

Mineberg Whitepaper

Initial Coins Offering

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Abstract

Mineberg is a Bitcoin mining equipment production and co-location operations company. The company release colored coins to represent lifetime guaranteed hashrate level, and then allocate miners to users only if it receives a message signed with the private key in blockchain that currently owns the colored coin. Anyone will be able to then purchase a colored coin, use the miners for whatever period of time using the desktop or smartphone app as a "User's package key", and sell the coin again at their leisure. BERG is Colored Coin Asset that reserves for its owner productive capacity of Mineberg industrial mining center for the period of 50 years. BERG coins is an equivalent of hashrate unit (TH/s) in Bitcoin network.

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Initial Coin Offer Summary

ICO (Initial Coin Offering) – initial sales of the BERG coins. Coin emission stands for emission of certain BERG coins batch. Sales duration is 91 days, from the 1st of November 2018 till 30th of January 2019. Residents of all countries can participate in the sales. BERG will be listed on the exchanges right after the ICO end.

Total emission of the coins	100 000 000
Softcap	\$500 000
Midcap	4 000 000
Hardcap	8 000 000
First batch of coins (Pre-ICO)	714,286
Price for the first batch of coins (Pre-ICO)	\$0.7
Second batch of coins (ICO)	9,375,000
Price for the second batch of coins (ICO)	\$0.8
The first batch of coins to be placed on the stock exchange (after ICO)	10,000,000
The starting exchange price for the first batch of coins (after ICO)	\$1
The second batch of coins to be placed on the stock exchange	20,000,000
Third batch of coins to be placed on the stock exchange	35,000,000
Website:	https://mineberg.io
Accepted manner of payment:	Bitcoin ("BTC"), Credit cards
ICO duration	November 2018 - January 2019, the opportunity to buy BERG for the equivalent of \$ 0.7 - \$ 0.8 at the time of purchase
Exchange listing	Coin will be listed on the crypto exchanges right after the ICO end.

Coin's main advantages:

- low-margin mining capacities through the wholesale,
- system solutions in immersion equipment production provide high density of the equipment through its operation in two-phase liquid cooling system (boiling type),
- access to advanced mining equipment.

Discounts up to 20% will be offered to early participants of the first two ICO stages. Any participant has the opportunity to take it's part in the project development process during the ICO. Access to the coins is granted through Mineberg Wallet. Users will store the coins in the project's website account. Alternatively, there is an opportunity to send the coins to the personal wallet.

Project's ICO objective - industrial mining equipment production and module immersion data centers construction.

Participants has the right to resell their coins in a month after the ICO ends. 90% of the coins will be distributed between the participants; 10% will form the project fund, 3% will be held to award the non-activated coinholders, remaining 7% - motivational deductions for the project's team members. For maximum honesty and transparency, all transactions can be traced in the Mineberg blockchain at <https://explorer.mineberg.io>.

Before coin activation, participants will receive contributions from project's already activated equipment. After the activation, retail users will have the opportunity to exploit their mining capacities, whereas wholesale users will get their own immersion centers.

When mining is activated on the website, users will be grouped into the mining pools, where Mineberg capacities are distributed between them. Wholesale users will be able to activate mobile or stationary Data Centers supply and deploy them on their territory.

Mineberg review

Project summary

Mineberg is a project with the private blockchain. We develop, manufacture and maintain supercomputer clusters for cryptocurrency networks service. Mining capacities are based on module clusters made from high-end ASIC miners, produced by BitWare Group Limited.

Mineberg offers wide range of mining services: from supplying ASICs on the clients' territories to the capacities rental located in Mineberg Data Centers. Mineberg also maintain and repair the equipment.

The key value of Mineberg is client-focused approach, thus we will gladly fulfill all the individual requests of our clients. Highly trained mining centers specialists provide equipment installation services for no additional cost. Mineberg center's minimal hosting rate is \$0.02 per kWh. In contrast with the majority of competitors, Mineberg mining center offers lowest entry threshold of 1TH/s for Bitcoin mining.

