

**ERMINE**

# Virtual Mining

White Paper



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## Introduction

Cryptocurrency mining has swept the whole world. Blockchains running on different algorithms generate rewards for miners for processing and storing data. Various devices are used to mine cryptocurrency – miners, video cards, SSD, HDD, CPU, etc. Hardware-based mining is a cost-intensive activity. Accommodating hardware, which mines cryptocurrency, requires premises and a huge amount of power. Mining equipment requires maintenance, monitoring, updating software. Expenses on operations may be quite high, which is why the payback periods extend and may last for years. Of course, physical mining is necessary to make blockchain work but should non-commercial miners do it? Is it worth placing equipment, which can cause a fire because of overloads in power grids, at one's home or small premises? Probably, not. For safe cryptocurrency mining, we developed virtual miners represented as NFTs. They are secure, maintenance-free and do not require software updates. Virtual miners feature parameters similar to those of physical miners: they are high-performance and can yield profit. You can get acquainted with the specification of the virtual mining technology in this White paper.

## Disclaimer

Any change or update of the information in this White paper shall not be perceived as a commitment, promise or guarantee of Ermine or other organizations and individuals mentioned in this document and related to the use of tokens and their future cost.

The White paper is not an offer on the sale of securities and shall not be perceived as an offer for sale, purchase or subscriptions to any securities.

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All information in this White paper is provided without guarantee of any kind and may contain references to forward-looking statements, which will include any statements that are not statements of historical fact. There is no guarantee as to the accuracy of these forward-looking statements. Any forecasts and estimates contained in this White paper may be speculative and based on assumptions. These forward-looking statements may not be correct and may be affected by inaccurate assumptions, known or unknown risks, uncertainties, and other factors. Most of them are beyond control. It can be expected that some or all of these forward-looking assumptions will not come true or will differ significantly from actual results.

## Abbreviations

<b>BLP</b>	- Ermine built-in liquidity pool
<b>BNB</b>	- Binance Smart Chain ecosystem cryptocurrency
<b>BSC</b>	- Binance Smart Chain
<b>ReturnVM</b>	- virtual miner return system with partial payment
<b>DAO</b>	- decentralized autonomous organization
<b>dApp</b>	- decentralized application
<b>DEX</b>	- decentralized exchange (exchanger)
<b>ETH</b>	- Ethereum cryptocurrency
<b>GPU</b>	- Graphical Processing Unit
<b>IPFS</b>	- InterPlanetary File System (decentralized file-sharing network)
<b>IPS</b>	- instructions per second, a measure of a virtual miner's speed
<b>POW</b>	- Proof-of-work
<b>PPM</b>	- program pool of mining
<b>VM</b>	- virtual miner
<b>YSM</b>	- yield smart contract

**Referrer** – a system user who attracts other users to this system and receives a reward for each attracted one.

**Referral** – an affiliate program member who joined on the recommendation of another member (referrer).

## Virtual mining technology

Virtual mining as distinct from classic mining is not the support of the blockchain network performance. All the operations of virtual mining are carried out in smart contracts inside the blockchain. To get profit from virtual mining one needs to have a virtual miner connected to one of PPM. In some cases, PPM with a minimum miner connection period may require collateral in ERM tokens (guarantee against the turning off of the virtual miner before the end of the minimum period). See the PPM working principle in the "Program pools for mining" section (p.12). Rewards are formed in yield smart contracts (YSM). YSM generate cryptocurrency for operations on decentralized platforms. More about YSM and their evolution in the yield smart contracts section (p.15).

