEO of AdDays Digital Events. Event Director in Bitcom Affiliate Network



**Lavrentios Penklidis**  
*Senior Content Manager*



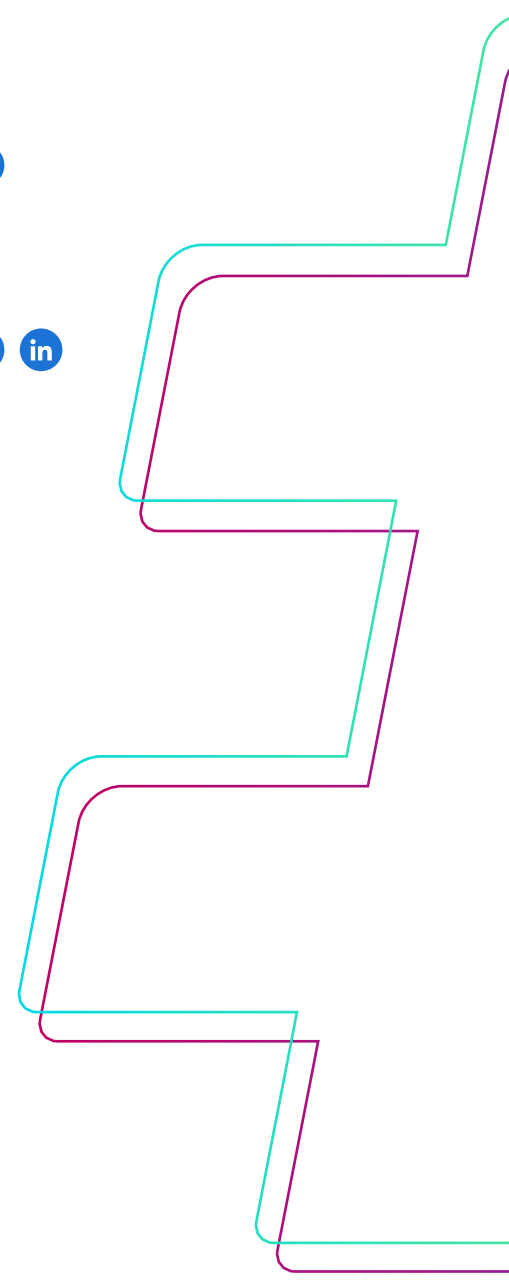
**Pham Thành Trung**  
*Head of Community Department*  
Sales and Business Development Manager of AdNow



More than   
**150**

members already  
joined #MetaHash

#MetaHash is an open-team structured project, which welcomes all people and companies.





## Anton Agranovsky

*Co-Founder, Partner, CBDO*



Investor, expert, opinion leader in the field of establishment and development of IT companies. Board member of Plastic Media and SMX Communications. Invests in IT startups and accompanies the company growth from the idea to IPO. In 2008-2017 - the founder and president of Destiny Development, one of the first gaming companies on the Russian internet market known both for its own developments and localizations.

**Forbes magazine Contributor**

**agranovsky.org**  
**11 employees**

### Key staff



**Gennady Yakunin**

*CEO Agranovsky IT*

Organisation of accounting in holding companies.  
More than 10 years of experience in IT and gaming projects