Mineberg services help to save the clients' income in case of the equipment failure. Miner is a device working on its limits around the clock, 365 days a year. The failure of the equipment results in its decommissioning followed by transportation to the distant service centers for repairs. Mineberg takes every step possible to reduce the damage occurred as a consequence of the downtime with the help of Mineberg service center, which shares the same building with the mining center. As a result, equipment's operating time reaches 94% with no disruption.

Mineberg is ready to face fair competition because we are technologically one-step away from the competitors. There are strict safety rules of the industry aimed to protect the trade secrets. Thus, most mining center owners do their best to hide the key information including the location from the clients. Mineberg's key values, on the other hand, are transparency, honesty and accessibility. This means that mining center's personnel will gladly receive visitors during open days and give them a tour.

Mineberg rates

Transparent pricing is another key feature of the project. The hosting price comprises of:

- the electricity cost,
- the maintenance of equipment cost,
- rent cost.

Purchasing the miners

Mineberg clients are free to purchase Bitcoin or altcoin mining equipment on the company's website. New-generation miners combine low power consumption with increased hashrate. The prices as well as technical characteristics are updated on a regular basis; users can get acquainted with the relevant information on the company's website: <https://mineberg.com/>

Paying for the hosting

Hosting fee is deducted on the daily basis from the client's mining income. Mineberg is not charging any fee for the money transfers; however, the third party companies that execute the payments can charge the fee according to their terms and conditions. Mineberg clients can take advantage of the service center that fix the broken equipment. The service price is calculated on the individual basis depending on the scale of the problem.

Market overview

Currently there are four main ways of cryptocurrencies mining, and each of them has its pros and cons:

1. Home mining – when one hosts the equipment at home. There are major downsides connected to this approach: miners requires a lot of free space provided, make a lot of noise and emit excessive heat. Besides, both time and effort has to be spend to maintain the equipment.
2. Cloud mining – when the client has no physical access to the equipment, since it is set up and hosted by the provider. The main downside here is the lack of vital information, such as the equipment technical specifications and income distribution. As a rule, the provider is not sharing physical location of the mining farms with the clients; they also typically hide technical details that can help to assess the profitability of the mining.
3. Hosting on a detached farm with own miners. This approach is more convenient as the two preceding methods, because client does not have to maintain the equipment. Sadly, such service is in a high demand nowadays, thus it can be problematic to get access to the business.
4. Own mining farm – the method requires a lot of experience combined with the profound knowledge of the industry. The cost of a single mistake is high and all the losses are born by the business owner himself.

The complexity of Bitcoin network is constantly increasing which requires more and more computing power. Network's complexity is constantly increasing the amount of energy consumed by the equipment.

The electricity cost varies sufficiently from country to country. For example, kWh of energy in Venezuela costs approximately \$0.035, whereas the consumers from Denmark will pay \$0.35 per same kWh. There are several countries with low electricity cost; among them are Algeria (\$0.03), Kazakhstan (\$0.035), Ukraine (\$0.035), Kuwait (\$0.05) and Russia (\$0.054). The price of electricity is sufficiently higher in the developing and island countries. Thus, profitability of mining is directly linked to the electricity price.

Good news is that Mineberg specialists know how to reduce the electricity expenditures. To achieve the goal we will use the electricity produced by the portable module gas power plants. The centers will be located in close proximity of the oil fields, which will give the possibility to use associated petroleum gas. It will drastically reduce the electricity cost. The price of the energy produced together with all fees will not exceed the average world price per kWh (currently it is \$0.19).

Mineberg technologies

Company's high-technology researches are implemented on the mining center in Kazakhstan. Mineberg GreenHouse modules help utilizing excessive heat emitted by the equipment to heat autonomic greenhouses. The modules decrease mining expenses due to the:

- usage of alternative cooling methods,
- low electricity consumption,
- most profitable way of using the excessive heat.