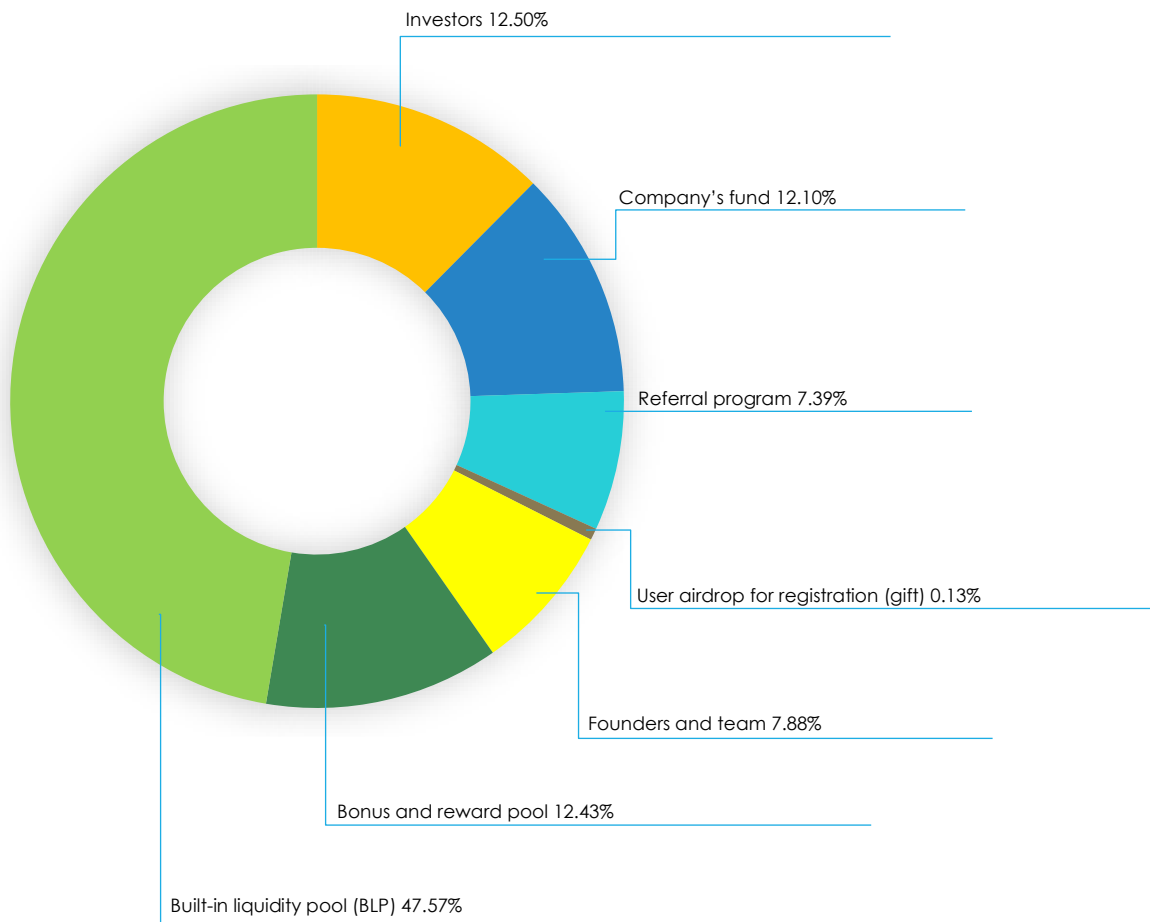
# Tokenomics

## Specification of the utility token and its distribution

Token standard ERC20

Name and ticker **Ermine (ERM)**

Total supply 800,000,000 ERM



Investors	12.50 %	100,000,000
Company's fund	12.10 %	96,800,078
Referral program	7.39 %	59,088,000
User airdrop for registration (gift)	0.13 %	1,000,000
Founders and team	7.88 %	63,072,000
Bonus and reward pool	12.43 %	99,468,493
Built-in liquidity pool (BLP)	47.57 %	380,571,429
<b>ERM total supply</b>	<b>100.00 %</b>	<b>800,000,000</b>

The maximum supply of 800,000,000 ERM occurs at the time of deploying a smart contract in the Ethereum network.



## Terms and conditions of ERM token distribution

### To investors

Two rounds of the ERM token sale are planned. Tokens purchased by investors will be unlocked for withdrawal gradually. The ERM token price, unlocking rule and terms for investors will be determined at the time of the announcement of the start dates of token sales.

### To Ermine founders and team

The tokens reserved for the team will be unlocked gradually in the DEV pool, starting from the 90<sup>th</sup> day after the start of virtual mining at 1 ERM per second, for two years.

### Bonus for registration

The first 10,000 Ermine dApp users will get 100 ERM to the internal account balance as a gift.

### Company's fund

Not for sale. Not for giveaways and gifts. Tokens can be used for liquidity and insurance only.

### Bonus and reward pool

ERM tokens reserved for bonuses and rewards will be distributed at least 3 years from the launch of the bonus pools. Read about the technical features of bonus pools in the Bonus pools section (p.16).

