



Bened



**MEMORANDUM**

The initial concept of the Bened digital currency



## MEMORANDUM



# ATTENTION

## MEMORANDUM

**BENED doesn't cost anything.  
BENED has no collateral.  
BENED is not for everyone.**

**Bened (BND)** is a virtual unit with green mining and zero value. **Bened** virtual units are not provided with anything. **Bened** is distributed to the community as open source software. **Bened's** software is completely transparent and distributed as it is, without any warranty, according to the Tokenomics section of this memo.



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The modern financial system is a model of relationships based on trust. The history of modern fiat money began in 1347 in Florence, it was the year of the outbreak of the Black Plague, which in a few years destroyed a third of the population of Europe. The pandemic marked the beginning of an economic crisis, to get out of which people had to reform the monetary system and create a new type of money - fiat money. The word Fiat is translated from Latin as-proclamation or permission, it was the consent of the whole society that allowed the creation of a new type of money expressed in the unusual form of paper receipts from jewelers who kept and protected precious stones and metals in their safes under armed guard. It was during the years of the terrible epidemic that society agreed with the proclamation of the status of paper money as a means of payment, and the production of paper receipts itself turned into a business whose name is Seigniorage. Seigniorage is the income received by the issuer of money on the right of ownership. At the very beginning of the era of fiat money, the seigniorage business was the minting of coins from the customer's materials, and as payment for the work performed, the seigneur kept a part of the material from which the batch of new coins was produced. It is precisely because any self-respecting seigneur was engaged in the business of Seigniorage that we observe such a variety of different coins that were in circulation in medieval Europe, it was the golden age of decentralized finance. Over time, post-epidemiological Europe strengthened its state verticals, increased and strengthened its armies, built a fleet, starting the discovery of new lands and worldwide expansion, but the key to success was not engineers or blacksmiths, the true engine of progress was Fiat money, faith in which allowed creating a new society developing on the principles of a market economy. And now, centuries later, of history makes a new turn, and once again the world is faced with an epidemic that has caused a global crisis of confidence in the established institutions of power and financial institutions for centuries.



**For more than ten years, decentralized cryptocurrencies have been developing in the world, and every year there are more and more of them.**

Someone will say - **"Phew, cryptocurrencies? what's new here? everyone has known about cryptocurrency for ten years, but nothing changes!"**, but on the scale of history, ten years is a moment, a moment, the description of which in the textbooks of the future depends only on those who act and create this history. At first glance, cryptocurrencies are not backed by any real assets, but this statement is only partially true, since there is no greater value than the faith of millions of people in decentralized information storage systems based on blockchain technology. In the era of digital technologies, virtual financial assets have acquired the power of fiat money, as their qualities meet the basic public demands for justice, equality, transparency, property protection and freedom of action.

Cryptocurrency is only information about changes in balances on user's wallets stored in a distributed blockchain registry with access to making changes to which is open to anyone, without restrictions and control, this is what gives cryptocurrency value.



# The initial concept of the Bened digital currency



The project is aimed at reviving in the virtual space the equivalent of the gold Soldo, which has become the prototype of modern reserve currencies used around the world as a benchmark for the value of fiat money. **Bened** is the heir of the golden Soldo, which was distributed throughout Europe during the time of Emperor Constantine. Soldo served as a bargaining chip for which you could pay for food, lodging, furs, weapons, horses, as well as pay for the work of mercenaries to protect their property and any other services.

**Bened is a decentralized cryptocurrency with an eco-friendly way of mining for each holder. Achieving the consensus of a decentralized network and the integrity of the blockchain is achieved through advanced developments of Soldo Constant LTD.**

**Soldo Constant LTD** is a pioneer in the development of energy-efficient blockchain technologies that allow efficiently storing and transmitting information about transactions made by users within a peer-to-peer network of nodes operating independently of each other. The key feature of the **Bened** cryptocurrency is the technology of low-cost mining of new coins based on patented hybrid algorithms for confirming the balance and the storage time of coins, with an increase in the complexity of mining in proportion to the growth of the total issue.