The final version of Mineberg GreenHouse will be built before the ICO ends. To follow the construction process kindly follow the link: <https://mineberg.io/capacity>

The power consumed by a single Mineberg GreenHouse module is 1.2 MWt and it will depend on the capacity of the equipment inside. The minimal module capacity of Bitcoin miners deployment will be 1 MWt. One Mineberg mining center module consists of a 40-foot sea container converted to a computational module, complete with a large number of unrelated two-phase immersion miners. The structure of the farm gives the opportunity to increase the hashrate easily by installing the new modules. This engineering solution reduces the construction costs and other expenses. Besides, one can connect new modules as they are made.

The equipment is being configured in accordance with the market demand. Mineberg specialists design the modules based on the needs and wishes of the existing and mining center's potential customers.

Collective Data centers

Mineberg project's objective is to profit from building and upgrading data centers and renting them to the public. The project resources are sophisticated computing equipment as well as the team of highly qualified specialists from Bitware Group Limited UK. Bitware Company produces wide range of Bitcoin and promising altcoins mining solutions.

Blockchain-based Decentralized Autonomous Organization (DAO) will be created in the project's context. DAO's key goals are increasing the capitalization as well as equipment's hashrate managed by the organization through upgrading and reselling of existing immersion centers. Income obtained in this process will be used to create hi-end data centers with higher capacities.

For the users' convenience and for the highest level of its transparency, organization is based on the private blockchain. With the help of Mineberg DAO users will be able to:

- purchase and resell coins issued by DAO, profiting from it on the principles of anonymity and confidentiality,
- purchase project's mining equipment and the services (hosting, space rental, service center services),
- track the company's equipment manufacturing and production processes as well as the mining centers construction and commissioning the solar and gas energy plants.

Immersion Data Centers

Mineberg is a project that aims to build cryptocurrency mining data centers as well as cryptocurrency transactions processing centers. The project combines hi-end technologies, blockchain transactions processing and industrial cryptocurrency mining tactics. Project's technological base are own production 14/7nm ASIC chips. Project's uniqueness consists in the use of own hardware and software technologies for cryptocurrencies mining as well as the risk management system and automatic income-to-fiat conversion.

Bitcoin mining servers are supplied as an autonomous solution with the two-phase immersion cooling system used for industrial mining. Own production supercomputer clusters based on all-purpose and highly-productive FPGA modules, allowing to perform highly effective computations. They are capable of adapting to the dynamic market's reality and can be used not only for cryptocurrency mining, but also in the AI sphere and computer-based training, computer vision, video rendering and compression, virtual reality, computer games, banking, Big Data as well as for medicine and genetics.

Two-phase immersion cooling system

Bitware specialists elaborated their own two-phase immersion liquid system for mining equipment cooling. As a result, the peak hardware temperature is not going above 50C with the 34C temperature of boiling liquid, providing stable conditions for the equipment.

New cooling system efficiency decreases the possibility of the downtime and facilitates the maintenance process. Liquid cooling system gives the opportunity to increase the capacity and density of the equipment – one 47U box can contain 10 Mineberg servers with the total hashrate of 1.6 PH/s in the Bitcoin network.

Liquid cooling system handles the task way more effectively than the air systems do. With the help of immersion system it becomes possible to overclock the equipment up to 1.5 times, providing better hashrate with 1.6 times more energy consumed. Therefore, the energy consumption of one 1.6 PH/s box will make up 160 kWh. Close proximity to the oil fields will supply data centers with the cheap electricity through associated petroleum gas usage.

Excessive heat from mining and gas equipment will be used for agriculture. This approach will help to decrease the agriculture expenditures by 80%. Cryptomining will allow to grow environmentally friendly agricultural products in any climatic conditions and thus get a double profit.

Energy for Data Centers

Bitware Group has created partnerships with the subsoil users under the program of associated petroleum gas recycling in Russia and Kazakhstan. This will give the opportunity to produce cheap electricity by using associated petroleum gas in the places where such production is considered unprofitable. To minimize the electricity expenditures, the company is planning to construct data centers in the oil fields proximity. This will allow to get cheap electricity to be used for mining purposes.