### For referral program

ERM tokens reserved for rewards to referrals for the sale of virtual miners are calculated for a minimum of 1,231,000 sales. Learn more about the Referral program in the "Referral program" section (p.11).

### ERM token usage

- The provision in program pools for guarantee\* against premature turning-off of a miner(s) and purchase of pass cards;
- special status\* and higher income in the referral program;
- virtual miner return system (ReturnVM);
- addition to the list is possible as the Ermine ecosystem develops.

\* ERM tokens generated from direct sales, penalties and status sales to referrers are Ermine company's income. The decision on their use will be made by the core members of the Ermine team.





## Technical specification of virtual miners

Token standard ERC1155

Name and ticker **Ermine Virtual Miner (EVM)**

There are 12 categories of miners in total.

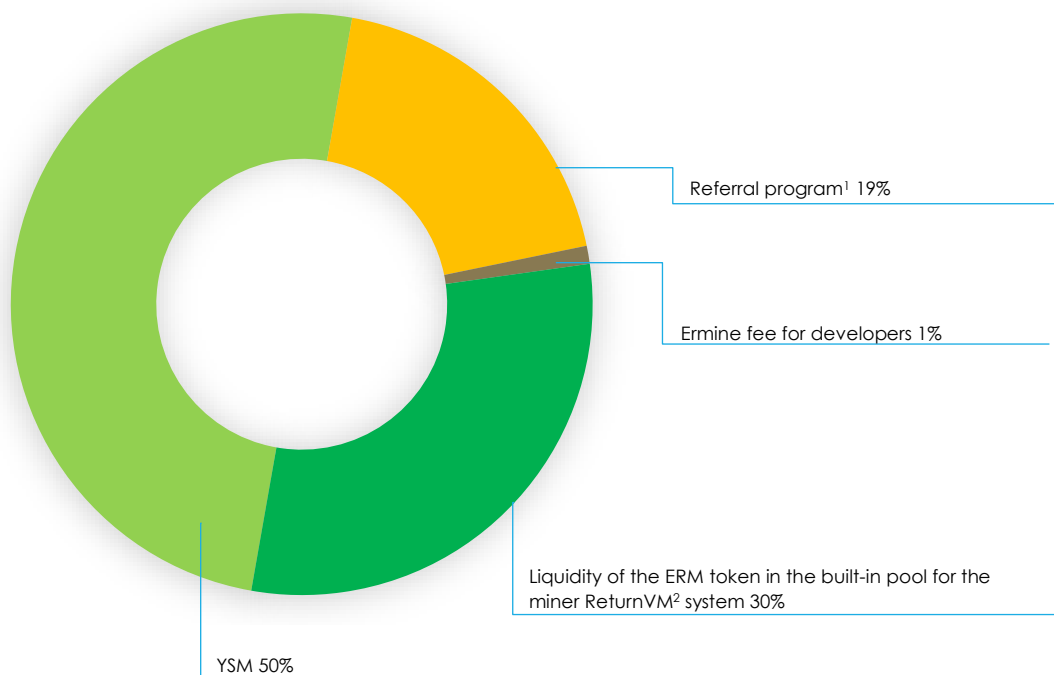
8 categories (0-7) will be available for purchase at the start of sales.

4 categories (8-11) will be available after 180 days from the start of sales.

Each miner category has a name, a 3D animated graphic video loaded in IPFS, performance measured in IPS, emission and miner price.

Category	Name	Performance, IPS	Total supply	Price, ETH
0	Bit	1	1,000,000	0.07
1	Byte	8	500,000	0.50
2	ECO	12	300,000	0.71
3	Lite	38	100,000	2.14
4	Master	64	50,000	3.56
5	Expert	132	20,000	7.14
6	PRO	198	10,000	10.57
7	PRO MAX	398	5,000	19.88
8	LE 50	50	50,000	2.71
9	LE 100	100	20,000	5.29
10	LE PRO 200	200	3,000	10.43
11	LE PRO MAX	500	1,000	24.86

Ethereum from the sale of miners is distributed as a percentage



1 – More on the benefits of the referral program (p.11);

2 – More on the miner ReturnVM system (p.14);

3 – Learn more about YSM (p.15).