REVIEW

# POTS



SHA256



## CURVE25519

**Bened** - is an open source peer-to-peer proof-of-time stake cryptocurrency. The advanced **Bened proof-of-timestake** algorithm is an impeccable implementation of the "**age of the coin**" concept, resistant to all possible attacks on the blockchain in order to falsify transactions and generate new coins. The total number of available coins is distributed in the genesis account in the form of a negative balance of anti-coins. The **Curve25519** hybrid cryptography system with **SHA256** hashing algorithms is used. The average block generation speed is **300 seconds**. Transactions are considered safe after **10 confirmations**.

# POTS

## **PROOF OF TIMESTAKE**

In the **Proof of TimeStake** model used by **Bened**, network security is regulated by nodes that have a share of coins in the network. This algorithm does not contribute to centralization, like the Proof of Work algorithms, **Bened's** network has remained decentralized since its creation, and as the number of users grows, it becomes more and more decentralized.

## **PROOF OF TIMESTAKE HYBRID MINING MODEL IN BENED**

**Bened** uses an eco-friendly mining system, in which each "coin" is a virtual mining farm with a differentiated generation rate, depending on whether the account provides the generation of new blocks in the blockchain chain or not. The total "reward" received as a result of creating a block is the sum of transaction commissions located inside the block. **Bened's** network nodes do not issue coins as a result of creating blocks, but only determine the speed of generating new coins for accounts involved in maintaining the functionality of the decentralized network, and receive commissions for transactions recorded in the blocks created by them. Blocks are generated based on verifiable, unique and almost unpredictable information from the previous block. Blocks are connected by virtue of these connections, creating a chain of blocks (and transactions) that can be traced starting from the first block. The average block generation time can vary from **280 to 360 seconds**.

## **THE BASIC PRINCIPLES APPLY TO BENED POTS ALGORITHM**

- The cumulative difficulty value is stored as a parameter in each block, and each subsequent block receives its new "**difficulty**" from the value of the previous block. In case of ambiguity, the network reaches a consensus by choosing a fragment of a block or chain with the highest cumulative complexity.
- In order for account holders not to move their funds from one account to another as a means of manipulation in order to obtain the possibility of generating blocks, coins must have confirmations in **1440 blocks**. Coins that meet this criterion correspond to the effective account balance, and this balance is used to determine the probability of generating a new block.
- To prevent an attacker from creating a new chain, the network allows the recalculation of the chain of **720 blocks** located behind the current block. Any block presented at a height below this threshold is rejected. This movement threshold can be considered as the only fixed **Bened** control point.
- Due to the extremely low probability that any account will take over the management of the Blockchain by creating its own blockchain, transactions are considered safe if they are encoded in a block that is **10 blocks** located behind the current block.



## TOKENS

INITIAL ISSUE

**15 BLN**



FINAL ISSUE

**150 BLN**



The **initial** issue is **15 billion Bened**, and the **final issue** is **150 billion Bened**. The coins are issued with the creation of the genesis block (the first block in the block chain). The company reserves **10%** of the initial issue at its disposal to ensure the efficiency of the blockchain at the initial stage of development, and **90%** of the initial issue is sold on the exchange at the market price without the procedures of preliminary closed sale. The entire issue is made thanks to the algorithms of eco-friendly mining **Proof of TimeStake** with the genesis of an account with a negative balance that is available for monitoring and collecting analytical information at any time.



A **Bened network node** is any device that contributes a transaction or block data to the network. Any device with **Bened** software is considered as a node. Each node in the **Bened's network** has the ability to process and transmit both transactions and block information. Blocks are checked as they are received from other nodes, and in cases where the block does not meet the current network criteria, the nodes can be temporarily "**blacklisted**" to prevent the distribution of invalid block data.