**Svetlana Rudenok**

*Deputy CEO Agranovsky IT*

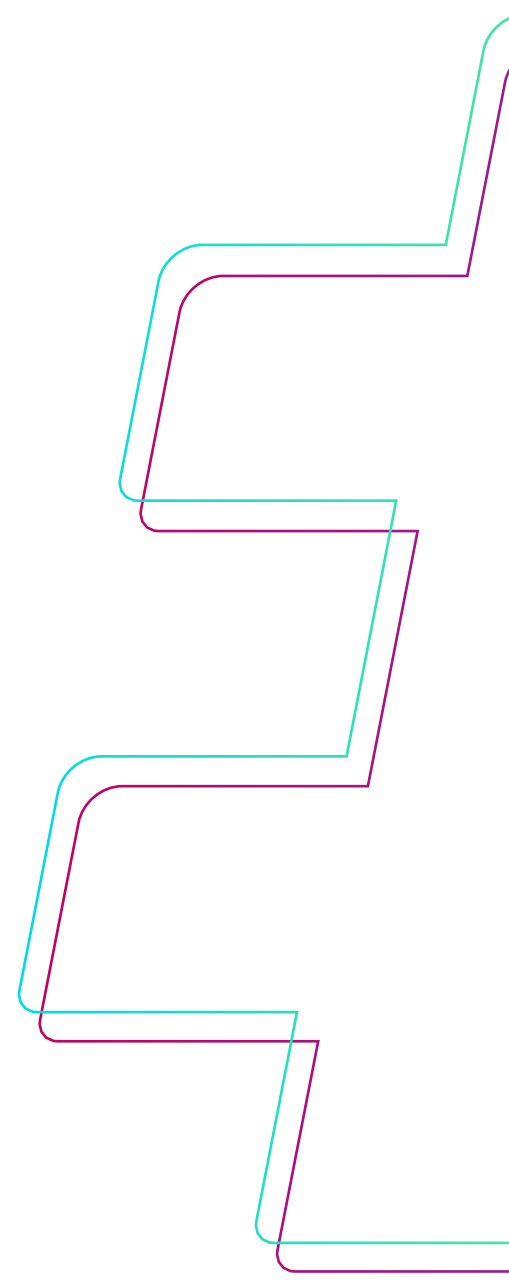
Expert in risk evaluation, more than 10 years of experience in audit of new and active projects in IT and gaming industries



**Andrey Korostelev**

*CFO Agranovsky IT*

More than 10 years of experience in financial management of IT and gaming projects. Active supporter of social and charity projects



# Operational Team

17 employees

## Key staff



**Dmitry Ushakov**  
*COO, General PM*  
Over 8 years of experience in Operational management of multi-user projects for Game Insight and other IT startups



**Andrey Akimov**  
*Chief Communication Officer*  
More than 15 years in marketing and PR in gaming, entertainment, and IT business. Former head of PR and marketing at My.com, Mail.Ru Group, Game Insight, and other companies



**Evgenii Dobrelia**  
*Creative Production Lead*  
More than 15 years of experience in creative production. Worked for such companies as Sony, Nintendo, Riot Games, Nival, Hobby World, etc. Former lead of creative assets production at My.com and Mail.Ru Group



**Vitaly Golban**  
*CBDO, U.S.A.*  
Seasoned entrepreneur, crypto funds manager, 10+ years of operational management experience in global corporations



**Igor Ivchenko**  
*Crypto Ambassador*  
More than 12 years of business development, finance, banking and M&A experience. Extensive experience in entrepreneurship, underwriting and investment



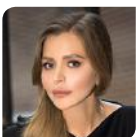
**Julie Dvorchenskaya**  
*Business Development Manager Asia, MENA*



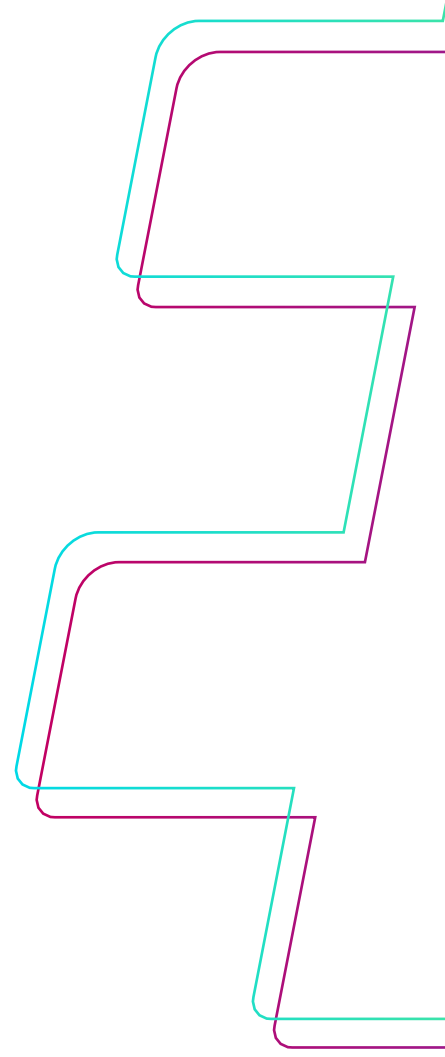
**Alexander Zhigarev**  
*CBDO Russia, CIS*  
Over 10 years of publishing, operation and business development experience for Destiny.Games and in game industry