Collectively with technological partners Bitware Group delivers, assembles and start-adjusts gas, hydroelectric and solar electricity plants. This provides the company with all resources required to produce cheap electricity and thus sufficiently decrease operational and maintenance costs for cryptocurrency mining and high-productive computations.

Thermal energy emitted by the data centers' work as well as the excessive heat from gas-turbine facilities will be used for the agricultural greenhouses operation where environmentally friendly agriculture products will be grown. This approach will allow the agricultural production cost decrease. We will create an opportunity to profit from both mining and agriculture in any conditions, providing clean and environmentally friendly production.

Greenhouses

It requires many resources to cultivate fruits and vegetables. Recuperation and recovery technologies allow to use excessive heat from mining farms for agricultural purposes. As a result, it requires less money to be spent for growing environmentally friendly fruits and vegetables, thanks to the usage of:

- waste gas of technological equipment that utilizes fuel,
- waste water or liquid used for equipment cooling,
- hot ventilation air removed from the systems.

We preserve the environment, thus we use the excess mining heat for agriculture purposes. Because of this heat redirection, the greenhouses located nearby can receive necessary heat all year long. Symbiosis between mining and agriculture can and should be taken advantage of. With this approach:

- the costs of growing fruits and vegetables in extreme climatic conditions will become cheaper by 80%,
- we will have the opportunity to facilitate manufacturing without any form of waste.

Expansion and development of agriculture directly depends on the data centers capacities (constant increase leads to more heat emitted).

Miners development and manufacture

Project's participants will get maximum profit from the equipment and services used with the help of Mineberg DAO. Scaling effect in combination with the possibility to receive favorable loans will provide the users with the profit compared to the income of the experienced players. Since the project is autonomous and decentralized, it is assumed that it will obtain funding in the most transparent way possible. This can be achieved only through the usage of the most powerful and up-to-date computing devices available at the moment of time. Thus, Bitware team will carry out periodic checks and maintenance of existing outfits utilizing proven techniques and world standards.

Industrial Bitcoin miners

Mineberg BTC is an innovative ASIC miner used in Bitcoin network. It utilizes 14nm ASIC microchips as well as 19" hermetic server form-factor housing which facilitates the introduction of immersion two-phase cooling system. It facilitates fully effective excess heat removal, which positively influences reliability and lifetime of the miners, thus enhancing their performance. Two-phase cooling guarantees optimal conditions for miners' operation and the productivity increases by 1.5 comparing to the air cooling systems.

The developers have been working on the common issues, which resulted in introduction of some design changes to the miners, taking their usability to the next level:

- built-in LED display providing the possibility to check the vital device parameters,
- power unit is located inside the miner for more effective heat removal,
- sockets on the board to provide smooth transportation process.

The new miner has 160 TH/s hashrate, consuming 16 kWh of energy. Mineberg BTC is quite flexible in terms of power configuration: it is possible to install from 5 to 10 hashboards, each of them having 100 ASIC chips on board. Due to the miner's architecture, one can easily install additional electronic chips to enhance performance of the unit.

In case the electricity costs dearly in your region, we recommend having all 10 hashboards in unit due to the higher energy efficiency rate. Capacity/price ratio is best when using 5 hashboards; this configuration is optimal in case there is a low-cost energy source available. Operating temperatures of the device are within 0-40C range, it also has Ethernet connection port installed. The device size is 950x450x300 mm, voltage level is 48V. Detailed device specifications including energy efficiency rate are available on our website.

Industrial supercomputer

One of the Mineberg's main goals is building a modern hi-end supercomputer as a data center's part. To achieve this we will use the most technological and tested solutions. Bitware specialists develop new platform with the main aim to provide maximum productivity with minimum energy consumption. Supercomputer is the heart of our data centers and we designed it with a lot of attention to detail.

The system consists of 5U blocks that will be installed in a rack. The core of every block is 8 hi-end SoC FPGA+HBM2 units based on Xilinx Kintex-7 or Altera Stratix 10. The boards were selected due to their functionality. According to Bitware Group planners, the offered solutions perfectly fit for the system capable of exceptionally voluminous computations.