## Roadmap

**Q3 2022** planning, preparation of documents, drawing up algorithms.

**Q4 2022** issuance of ERM tokens, issuance of virtual miners for Ethereum mining, initial audit.

**Q1 2023** holding a seed round of the ERM tokens sale, launching a referral program, opening sales of virtual miners for Ethereum mining, launching the built-in ERM token liquidity pool, ERM token primary listing, launching bonus pools to receive ERM tokens.

**Q2 2023** ERM tokenIDO/IEO, smart contract audit, launching an Ethereum virtual mining dApp, starting the BNB virtual mining dApp development in the Binance Smart Chain (BSC) network, testing hybrid YSC.

**Q3 2023** launching the Ethereum virtual miner return system, opening sales of a limited collection of miners for Ethereum mining, launching a bridge for the ERM token between Ethereum and BSC networks, listing ERM on DEX in the BSC network.

**Q4 2023** opening sales of virtual miners for BNB mining, launching the built-in ERM token liquidity pool in the BSC network, launching a BNB virtual mining dApp, launching decentralized YSM in the Ethereum network.

The **2024 roadmap** will be developed and published no earlier than Q2 2023.

## Referral program

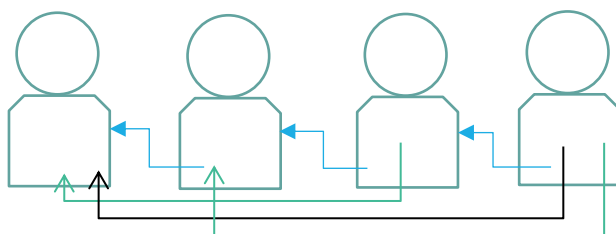
A referral program (affiliate program) is available for every registered Ermine user. It is a three-level system of **invite-and-earn**. The members receive interest from the amount of a virtual miner purchase by a new invited member and interest from further purchases of those whom the people you invited to the 3<sup>rd</sup> level will invite. The referral program is based on the multi-level marketing principle, which will be the basic marketing program of the Ermine project. Every referrer will have a status (bronze, silver, gold, official) depending on the number of invited people and the ERM amount on their account balance.

Referrer status	Required number of new invited buyers (referrals)	Required amount on the account balance, ERM
bronze	Set by default	
silver	>= 2	-
gold	> 19	> 1,999 ERM
official	> 39	> 7,999 ERM

If a referrer does not have enough ERM on their balance, their status will be degraded to the silver level. The referrer can fix (buy) their status without the possibility of losing it for a minimal amount of ERM required to maintain their status granting the required number of referrals.

Table of rewards for referrers by status and level

Referral's depth (level)	Bronze		Silver		Gold		Official $\Delta$	
	%	ERM	%	ERM	%	ERM	%	ERM
1 $\leftarrow$	8	+24	9	+27	10	+30	10	+30
2 $\uparrow$	3	+9	4	+12	5	+15	5	+15
3 $\uparrow$	2	+6	3	+9	4	+12	4	+12



### $\Delta$ Important

- Ermine charges 1% of the mined cryptocurrency in program pools from all working miners, however for referrers with Official status, Ermine will give their commission of 1% to them from their referrals. Referrers with Official status will be able to make direct sales of virtual miners while taking up to 20% of the purchase amount of their referral. This is the difference between Gold and Official statuses.



## Program pools for Ethereum mining

Ethereum is being mined when connecting virtual miners to program pools (PPM). The logic of smart contracts initially contains the boundaries of the characteristics of the created PPM.

The maximum permissible amount of PPM is unlimited.

PPM characteristics and limit values:

<b>Minimum period of PPM operation</b>	24 hours
<b>Maximum period of PPM operation</b>	unlimited
<b>Maximum allowable reward when launching PPM for 1 IPS</b>	0.502512562812096000 ETH in 365 days
<b>The minimum allowable PPM reward that the reward for 1 IPS aims for</b>	0.000497142870192 ETH in 365 days
<b>Launch PPM when it is created no earlier than after</b>	24 hours
<b>The period after which the PPM reward will become static and equal to the minimum reward (cannot exceed the period of PPM operation)</b>	10 minutes
<b>Connecting virtual miners</b>	Connect/Disconnect
<b>Minimum period to include virtual miners in PPM</b>	0 - 365 days*
<b>Prolongation of the connection of virtual miners at the end of the minimum active period</b>	Enabled/Disabled
<b>Collateral for 1 IPS in ERM</b>	0 - 100 ERM
<b>Pass type</b>	0 - 9
<b>Provision method</b>	0 – ERM, 1 – pass card

A guaranteed non-expiring base program mining pool (Base PPM) with a fixed fee per 1 IPS will be launched in the Ermine dApp. Securing capacity in Base PPM is not required, the minimum period for connecting and disconnecting miners is not provided.

