

# Caelum Project

# Black Book

Our smart contracts can be found at the following addresses:

Token contract: 0xc71a7ecd96fef6e34a5c296bee9533f1deb0e3c1

Masternode contract: 0x3b1b3f92d85ef134fb253c1e976346430eab6b37

Mining contract: 0xa38fcedd23de2191dc27f9a0240ac170be0a14fe

The Caelum Token (\$CLM) is an ERC20 Proof of Work Masternode Hybrid token.

Caelum Project's first aim was to introduce a new distribution method for ERC20 tokens.

This paper will outline the key features of the token and it's distribution model, as well as briefly introduce the first utility,

Decentralised Digital Asset Storage  
(Inheritance of Cryptocurrency Assets)

Lead Developer:  
Skippy Brussels (Steve)



A Proof of Work Masternode Hybrid token run entirely within the Ethereum network.  
Fair distribution. No ICO. Community Driven. Decentralised. Innovative and Unique.

# Contents

0. Legal Notes
1. Introduction
2. What is “Caelum Project”
3. A Community Centred Cryptocurrency
4. Development, Code and Milestones Achieved
5. Reward Structure
6. Funding
7. Future Developments
8. Roadmap
9. The Caelum Project Core Team



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Contents

## **0. Legal Notes – Caelum Token is a Utility Token for use with utilities developed as part of “The Caelum Project”.**

Please note the Caelum Token (\$CLM) promises no dividends or guarantees of any types of return on investment. The Caelum Project is run entirely by donations, and the utility token will be used for the various utilities that will be developed over time. Caelum is not a security token, and fails tests outlined by the Howey Test, that a transaction will be considered a security only if all of the following requirements are met:

1. There is an investment of money
2. There is an expectation of profits
3. The investment of money is in a common enterprise
4. Any profit comes from the efforts of a promoter or third party

There has been no investment of money (Caelum is a proof of work / Masternode Hybrid token and is the only way that new tokens can be created). There is no expectation of profits. No money has been invested in the project, and only voluntary donations to keep the project running.



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Section 0 - Legal Notes

## 1. What is “Caelum Project”

The name Caelum is derived from the Caelum Supercluster, the largest collection of galaxies known today. In the cryptocurrency sphere, Caelum is the token used across a series of projects under the all encompassing umbrella that is “Caelum Project”. Caelum Project is a community focused cryptocurrency built on the Ethereum blockchain. The Caelum Token is an ERC20 PoW/Masternode hybrid token. The project is lead by Skippy Brussels with the support of the Caelum Community members.

The Caelum Project’s existence is driven by a desire to improve the cryptocurrency scene we know today and keep innovating to help increase mass adoption. The crypto industry is plagued by thousands of copy-paste works which add nothing to the overall cryptocurrency scene. Many projects out today, seek to solely create profit, revenue or financial benefits for their holders. This is not the main priority for Caelum. Caelum aims to stand out from the crowd, as an innovator and significant contributor to improving the overall image of cryptocurrency.

Caelum Project’s first achievement is creating it’s new and innovative distribution model. Over time more utilities and use cases for the Caelum Token will be created. The first use case currently in development will be a fully decentralised Digital Asset storage solution. In simpler terms, there are many “lost” wallets, from people who passed away without sharing information on how to access these digital assets. Caelum will create an automated and trustless way to manage the inheritance of digital assets so that this is not a problem in the future for cryptocurrency holders.



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Section 1- What is "Caelum Project"

## 2. Community Centred Cryptocurrency

### Decentralised Voting

Caelum governance is based on majority votes, every proposal needs a majority of over 60% voting in favour for the proposal to be approved. All rules are set in the source code. Caelum does not suffer from funds abuse, as no funds are required for actions.

Caelum masternodes serve a number of functions. The first is that they are able to cast votes. Approximately, every 90 days, a proposal can be made by the owner (us), and it's up to the community to approve or deny it. This can be a variety of proposals, such as adjusting the Caelum Token collateral limits by +/- 10%, accepting a new ERC20 token as collateral, as well as to voting in a new 'team member' in the smart contract.