**Michail Iwanow**  
*Art Director, Lead designer*  
More than 16 years of experience in visual and product design. Worked on various projects for RUSNANO, Sony, Canon, Nikon and many others



**Eugenia Sigacheva**  
*Public Affairs Partner*  
More than 18 years in international Marketing & PR, also IT&Innovations. Eugenia is a part of International team of the well known robot Sophia and CEO & Founder of the IHEART Platform



# Legal Department



## Andrey Mironov

*Chief of Legal Department*



Graduated MGIMO in 2000 at the international law faculty. Legal practice in the field of new technologies, media and intellectual property for more than 15 years. He worked at the Art. Lebedev Studio, Odnoklassniki, the Russian office of Myspace, on the channels MTV, Discovery, Amedia and the online cinema Amediateka. Helped to develop the EKSMO publishing house, the Fox TV channel. Expert at the Russian Association of Electronic Communications (RAEC).



## Maria Agranovskaya

*Chief Legal Coordinator*

Attorney at Law with 20+ years of experience. Started working with cryptocurrency issues back in 2010. Graduated from MGIMO MID of Russia (International Law), studied in Germany and Holland. 8,5 years - running a multifamily office, worked on various cross-border transactions, investments, asset management, deal and corporate structuring in various jurisdictions, M&A, international taxation and other matters.



## Anastasia Pichugina

*ANP Law Managing Partner*

Managing partner Anastasia has unique experience and knowledge in Russian and foreign law, is a trusted legal representative of several foreign companies.