## BLOCKCHAIN

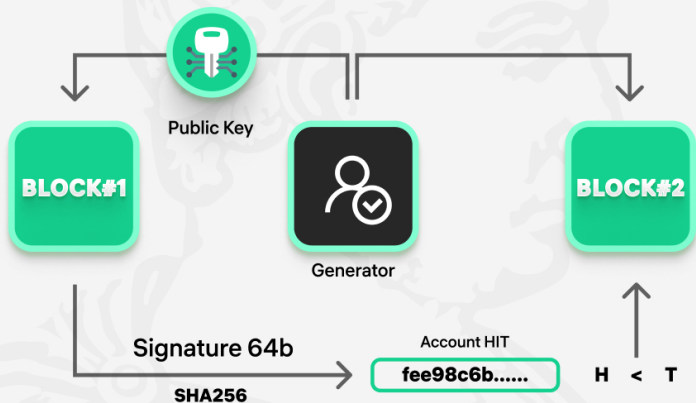
As in other cryptocurrencies, the **Bened** database is built and stored in a linked series of blocks, known as the blockchain. This book provides a permanent record of transactions that have taken place, and also establishes the order in which transactions were made. A copy of the Blockchain is stored on each node in the **Bened** network, and each account has the ability to generate blocks, provided that at least one incoming transaction in the account has been confirmed **1440 times**. Any account that meets these criteria is called an active account. In **Bened**, each block contains up to **1000 transactions** with an average size of **400 Bytes**, all of them are preceded by a Header that contains identifying parameters. Each transaction in a block is represented by a maximum of **1536 bytes**, and the maximum block size is **40 KB**

### All blocks contain the following parameters:

- Block version, block height value, and block ID
- Block timestamp, expressed in seconds from the genesis block
- The ID of the account that created the block, as well as the public key of the account.
- ID and hash of the previous block
- The number of transactions stored in the block
- The total amount of BENED represented by transactions and commissions in the block
- Transaction data for all transactions included in the block, including their transaction IDs
- The length of the block payload and the value of the block payload hash function
- Base target value and cumulative complexity for the block



## BLOCK GENERATION ALGORITHM



Each block in the chain has a signature generation parameter. To participate in the block generation process, the active account cryptographically signs the previous generated block with its own public key. This creates a 64-byte signature, which is then hashed using SHA256. The first 8 bytes of the resulting hash give a number called the account hit. The hit is compared with the current target value. If the calculated Hit is lower than the target, then the next block can be generated. As noted in the target value formula, the target value increases with each second. Even if there are only a few active accounts on the network, one of them will eventually generate a block, because the target value will become very large.



The consequence of this is that you can estimate the time it will take to forge a block by comparing the hit value of that account with the target value. The last point is of great importance. Since any node can request an effective balance for any active account, it is possible to go through all active accounts to determine their individual hit value. This means that it is possible to predict with reasonable accuracy which next account will be eligible for block generation. A shuffle attack can be triggered by moving a share to an account that will generate the next block, which is another reason why **Bened balance** must be confirmed in **1440 blocks**. The new base target value for the next block cannot be predicted, so it is almost impossible to determine who will generate the next block. In a situation where several identical blocks are generated, the nodes will select the block with the highest accumulated difficulty value as an authoritative block.

## CREATING OF BLOCKS



Four values are key to determining which account has the right to generate a block, which account gets the right to create a block, and which block is considered authoritative during a conflict: **Effective balance(Be)**, **HIT(H)**, **Base target(Tb)**, **Target value(T)**, and **Total complexity(Dcb)**.



## CREATING OF BLOCKS

### BASE TARGET VALUE

To win the right to generate a block, all active **Bened** accounts "**compete**", trying to create a hash value that is lower than the specified target value. This target value changes from block to block. It is calculated by adding the creation time of the previous block with the quotient of the hit and the base target value of the previous block multiplied by the effective balance.

### TARGET VALUE

Each account calculates its own target value based on its effective Balance.

This value is equal to:

$$T = S + H / (Tb \times Be);$$

where:

**T** - new target value

**S** - time elapsed since the last block, in seconds

**H** - HIT

**Tb** - base target value

**Be** - an effective account balance



**Initial target value** is calculated from the genesis balance and amounts to **10248191** for the initial block, the minimum and maximum values are limited and are, respectively:

**(target value calculated from the current balance of GENESIS) \* 9/10**  
**and (target value calculated from the current GENESIS balance) \* (1% of the current GENESIS balance).**



```
For reference {  
initial = 10248191  
initial min = 9223371  
initial max = 15372286500000000  
  
final = 1024819  
final min = 922337  
final max = 15372285000000000  
}
```

This target value and base target value are the same for all accounts trying to generate at the top of a particular block. The only defined account parameter is the effective balance parameter.