### Community Participation

Caelum is a community project. The community is key component of The Caelum Project. No single person is paid to contribute, however members are encouraged to donate and assist with the running and promotion of the project in anyway they can. Caelum Tokens may be given from the premine to reward contributors towards the project.

### Community Mining Pool

A mining pool has been set up for the community to give all members of the community the opportunity to mine Caelum, no matter what their hashrate or mining setup is. The pool is run on donations from the community, and community members using the pool are encouraged to help fund the pools gas fees through Ethereum donations to the mining pool.

Details for the community pool mine are as follows:

Host = <http://206.189.122.25>

RPCPort = 8080

MinerAcct = Your Eth Address

TokenContract= 0xa38fcedd23de2191dc27f9a0240ac170be0a14fe

Dashboard: [pool.caelumproject.io](http://pool.caelumproject.io)

### Community

Website: [www.caelumproject.io](http://www.caelumproject.io)

Twitter: <https://twitter.com/CaelumToken>

Discord: <https://discord.gg/JuHeYGJ>

Bitcointalk: <https://bitcointalk.org/index.php?topic=5042266>

GitHub: <https://github.com/CaelumProject>

Telegram Chat: [t.me/CaelumOfficial](https://t.me/CaelumOfficial)

Announcements channel: [t.me/CaelumProject](https://t.me/CaelumProject)



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### **3. What makes the Caelum Token (\$CLM) unique?**

Caelum brings a new and refreshing method to change the way tokens are currently distributed, combining the classic method of mining with the evolutionary uses of masternodes to give long term incentives to stay involved with the community. Most projects create their supply out of thin air with a 100% premine, and sell via major fundraisers, also known as ICO's. Caelum Token requires users to mine the tokens through Proof of Work.

This gives Caelum Token an intrinsic value, since there is a cost due to the need for electricity to mint CLM tokens. The only way to generate new tokens is to either mine, using a Proof of Work miner, or to become a masternode using Caelum Tokens as collateral. Once setup, Masternodes generate tokens on their own without any need for human interaction or down time.

This is the sole purpose of Caelum Project's unique token distribution method. The PoW/Masternode hybrid distribution of ERC20 tokens is an innovative development that really stands out against the alternatives currently available to new cryptocurrency projects.

Before deploying the initial Caelum Smart Contracts, various tests were run on the Ropsten chain to ensure that the contracts were functioning as expected. The first users who helped with these initial tests were rewarded for their loyalty, trust, and electricity spent on testing Caelum Token. Their reward was that they were given "Genesis Masternodes" when the full contract was deployed. In total, we had 12 candidates meeting the requirements to become a genesis masternode. The "Genesis Masternodes" give Masternode rewards, but have no collateral (CLM tokens) assigned to them. This is a good way of rewarding initial supporters, as it does not give them excessive tokens to sell on the market, and ensures that they work hard to support the project and make it a long term success.

Prior to the launch, a public "Hangouts" meeting was held to discuss various aspects of Caelum Project and finalise anything before the final contract was deployed. After some discussion, it was decided, as a community, that the project should have a 2% premine to pay for campaigns, promotion, exchanges and anything else that arises over time. Given the fact that every caelum token has to be minted, this was a good move from the community as it would be impossible to offer tokens in exchange for services without a premine.



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Section 3 - What makes the  
Caelum Token (\$CLM) unique?

After the initial launch and the contract was deployed, there was an initial cooldown period of approximately two weeks. During this time, mining rewards were reduced to 5% of what a full reward would be. This was to ensure that everyone had the time to setup their miners, familiarise themselves with how everything worked and meant that there was more time to get more people involved in the project and minimise any potential advantages from being an early miner.

At this moment in time, The majority of the current token holders are also masternode holders, meaning that their tokens are locked up in the main contract. We would expect this to remain the case as masternodes will generate more tokens for the masternode holder. Approximately once a month, every 4500 blocks, the masternode rewards will increase, and mining rewards will decrease. The estimate is that after 12-14 months, the miners will generate only 2% of new tokens, whilst the masternodes will create the other 98% of the new tokens. Given these numbers, the mineable supply for the proof of work phase is 7% of the total supply, with the remaining tokens generated by masternode holders. This gives an excellent incentive for users to lock up their tokens and create a masternode.