## Ekaterina Myznikova

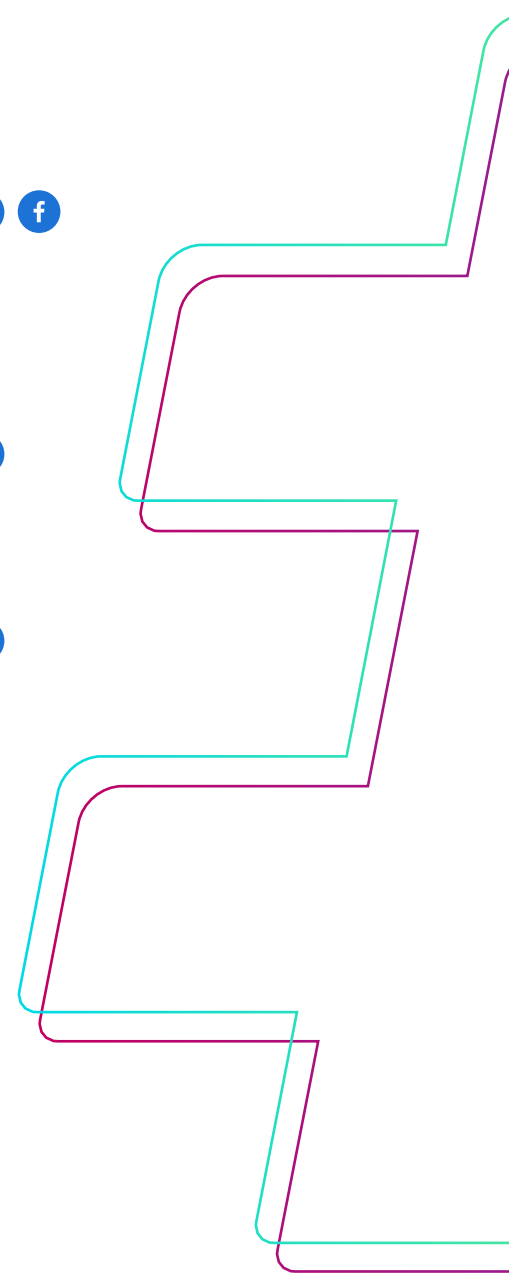
*Senior Lawyer ANP*

Head of the practice of Blockchain projects. Successfully accompanies several ICO projects, a participant and speaker of profile conferences, webinars



## Katya Fisher

Katya Yoffe (née Fisher) is an attorney focusing on general corporate law, cross-border transactions and business immigration. Katya represents various prominent companies and startups doing business in the United States as well as celebrity and HNW individuals. Katya has been selected by Super Lawyers as a "Rising Star" in 2014, 2015, 2016, 2017 and 2018.



# Glossary

**#MetaHash** is a decentralized network for sharing digital assets and a platform for creating and managing decentralized **#MetaApps**.

**#MetaHashCoins (#MHC)** is the internal currency of the **#MetaHash** network.

**#TraceChain** is an automatic self-learning signal routing protocol.

**#TraceChain AI** is an algorithm for **#TraceChain** machine learning protocol.

**#MetaGate** is an open-source interface featuring the ability to turn common applications or services into **#MetaApp** applications.

**#MetaApps** are decentralized applications in the **#MetaHash** network based on the **#TraceChain** protocol.

**#MetaApps nodes** are nodes running **#MetaApp** applications that operate blockchain data and provide speed and security.

**#MetaChains** is a **#MetaHash** application storing the balance of all blockchain wallets.

**#MetaTokens** are **#MetaHash** digital assets created as a result of tokenization of the digital assets of other blockchain networks.

**#MetaICO** is the ICO interface on the **#MetaHash** platform allowing users to create their own smart contracts without knowledge of programming languages.

**#MetaStorage** is a global **#MetaApps** database and part of **#MetaHash** structure.

**#MetaHash Company** is a legal entity registered in Switzerland representing the interests of the **#MetaHash** project within a legal framework.

**#MetaDataBase** is a global distributed database for **#MetaApps**.

**#DataChains** are chains of blocks in the **#MetaHash** network created to store large databases.

**Blockchain Interoperability** is a concept according to which the future of the distributed web lies in the ability of blockchain networks to interact and integrate with each other.

**DAO** is a decentralized autonomous organization. A project or company existing without a centralized management system concentrated in the hands of a limited number of managers.

**MultiPOS** (multivote proof of Stake) is a hybrid algorithm of system integrity confirmation based on the Proof of Stake principle where blockchain nodes of various types cast their votes.

**Open voting** means that any voter can get access to the results of voting and see the IDs of participating wallets and their decisions.

**Open-source application.** An open-source project allows any user to access its code and use it to create their own version of the application, or to improve the current version.