## CREATING OF BLOCKS



### TOTAL COMPLEXITY

Total complexity value is obtained from the base target value, according to the formula:

$$Dcb = Dpb + (2^{64}) / Tb$$

where:

**Dcb** - is the complexity of the current block

**Dpb** - complexity of the previous block

**Tb** - the base target value of the current block



## BENED'S ECO-FRIENDLY MINING

Eco-friendly mining of **BENED** is performed in two states, **SoftMining** and **HardMining**.

### SOFTMINING

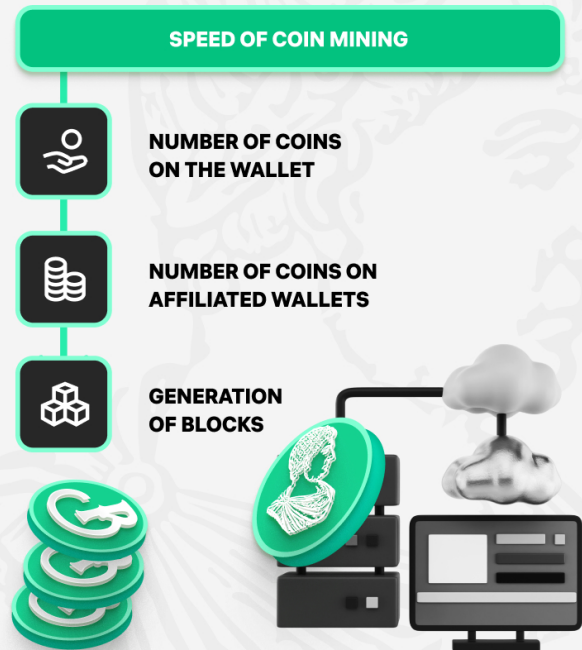
**SoftMining** is a software method for generating new coins with an account balance available to each coin holder using a private access key.

### HARDMINING

**HardMining** is a software and hardware method of mining coins using specialized equipment that stores an up-to-date copy of the blockchain and is synchronized with the general network to participate in the generation of new blocks.



## BENED'S ECO-FRIENDLY MINING



The speed of coin mining is determined by three main parameters: the number of coins on the wallet, the number of coins in the structure of affiliated wallets up to ten generations, and participation in the generation of blocks. The algorithms of eco-friendly mining **Bened** generate new coins from genesis according to the balance metrics, connections in the structure of affiliated wallets and the status of maintaining the network. All calculations are performed by the cybernetic core of the network node in real time based on the current metrics.

Eco-friendly mining **Bened** is a perfect patent-protected tool for promotion and popularization that allows you to establish links with fixing in the blockchain according to the principles of multi-level marketing, it is created on the basis of time-tested technologies in businesses developing on the basis of network structures and other cryptocurrencies. The main advantage of eco-friendly mining **Bened** is reliable protection against interference in the mining mechanism and its absolute transparency, all users can track the number of coins mined in real time. **Bened's** eco-friendly mining works on any wallet and stops when a balance of one hundred thousand coins is reached.



## BENED'S ECO-FRIENDLY MINING

**Bened** uses a patented system for establishing links between wallets and fixing them in the blockchain database without using any referral links. To increase the speed of **Bened** mining, you need to confirm the storage of coins not only on your wallet, but also in ten generations of affiliated wallets associated with you.

To mine new **Bened**, it is enough to create your own private key and receive an incoming transaction from any existing wallet. To increase the mining speed, you need to activate one or more wallets with the first transaction, and then the total balance of ten generations of affiliated wallets will affect the multiplier coefficient of the base value of mining speed. Eco-friendly mining **Bened**, allows you to minimize the cost of electricity and issue new coins in your wallet. The maximum number of coins that can be mined in one session does not exceed **10000BND**, after reaching **100000BND**, the wallet stops mining until its balance decreases.