To decrease energy consumption, we will use cutting-edge external memory technology called Hybrid Memory Cube (HMC). It proves to be 70% more energy-efficient compared to existing solutions using DDR3. The technology is also 15 times more productive and requires 10 times less space. The usage of 3D architecture helps to locate more memory banks than DDR-based solutions, which grants the new system with sufficient advantage over another memory schemes.

The blocks are connected to the host with the help of two PCIe x16 4.0 interfaces through the switchboard. We will use only high-quality optical cables to maintain uninterrupted work of all the system components.

New technologies and elaborations

7nm ASIC for Bitcoin

Multi-ethnic team of British company Bitware Group Limited is designing new high-end ASIC-chip for Bitcoin mining. The technical documentation, programming code and circuits layout designs are ready. Now the team is preparing to the test samples release. The sufficient capacity growth and energy consumption decrease is achieved by the usage of TSMC 14nm and 7nm technology called Fin Field-Efect Transformor (FinFET).

The production became possible through partnership between Bitware and Taiwan Semiconductor Manufacturing Company. At the present moment most manufacturers of mining board are restricted to 10nm technological process.

Innovative technology of three-dimensional shutter FinFET increases the productivity of the chip and decreases the energy consumption. The company uses silicon with bare crystal instead of graphite, which helped to decrease the production expenditures drastically. The expected payback time of the new chip is around 6 months in case the Bitcoin price stays above \$6000 mark. Bitware specialists will use two-stage immersion liquid cooling system to achieve optimal performance parameters and for the effective heat removal.

Characteristics of SHA256 core	Characteristics of the 7nm chip
Single core hash rate: 46.875 Mhsh/sec	8190 SHA256 cores
Single core area: 0.0026 mm ²	Die size 4.5mm x 4.5mm
Single core power: 2.5mW	Package type — WL-CSP 6mm x 6mm
Normalized W/Hash: 65.5W/Thsh	487.5GHsh/sec hashrate per chip
Normalized Hash/area: 0.05 mm ² /Ghsh	20W power per chip

Bitware Group's team is highly experienced and has access to the cutting-edge scientific and technological infrastructure; thus, they plan to start selling the new miners in the beginning of the 2019. 7nm technological process is vital, because it decreases the size of the chip and consequently the energy consumption as well. The energy consumption decrease is a high-priority task in mining, because it influences the mining income greatly. Currently, only giant companies can afford to produce 10nm chips. Thus, 7nm technical process used by Bitware Group is without a doubt a technological breakthrough.

HPC 14nm IPU (Intelligence Processing Unit)

The elements of IPU ASIC IP library include functions that are found in most AI designs, resulting in a core architecture that is both optimized and durable with respect to AI algorithm changes. Specific algorithm modifications can be accommodated through a combination of minor chip revisions that integrate appropriate AI "tiles" or modifications of the 2.5D package to integrate appropriate memory components.

Bitware Group developed AI-targeted "tiles" include subsystems such as convolution engines that have MAC blocks tightly coupled with memory subsystems optimized for AI that result in lowest area and power. Special innovative structures have been developed for data transfer across memory subsystems. It also includes transpose memory, among others. The physical interface (PHY) to the HBM2 memory stack is also part of the library. Approximately 100 engineers at Bitware Group are working on the design and silicon hardening of this AI IP.

A typical AI design requires access to large amounts of memory. This is usually accomplished with a combination of customized memory structures on the AI chip itself and off-chip access to dense 3D memory stacks called high-bandwidth memory (HBM). Access to these HBM stacks is accomplished through a technology called 2.5D integration. This technology employs a silicon substrate to tightly integrate the chip with HBM memory in a sophisticated multi-chip package. The current standard for this interface is HBM2. The development of customized on-chip memory and 2.5D integration represent eSilicon core competencies that are required for a successful AI design.