## **4. The Caelum Token - Development and Code**

All the latest development work and documentation related to the token is publicly available at <https://github.com/CaelumProject>

### **Initial Deployment of the Latest Contract Details**

Since the initial deployment of the original Caelum Token contracts, upgrades and improvement have been made.

The original contract address was 0x7600bF5112945F9F006c216d5d6db0df2806eDc6.

Below are details of the upgraded contracts and their deployment.

### **Step 1: Deploy contracts**

- Deploy CaelumToken.sol
- Deploy CaelumMasternode.sol
- Deploy CaelumMiner.sol
- Deploy CaelumModifierVoting.sol

### **Step 2: Link contracts**

On the CaelumModifierVoting.sol deployed contract:

- Call setTokenContract with the deployed CaelumToken.sol address
- Call setMiningContract with the deployed CaelumMiner.sol address
- Call setMasternodeContract with the deployed CaelumMasternode.sol address  
    On CaelumMasternode.sol
- Call setModifierContract with the deployed CaelumModifierVoting address
- Call addGenesis if you have genesis accounts to be included  
    On CaelumToken.sol
- Call setModifierContract with the deployed CaelumModifierVoting address
- Call addOwnToken to approve your own token as masternode collateral  
    On CaelumMiner.sol
- Call setModifierContract with the deployed CaelumModifierVoting address
- Call getDataFromContract with the old contract address to copy the data

If you completed all steps above, you are now ready to start mining Caelum.

# Addresses and ABI

CaelumToken:

Deployed at 0xc71a7ecd96fef6e34a5c296bee9533f1deb0e3c1

CaelumMasternode:

Deployed at 0x3b1b3f92d85ef134fb253c1e976346430eab6b37

CaelumMiner:

Deployed at 0xa38fcedd23de2191dc27f9a0240ac170be0a14fe

CaelumModifierVoting

Deployed at 0xdf33254137ec363f6e0076ff6eac58ca1ecb409e

## Important changes over EIP918

Before working with Caelum, there are a few fundamental changes over the general EIP918 standard in terms of rewards.

On regular EIP918 contract, this method is used to determine the rewards that need to be payed. Since Caelum uses a masternode rewarding system, some changes have been made.

The `getMiningReward()` returns the global mining reward. This means, combined masternodes and proof of work reward. To return the current mining reward, you have 2 options:

Option 1: On the CaelumMiner contract, call the ``getMiningRewardsForPool()`. This returns the reward that miners should be receiving according to the current contract progress.

Option 2: On every deployed contract, you can call the `contractProgress()` parameter. The return holds some general statistical values as displayed below.

0: uint256: epoch 0	- Not used
1: uint256: candidate 59	- Current candidate for masternode payout
2: uint256: round 886	- Masternode round #
3: uint256: miningepoch 19847	- Mining round #
4: uint256: globalreward 50000000000	- Global rewards for this era
5: uint256: powreward 3000000000	- Proof of Work reward for this period
6: uint256: masternodereward 2000000000	- Masternode reward for this period
7: uint256: usercount 89	- Total masternode users

## Multiple contract usage

Caelum token uses multiple deployed contracts, primarily due to Ethereum contract size limits. This approach leads to a couple of unwanted, but unavoidable situations, which potentially leads to some warnings raised when the code is run through a security analytics tool. Powerful ownership because the contracts need to interact with each other, yet still remain inaccessible from anyone except the contract, Caelum uses a lot of modifiers. Modifiers are small code snippets, that guard your function against a set of predefined rules and conditions. One of

the most commonly known modifier in smart contracts is the `onlyOwner` modifier, who restricts anyone other than the contract owner to call a specific function. Caelum uses 5 modifiers throughout the code:

- `onlyTokenContract` - Only the deployed token contract is allowed to call this function.
- `onlyMiningContract` - Only the deployed mining contract is allowed to call this function.
- `onlyMasterNodeContract` - Only the deployed masternode contract is allowed to call this function
- `onlyVotingContract` - Only the deployed voting contract is allowed to call this function
- `onlyOwner` - Only the contract owner is allowed to call this function