### HARDWARE BENED HARDMINING

The **Bened** cryptocurrency has a function of increasing the base rate of coin mining for miners who support the performance of a **peer-to-peer network**. For wallets whose balances are used to confirm transactions made on the network, the basic rate of coin mining is **1% per day**, regardless of the balance. Such mining parameters are applied and are valid for **30,000 blocks** from the moment of generating a valid block accepted by the network. At the same time, mining acceleration coefficients from wallets affiliated with them are also applied to such wallets.

## EMISSION PARAMETERS FOR ECO-FRIENDLY MINING OF BENED CRYPTOCURRENCY

### THE BASIC SPEED OF ECO-FRIENDLY BENED SOFTMINING WITHOUT COMPLEXITY

The percentage of production of new coins in 24 hours without complexity	The number of coins in wallet
1%	less than 1 coin
0.1%	from 1 to 10000
0.01%	from 10000 to 1000000000

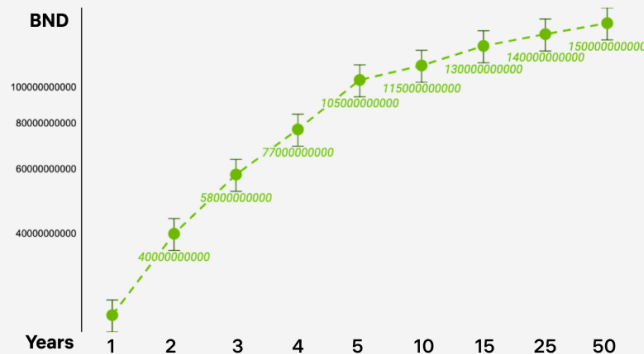
### BENED MINING ACCELERATION COEFFICIENT FROM AFFILIATED WALLETS IN 100 GENERATIONS

Acceleration coefficient	The volume of coins of affiliated wallets in ten generations
1,2	from 100000 to 1000000
1,5	from 1000000 to 10000000
1,8	from 10000000 to 100000000
2	more then 100000000



Bened total issue	Mining compression ratio
up to 30000000000	1
up to 45000000000	0.85
up to 60000000000	0.7
up to 75000000000	0.55
up to 90000000000	0.4
up to 100000000000	0.25
more then 100000000000	0.15

**FORECAST OF THE BENED PRODUCTION RATE,  
TAKING INTO ACCOUNT COMPRESSION**



The algorithms of eco-friendly mining **Bened** contain a compression system (similar to halving in Bitcoin) that increases the complexity of mining new coins, which favorably affects the economic attractiveness of the cryptocurrency. The **Bened** issue rate decreases in proportion to the total number of coins already mined. By the time of production, **100 billion coins**. the efficiency of the issue of coins will decrease by **15** times from the base values, this factor guarantees a smooth decrease in internal inflation and increases the liquidity of the coin. Production compression consists of seven coefficients that reduce the efficiency of production with an increase in total emissions.



## BENED'S WALLETS



All **Bened** wallets are stored on the network with private keys for each possible account address, directly derived from the code phrase of each account using a combination of **SHA256** and **Curve25519** operations. Each account is represented by a **64-bit** number, and this number is expressed as the account address using the **Solomon Code** error correction record, which allows you to detect up to four errors in the account address or correct up to two errors. This format was implemented in response to concerns that an incorrect account address could lead to coins being irreversibly transferred to erroneous wallets. Account addresses are always preceded by "**BENED -**", which makes the addresses of **Bened** accounts easily recognizable and different from the address formats used by other cryptocurrencies.

The account address encoded with the Solomon code associated with the secret passphrase is generated as follows:

1. The secret passphrase is hashed using SHA256 to obtain the account's private key.
2. The private key is encrypted using Curve25519 to obtain the account's public key.
3. The public key is hashed with SHA256 to obtain the account ID.
4. The first 64 bits of the account ID are the visible account number.
5. Encoding of the Solomon Code, the visible account number with the prefix "**BENED -**" generates the account address.

When generating a private key for the first time, it is not protected by a public key. When the first outgoing transaction is made from the wallet, a **256-bit public key** obtained from the private key is stored in the blockchain. The address space for public keys is larger than the address space for account numbers, so there is no unambiguous comparison of code words with account numbers and possible collisions. These collisions are detected and prevented as follows: after a private key is used to access a wallet, and this wallet is protected by a public 256-bit key, no other public-private key pair can access this wallet.