In PPM with a dynamic reward change when connecting virtual miners, the reward rate is fixed until the user disconnects or adds virtual miners in such PPM or when the reward is withdrawn from such PPM.

\* If additional miners are connected to PPM or a reward is withdrawn from PPM, the minimum period time counter starts counting again.

## Built-in liquidity pool

The built-in liquidity pool (BLP) is replenished by ERM and ETH at the initial sale of virtual miners. Thus, the additional liquidity of BLP in the ERM-ETH pair is created. When using BLP users will be able to exchange ERM for ETH or ETH for ERM. The pool fee will be 1% of the exchange amount in ETH. AntiBot protection is built into BLP, which will not allow making exchanges for one user more than once every 5 minutes.

BLP is created by Ermine once and cannot be edited or deleted. At the time of BLP creation, the initial price of the ERM token is set.

### Pricing formula when exchanging

TA – exchange transaction amount

ETHPool – amount of Ethereum in BLP

ERMPool – amount of ERM in BLP

$$\mathbf{PriceERM} = \frac{ETHPool}{ERMPool \pm (TA)} \times TA$$

A slippage mechanism will be built in BLP (price change during the exchange). The user who makes the exchange sets the allowable amount of slippage.

### Formula of pool replenishment from the initial sales of virtual miners

PA – amount of virtual miner purchase

PriceERM – market price of ERM in BLP

AddToPoolETH – amount of added Ethereum in BLP

AddToPoolERM – amount of added ERM in BLP

$$\mathbf{AddToPoolETH} = \frac{PA}{100} \times 30$$

$$\mathbf{AddToPoolERM} = \frac{AddToPoolETH}{PriceERM}$$

## Miner return system

The miner return system (ReturnVM) will be launched in 180 days from the launch of Ethereum virtual mining. BuyBackVM will allow users who own virtual miners to transfer them for 30% of their nominal value. Compensation will be paid from BLP in the proportion of 50% in ERM tokens and 50% in ETH cryptocurrency to the balance of the Ermine dApp account.

After transferring virtual miners to ReturnVM they deposited to a special smart contract for reselling, which will open after the sale of all VM.

## Yield smart contracts

Yield smart contracts (YSM) are smart contracts aimed at income generation from transactions made on DEX. YSM provide PPM with liquidity through internal turnover. Every YSC works based on certain rules. At the start of the project in the first stage, YSC is still a little centralized. For maximum user protection, there will be gradual YSC evolution. In the second stage, these will be transaction-driven smart contracts with the right to perform predetermined operations. The third stage will integrate Relay and Autotask. In the next stages, the management of YSC may be transferred to the community (DAO).

YSC maintain statistics and disclose all information on the flow of funds.

### Distribution of income

First-stage evolution YSC (centralized)	
<b>Liquidity for virtual mining</b>	50%
<b>Ermine fee</b>	1%
<b>YSC income</b>	49%
Second-stage evolution YSC (hybrid)	
<b>Liquidity for virtual mining</b>	60%
<b>Ermine fee</b>	1%
<b>YSC income</b>	39%
Further evolution stages YSC (decentralized)	
<b>Liquidity for virtual mining</b>	90%
<b>Ermine fee</b>	10%

If YSC fails to get income or the operating income is lower than desired, operations of this YSC may be delegated to another YSC, or its funds may be distributed among other YSCs. In this case, YSC remains without profit, and Ermine fee is not charged.

The main rule of any YSC is to make exchanges only in allowed trading pairs. If the rule is violated, funds are withdrawn from such YSC.

## Bonus and reward pool

ERM bonus pools will be launched after the opening of VM sales. In total, 3 bonus pools with different conditions and rewards will be launched. It is planned to be launched along with the launch of the virtual mining process.

99,468,493 ERM will be reserved in storage and distributed for a minimum of 3 years.