Since our contracts interact, a vast majority of our contract functions are protected with one of the above modifiers. This results in a powerful ownership, since many functions depend on a single address to execute. Since those addresses are contracts, there is no direct risk involved if the primary owner account would be compromised. Another factor is the way we set the remote contract's addresses. This is best described by this snippet of our contract function:

```
setMiningContract(address _contract) onlyOwner public {
    require (now <= publishedDate + 10 days);
    _contract_miner = _contract;
}

function VoteForMiningContract(address _contract) onlyVotingContract external{
    _contract_voting = _contract;
}
```

As you can tell from the code, the contract owner is allowed to set the external mining contract's address during the first 10 days after the initial contract has been deployed. The purpose of this 10 day allowance is to make upgrades to the external contracts if they would be needed. After 10 days, the addresses are locked in forever, unless the community agrees by a majority voting that the contracts are still allowed to be updated. As with any voting proposal in Caelum, this is subject to a set of strict rules, including:

- Only one proposal is allowed every 90 days
- A majority of minimum 60% is required for a proposal to pass

Should any contract upgrade be necessary after some time, we can put up a proposal to change the external contract. Users can then first checkout the upgraded contract, and decide to approve or to reject the new contract. Combined, all these modifiers will trigger a warning that the contract has powerful owners.

### Use of Now

Caelum uses the `now` function for basic actions. The `now` function can be slightly influenced by miners, but only to a certain degree. The general rule of thumb is that if you can handle a `now` manipulation of about 120 seconds, the function is safe to use. Caelum uses the `now` function to estimate days, so the potential influence on the timestamp has no effects on our code.

# Mining Guide

## Suggested Mining software

If you want to solo mine, then it's important to use mining software that supports it. While great performance improvements have been made to the 0xbtc mining software, most of the latest versions have excluded solo mining due to the increases in difficulty for mining 0xBTC. This obviously has no impact on solo mining Caelum Tokens.

### COSMiC v4 (nVidia/CUDA)

<https://bitbucket.org/LieutenantTofu/cosmic-v3/downloads/>

### SoliditySHA3 miner

<https://github.com/lwYeo/SoliditySHA3MinerUI/releases>

### Mining-Visualizer (MVis)' TokenMiner (AMD/OpenCL)

<https://github.com/mining-visualizer/MVis-tokenminer/releases>

## Solo Mining

This depends on the version you downloaded. The parameters are listed below, but if you are solo mining, you will need to set the Host and Port to that of your node. Depending on the software version, you might need to change config web3provider with the host and port.

- (MINER) account: Your Eth Address
- (MINER) private key: Your private key
- (TOKEN) contract/address: 0xa38fcedd23de2191dc27f9a0240ac170be0a14fe
- Gas Price: 7 gwei

## **Mining on the Community Pool**

Mining on the community pool is possible using the settings below, and further details about the pool can be seen on the Dashboard. Please bear in mind that the community pool has a relatively low fee and run entirely on donations. If you are mining Caelum Tokens on the pool, then please consider giving back to the community through donations to the mining pool. Should the pool ever run out of Gas, it will be unable to submit solutions and will not get any block rewards as a result.