## WALLET BALANCE PROPERTIES

There are several different balance levels available for each **Bened** wallet. Each balance type serves a different purpose, and many of these values are checked as part of checking and processing transactions.

### THE EFFECTIVE

The Effective Account Balance is used as the basis for block generation calculations. The effective wallet balance consists of all coins that have **1440** confirmations in the blockchain.

### THE BASIC

The Basic Wallet Balance takes into account all transactions that have had at least one confirmation.

### THE GENERATING

The Generating Account Balance shows the total amount of **Bened** received as a result of successful block generation.



### TRANSACTION CONFIRMATION

All **Bened** transactions are considered unconfirmed until they are included in the blockchain. The newly created blocks are distributed to the network by the node that creates them. As subsequent blocks are added to the existing blockchain, each additional block adds another confirmation to the number of transaction confirmations. If a transaction is not included in the block during the day, it is burned and removed from the transaction pool.



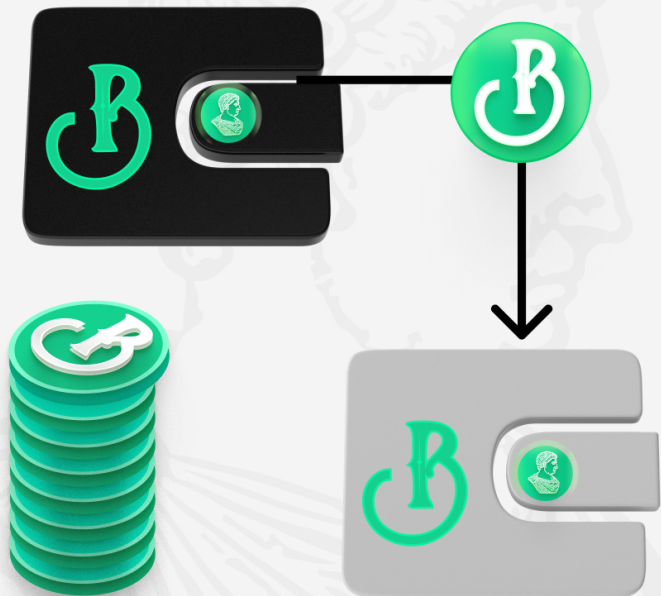
### TRANSACTION DEADLINES

Each transaction contains a deadline parameter set for the number of minutes since the transaction was sent to the network. By default, the deadline is **1440 minutes (24 hours)**. A transaction that was transmitted to the network, but was not included in the block, is called an unconfirmed transaction.

If the transaction was not included in the block before the transaction deadline, the transaction is deleted from the network. The blockchain does not accept transactions with distorted signatures or parameters that do not correspond to the current network conditions.



## TRANSACTION FEES



1%  
BND

Commission for making a transaction is **1%**

Minimum commission is **0.150000 BND**

Maximum commission is **100 BND**



The key exchange in **Bened** is based on the **Curve25519** algorithm, which generates a shared secret key using a fast, efficient **Diffie-Hellman** elliptic curve with a high degree of protection. The algorithm was first demonstrated by Daniel J. By Bernstein in 2006.

## BENED'S BASICS OF CRYPTOGRAPHY



### ADVANCED JAVASCRIPT CLIENT

A convenient client application, a new generation, built into the distribution of the main **Bened** software, with the ability to manage via a local web browser.

The client provides full support for all the main functions of **Bened**, implemented so that private keys will never be transferred to the network.





## BENED'S TOKENOMICS

The main advantage of the **Bened cryptocurrency** is its absolute openness and transparency for users and investors. Thanks to these qualities, you can easily conduct a fundamental analysis and make a decision based on objective data.