### Types of bonus pools

<b>Bonus pool 360</b>	
<b>Places Available</b>	10,000 Units*
<b>Bonuses in 1 year</b>	1 Units = 360 ERM
<b>Total to be distributed over a period <math>\geq</math> 3 years</b>	10,800,000 ERM
<b>Bonus withdrawal</b>	anytime
<b>Freeing up unit space</b>	anytime
<b>Bonus pool 720</b>	
<b>Places Available</b>	10,000 Units*
<b>Bonuses in 1 year</b>	1 Units = 720 ERM
<b>Total to be distributed over a period <math>\geq</math> 3 years</b>	21,600,000 ERM
<b>Bonus withdrawal</b>	Once in 30 days
<b>Freeing up unit space</b>	anytime <sup>1</sup>
<b>Bonus pool MAX</b>	
<b>Places Available</b>	20,000 Units*
<b>Bonuses in 1 year</b>	1 Units = 4800 - 8002 ERM
<b>Total to be distributed over a period <math>\geq</math> 3 years</b>	67,068,493 ERM
<b>Bonus withdrawal</b>	Once in 60 days
<b>Freeing up unit space</b>	60 days after the last deposit to the pool

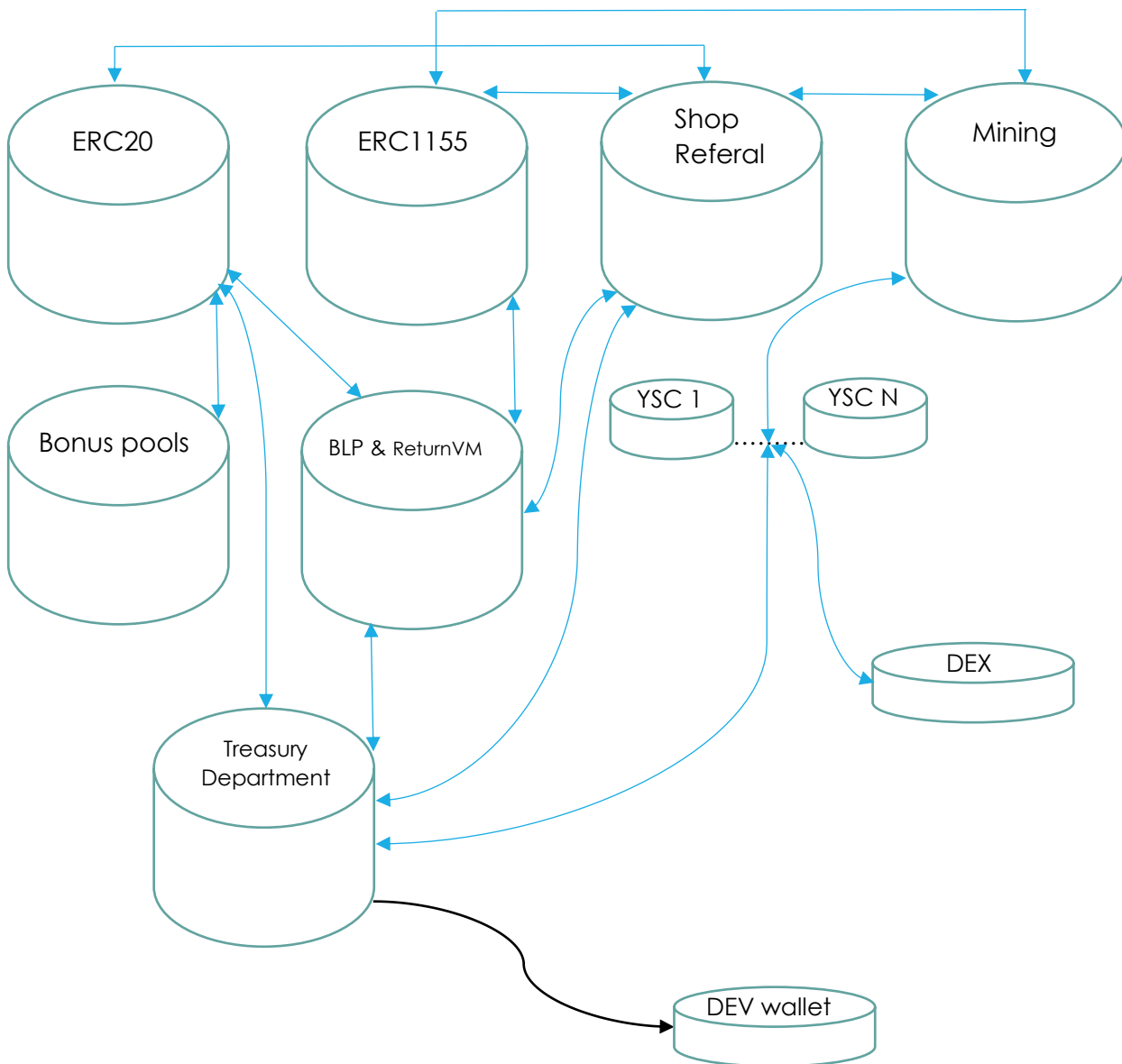
1 - in case of early freeing up unit space, no remuneration is paid; 2 – initial value of bonuses will be set to 4800 ERM, every month the amount of bonuses will decrease by 800 ERM, to 800 ERM per year per 1 Unit.