Bitware Group built the industry's leading AI ASIC. We are currently engaged with several tier-one system providers and high-profile startups to deploy the IPU ASIC platform and its associated IP. Initial applications will focus on the data center and information optimization, human/machine interaction and autonomous vehicles.

ICO review

Mineberg's aim is to grant the participants with the mining market access for minimal cost. Usually mining expenditures are connected to the electricity bills and hosting. Thus, depending on the equipment used, the electricity price and several other factors, the mining income can increase or decrease. It is possible to increase the profit by reducing capital and operational costs.

Mineberg project helps the participants to increase the income using several different ways. One of them is reducing the hosting cost. The company's partners get the access to the hi-end and extremely low cost mining capacities by buying BERG coins. BERG coins allows its holder to use mining capacity for 50 years in the Bitcoin network without paying for the rent. The participants should only know the capacity they would like to rent.

Usually the hosting price comprises of several main points such as the electricity bill as well as maintenance and rent cost. However, the coin holders do not have to pay for the rent, which reduces the hosting cost and therefore mining becomes more profitable.

The participants can utilize coins only in case they are on the website's module balance. Purchased equipment automatically displays on the balance and correlate with the user's coins.

Access to the capacities

Coins are available for use since their release. Data centers architecture allows to connect new modules in a short time. The first connected mining modules can be used while new capacities are being built. Users can access information about the construction and production facilities usage through the link to the website: <https://mineberg.io/capacity>.

First coins batch of 713 000 BERG (equivalent of 25 PH modules which will be put into operation right before the ICO Stage #1 ends). New coin batches will be released as the new mining modules are ready. coins will be distributed in the queue.

ICO platform

Mineberg ICO is running on the private blockchain with the help of SmartScripts included in blockchain. Our blockchain is a colored coin blockchain in a way a ledger, which contains the history of all the transactions and metadata that anyone can easily look through. Blockchain makes ICO more transparent and allows for independent audit. Since blockchain is a distributed decentralized register, one cannot physically forge the transaction. It will require a lot of effort and sufficient finance used that literally makes the blockchain attack useless. The company release colored coins to represent lifetime guaranteed hashrate level, and then allocate miners to users only if it receives a message signed with the private key in blockchain that currently owns the colored coin used SmartScripts embedded in blockchain. Anyone will be able to then purchase a colored coin, use the miners for whatever lifetime period using the desktop or mobile app as a "miner key", and sell the coin again at their leisure.

Transactions in a blockchain form the blocks that follow in strict order because every consecutive block contains the part of a preceding one. Blockchain is autonomic independent database, which is not run by anyone in particular.

The money transfers as well as coin distribution is dealt with by the SmartScripts – independent programming code that is impossible to interfere with. Thus, Mineberg guarantees honesty, transparency and safety to all the participants by utilizing blockchain for ICO.

Data Streams is a embedded in blockchain metadata format in Binary JSON objects Data Streams enable a blockchain to be used as a general purpose append-only database, with the blockchain providing timestamping, notarization and immutability. A Mineberg blockchain can contain any number of streams, where the data published in every stream is stored by every node. If a node chooses to subscribe to a stream, it will index that stream's contents to enable efficient retrieval in various ways.

SmartScript Types

Mineberg blockchain will support two types of SmartScripts:

- **Transaction scripts.** These define rules about whether a transaction is valid, by examining that transaction's inputs, outputs and metadata. A transaction which does not pass this filter, or a block containing such a transaction, will be independently rejected by every node on the chain.
- **Stream scripts.** These define rules about whether a stream item is valid, by examining its (on-chain or off-chain) data together with the item's publishers and keys. Stream items

which do not pass this filter cannot be published through Mineberg's APIs, and will have their data hidden and be flagged with an error in all stream retrieval APIs.

Filters can also obtain information about the assets and streams created on the chain (including their metadata), the permissions of addresses, and key information about recent blocks in the chain.