The main criterion for the success of the monetary system is the number of individual users or communities using cryptocurrency for its intended purpose, namely, making payments or as a way of accumulating and preserving values. In its development strategy, the **Bened** cryptocurrency is focused on the market of daily voluntary payments that are outside of financial regulation, for example, tips in a restaurant, donations and other expenses that people make daily as an incentive in addition to the taxable payment already made. This type of Bened distribution will allow you to make the widest possible coverage and attract a huge number of new people to cryptonomics. To implement this direction of development, a convenient **WEB Wallet** has been developed with the ability to instantly write a virtual check containing **BND** coins and offer it as a tip or other reward at your request. In order to transfer a virtual receipt in the form of a **QR-Code**, it is enough to let the person for whom it is intended take a picture of it from the screen of your smartphone. This is one of the many strategies for organic growth of the number of users in the real world of people. We will leave other more interesting and effective strategies under the protection of trade secrets.

According to the description of the **Bened** cryptocurrency concept that you have read, it can be concluded that eco-friendly **SoftMining** mining will be carried out in a decentralized manner on the wallets of all users, and this raises the question of how **Soldo Constant LTD** will make a profit for the development of the project?

The profit generation of **Soldo Constant LTD** consists of a part of the premine implemented on the open markets equal to **15,000,000,000 BND** and the sale of license keys for network nodes that support **HardMining** algorithms. Until **100,000,000,000 BND** is extracted in the user's network, **Soldo Constant LTD** reserves the right to sell software for network nodes at prices corresponding to the conjuncture of the requests of our customers and partners.



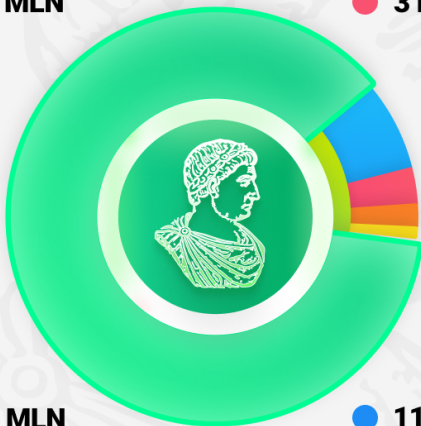


## BENED'S TOKENOMICS

The distribution of a premine equal to  
**15 000 000 000 BND**

● **150 MLN**

● **3 BLN**



● **850 MLN**

● **11 BLN**

12/19/2021 - an initial emission of 10% of the final emission of Bened cryptocurrency in the amount of 150 billion coins was made.

- **Soldo Constant LTD reserves 150 000 000 BND** - to maintain the operability of network nodes generating new transaction registry blocks until the release of **HardMining** network nodes into free access.
- **Soldo Constant LTD reserves 3 000 000 000 BND** - for conducting an advertising campaign of exchange for tokens of other projects that have lost popularity on the market in the form of **AirDrop**.
- **Soldo Constant LTD will distribute 850 000 000 BND** - as grants for projects developing technologies of eco-friendly **POS** mining.
- **Soldo Constant LTD sells 11 000 000 000 BND** - for three years through open exchange markets to ensure liquidity according to the scheme:  
**No more than 10,000,000 BND per day.**

The premine will be mined in the first block and distributed according to the Tokenomics model into four parts for the further implementation of the **Bened's Memorandum**.



1. Bened  
blockchain launch



1

3. Developing and  
publishing a native  
wallet for Android



3

5. Signing a license agreement with engineering  
companies to distribute HardMining software  
and build a peer-to-peer network of nodes  
supporting Bened blockchain operations.



5

7. Developing and  
publishing a native  
wallet for iOS.



7

9. Development of a digital  
signature system for meta-  
objects with authorship in  
Bened's blockchain.



9

2. Distribution of provisional  
issue under the memorandum



2

4. Work with Ambassadors  
and distribute initial emissions  
to people worldwide.



4

6. The launch of a large-scale  
campaign to distribute BND  
coins free of charge through  
Ambassadors around the world.



6

8. Bened's cryptocurrency is  
listed on the exchange and  
coins are sold according to the  
terms of the memorandum.



8

10. Development and  
implementation of transaction  
algorithms, in a limited  
Internet environment, using  
Bluetooth and radio signal.



10

## BENED'S ROADMAP

The initial concept of the Bened digital currency

2022

**BENED**

Bened.cc



**MEMORANDUM**