**Hash** is the result of turning a body of data into a fixed-length string ready to be used by **#TraceChain**.

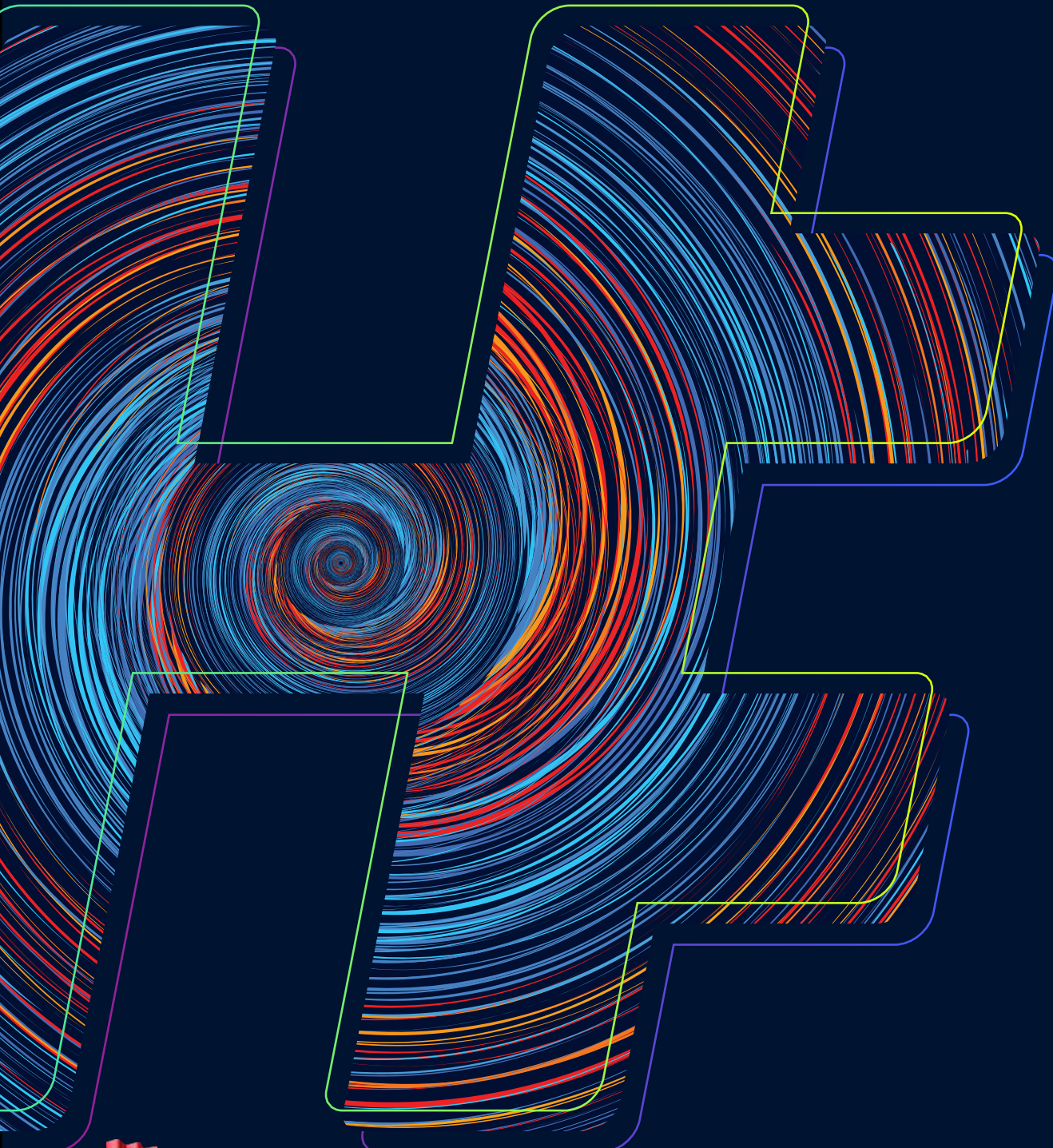
**#MetaHash SmartApp** is a standalone application existing in multiple copies in the **#MetaHash** network; similar to a smart contract, it cannot be changed or modified and functions as a regular web service on based on a regular operating system.



This English version of this White Paper is the Official version.  
Please, note that in case of any discrepancies the English version shall always prevail.

# #metahash

CONCORDIA RES PARVAE CRESCUNT



**MetaHash AG,**  
Gartenstrasse 6, 6300 Zug  
Switzerland

[MetaHash.org](http://MetaHash.org)

[hello@metahash.org](mailto:hello@metahash.org)