SmartScript Functions

SmartScripts are written as JavaScript functions with fixed names, but obtain all the information they need using callbacks (which explicitly request some information) rather than function parameters. This prevents time being wasted on preparing information for filters that they do not need.

Terms of payment

Presale will be started on November 1, 2018. The main ICO stage will take place in December 2018 – January 2019. We will accept BTC and credit cards payments by the rate of the day of purchase. Participants will top up their Mineberg balance and will use this money to buy the coins. Minimal threshold is 1 BERG or equivalent of USD according to the rate at the day of purchase. The threshold is active for both presale and main ICO stage. Coins with a discount can be purchased only within the framework of the Presale and the ICO.

The participants will be granted access to the account on the Mineberg website several days before ICO and they will be able to enter it through mobile application or web browser. Before the start of the sales, the participants will be able to sign up and transfer funds into their accounts. However, they will not be able to buy coins excluding those participating in the presale. Security of the accounts is guaranteed with two-factor authentication.

The funds collected during presale and ICO stages will be transferred to the SmartScript account. The Bitcoins will be converted to the USD at the exchange rate at the day of purchase. When the mining capacities are ready, the funds are released from the SmartScript account. Mineberg does not charge any transaction fee, however, it can be charged by the third parties the transactions run through.

After the first coin batch distribution, coins will be spread between the participants and transferred to their accounts on the Mineberg website. After this is done, participants can use the coins to place the mining equipment.

The mining income is credited in BTC, ETH or LTC (the coins are converted at the current exchange rate). Funds owners are free to transfer the funds from their Mineberg account to the wallets at any time.

Coins distribution

Due to the engineering solutions used during the Immersion Mineberg centers projecting, it is possible to resell the coins freely. Coins can be distributed to any hashrate equivalent needed. Total coin supply at the ICO is 20 million coins with discounts. Total coin supply is 100 million coins.

Every 85 coins sold will trigger reservation of 15 additional coins, 10 of which are intended for the Development Fund, and the remaining 5 coins are distributed between the project partners and consultants.

In case the sales amount will exceed the threshold of 20 000 000, the coins will be sold in queue depending on the date of purchase as the new capacities are put into operation.

The coins retained for the team members will be distributed only in case there are no pending requests for the coin distribution on the escrow account. Additionally, there will be a limit set for the coin distribution among advisers and partners.

Summary

Summarizing the above we would like to point out that the access to the mining capacities is a profitable business that decreases all the typical cryptocurrency risks. Mining becomes more convenient and profitable due to the location and maintenance of the equipment in the Mineberg data centers. Besides, one can lease the capacities and gain the profit despite the cryptomarket's volatility.

Miners on the market are profitable for 2.5 years average due to the natural obsolescence of the equipment and the increasing complexity of the network. At the same time, Mineberg participants get access to the hi-end equipment for 50 years. Data centers of the company possess significant computing power. In case of any change on the cryptomining market, they can be used in the spheres that require excessive computing capacities. Mineberg brings both convenience and profit

Project's timeline

The money limit available defines the size and capacity of the mining center in the first place. The Mineberg chief managers have concluded the contracts that grant them with the space and cheap electricity production possibility to be able to offer mining capacities to all ICO participants. In case Mineberg fails to fulfill their obligations of building enough computing power within the time frames given, the project undertakes to return the funds paid by the participants. If all the obligations to the participants fulfilled, they will not be able to claim neither full nor partial monetary refund.

ICO schedule

- **November 2018 – presale,**
- **December 2018 January 2019 – ICO,**

First 20 000 000 coins will be distributed immediately between the ICO and presale participants.

Since BERG coins are granted with mining equipment, new coins will be distributed once the new Mineberg capacities are put into operation. The ICO and presale participants will have the opportunity to be initial users, since Mineberg is not going to list the coin on the exchanges before all the ICO and presale coins are distributed.