**Bonus pool MAX** will be launched in 20 days after the launch of virtual mining.



# Basic connection diagram

Ver. 1.0



## Team's principles and approaches

The Ermine team keeps to specific rules and principles. We want to create a dApp, which does not require management, the logic of smart contracts should allow dApp to operate without human decision-making focused on the change of rules.

To manage the community, general chats for communication will not be created. All the chats you could find are unofficial. To inform our community we post announcements only on social media, which are listed on the official website [ermine.pro](http://ermine.pro). Keep alert when using unofficial sources because of the decisions made based on the information received from them, you may make erroneous actions and even incur some losses, including financial ones.

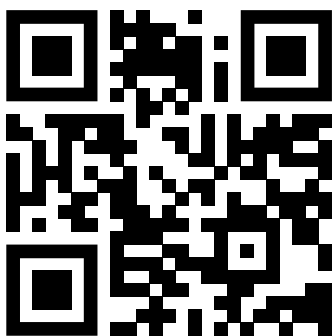
It does not matter to the Ermine team what terminology will be used by the community regarding the project. You can name it whatever you like: dApp, VM, DeFi, yield aggregator, virtual mining, mining, game, etc. Name it the way it will be convenient for you to understand and when communicating with people. We are building a decentralized ecosystem, which will not require human participation in the future.

## Conclusion

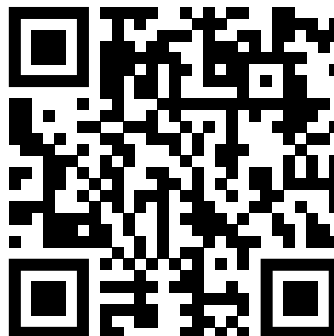
The field of GPU (POW) Ethereum-based mining was actively developed and used all over the world. However, POW consumed too much power, generated a lot of heat negatively affecting the ecology. The computing speed was quite low and prevented the network to scale. Ethereum developers decided to improve the capacity of their blockchain network and updating Merge involving a transition from POW to POS was an important stage. After Merge, video cards for Ethereum mining became useless. Now, to get rewards in Ethereum you need to use staking pools but rates of interest in these pools are very low. The Ermine team suggests an innovative solution for mining Ethereum – virtual miners. Having a crypto wallet and a small amount of ETH you can select your own visual miner and connect it to the program pool you like. In dApp Ermine, you can make money by selling virtual miners (referral program) and through high-technology virtual mining. Start earning right after the launch of dApp. The sooner you start, the higher profit you'll get. To be informed check out our official sources. Subscribe, follow us.

## Official information resources and contacts

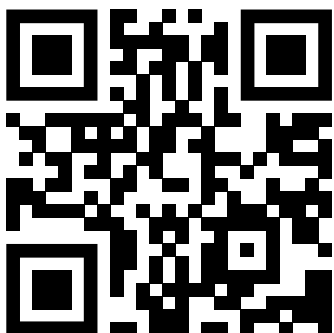
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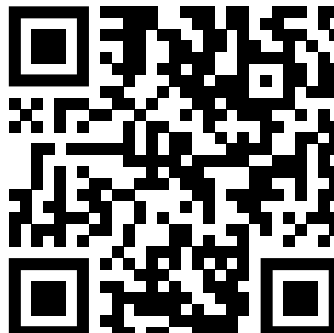
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