Production and construction schedule

First stage: Hardware production and hosting site infrastructure

- **Mineberg 14nm BTC Miner - (Industrialization and machine supply),
Total BTC Miners supply for first batch – 1200 units;**
- **HPC Servers - Stratix 10 FPGA+HBM2 Immersion machine for HPC and AI
(Industrialization and machine supply),
Total HPC Servers supply for first batch – 200 units;**

- **Infrastructure for Mineberg 20MW GreenHouse (Office, Gas Power Stations, Mining outfits, GreenHouse).**

Results of the 1st stage: Hosting center for two-phase immersion machines with lowest electricity costs and GreenHouse; Two low-margin industrial solutions for mining are ready - BTC Miner and High Computing Calculations HPC Server.

- Miners' delivery time – 1 month after the end of ICO.
- 20 MW Immersion Computing Center with GreenHouse delivery time – 1 month.
- Equipment is placed in specialized immersion module containers each contain 60 units of Mineberg BTC Miners or HPC Servers.

Immersion center building schedule

- **Softcap – 1 module of Mineberg GreenHouse with 1 MWt total capacity**
- **Midcap - 10 modules of Mineberg GreenHouse with 10 MWt total capacity**
- **Hardcap - 20 modules of Mineberg GreenHouse with 20 MWt total capacity**

Amount of \$ 8,000,000 (Hardcap) will implement 20 MWt Mineberg Immersion Center.

Mineberg Software production roadmap

- **Mineberg Platform alpha version already released;**
- **Mineberg Web Wallet alpha version already released;**
- **Mineberg Mobile Wallet alpha version already released;**
- **Mineberg Mining Pool alpha, December 2018;**
- **Mineberg Bitcoin Exchange alpha, December 2018;**
- **Mineberg Platform beta version, January 2019;**
- **Mineberg Web Wallet beta version, January 2019;**
- **Mineberg Mobile Wallet beta version, January 2019;**
- **Mineberg Mining Pool beta version, March 2018;**
- **Mineberg Bitcoin Exchange beta version, March 2018;**

Second stage: ASICs development and production

- **7nm BTC ASIC
IC, IP, Tape-out ready TSMC lithography maskset and machine prototype;**
- **HPC IPU ASIC+HBM2
SiP- System in Package and machine prototype);**
- **Mass production of HPC co-processors and 7nm BTC ASIC mining chips.**

The results of the second stage: the industrial Bitcoin mining 7nm ASIC with AsicBoost and co-processor for accelerating the machine learning and robotic systems.

Additional emission on exchanges after ICO

In the process of the project's development, Mineberg will gain more mining capacities, which will result in emission of additional coins:

- **\$10M - 25 Mineberg modules with 25 MWt total capacity will be launched**
- **\$20M - 50 Mineberg modules with 50 MWt total capacity will be launched**

- **\$35M - 80 Mineberg modules with 80 MWt total capacity will be launched**

After implementation of three stages, total capacity of the Immersion center will be 170 MW.

Management and the project team

Bitware Group Limited

Bitware Group's technological team combines 4 industrial laboratories and more than 45 people. The Bitware Group team has extensive experience in development, prototyping, manufacturing and packaging ultra-large integrated circuits (ASIC) and solutions using topological norms from 250 to 7 nm inclusive.

Bitware Group is partner with the Taiwan's largest aggregator of ASIC production services. Also, it has direct access to the TSMC factory (Taiwan) and to the largest factory for automatic production of printed circuit boards and equipment in South Korea.

Brent Beeman, CEO

JP Morgan CFO, COO, CSO with 25-years of experience.

Brent is a financial and operating activity executive. He is responsible for the capital attraction, creation of scalable infrastructures, profit, and cash flow stimulation.

Brent's financial background ensure our financial forecasting for the blockchain technology utilization and new digital currencies emission.

Nikita Dubrovin, Co-founder and Technical Director

Nikita's professional career began in 2011 when he created a licensed brokerage dealer company in the field of commodity exchanges. He has over eight years of experience in programming and cryptography, and more than four years in developing hardware and software, and in managing Blockchain Technology projects. Having a strong personality, Nikita possesses excellent communication skill and knows the value of compromise. He is s great at setting priorities and resolving technical and communication issues.