Dashboard: <http://pool.caelumproject.io>

Host=http://206.189.122.25

RPCPort=8080

MinerAcct=Your Ethereum Address

TokenContract=0xa38fcedd23de2191dc27f9a0240ac170be0a14fe



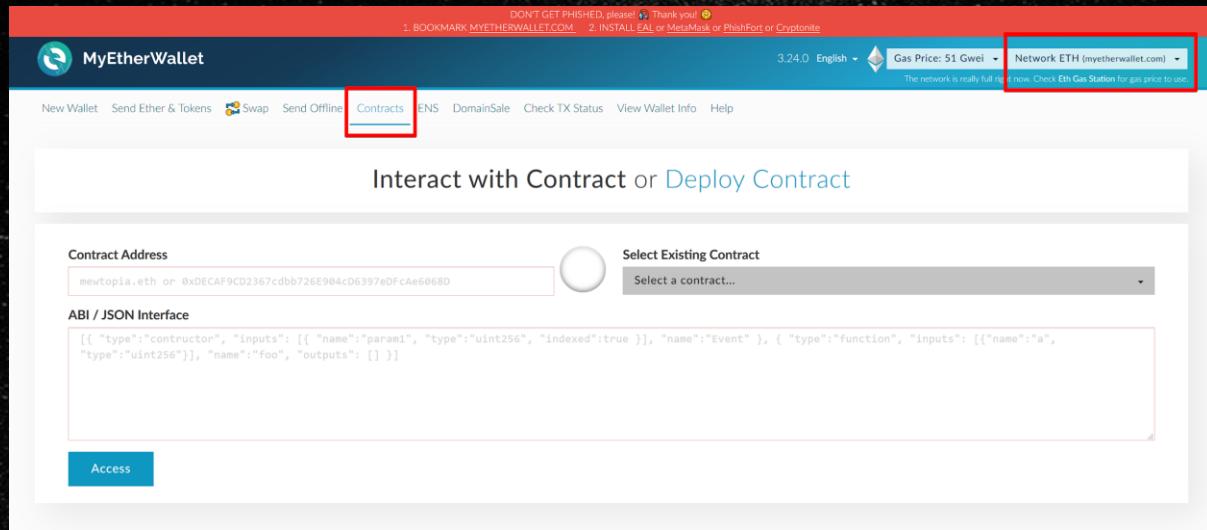
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Section 4 - Development and Code

# Masternode Guide

To setup a masternode, you will need to have 5000 CLM available to deposit as collateral. The masternode setup procedure is outlined below:

Step 1: Go to MyEtherWallet, and select contracts. Make sure that you are connected to the main Ethereum network.



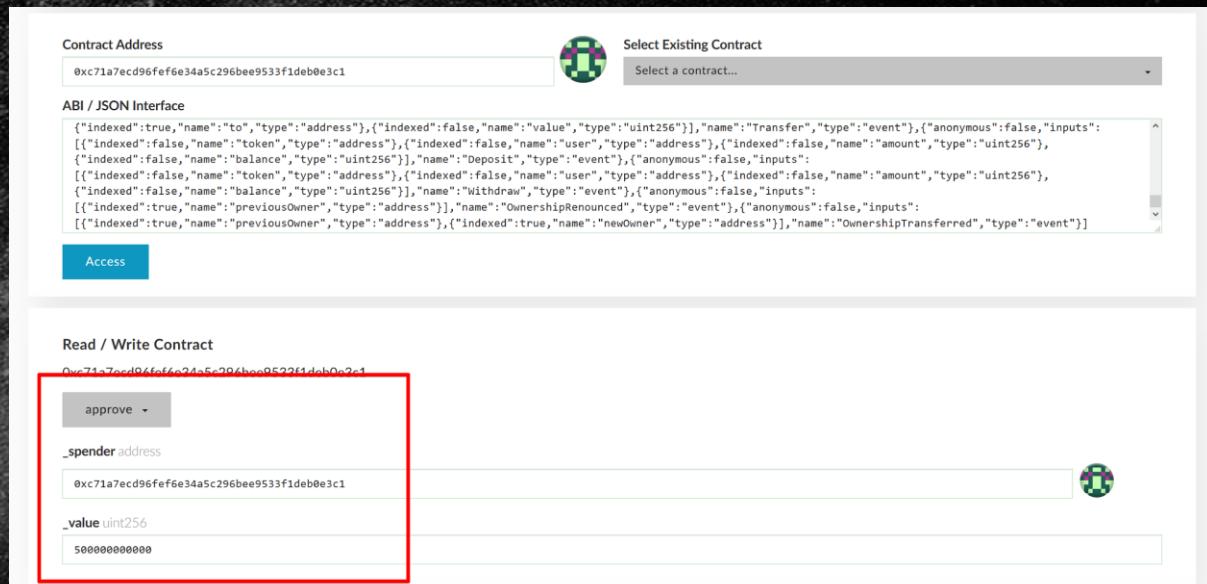
The screenshot shows the MyEtherWallet interface. At the top, there is a red banner with the text "DON'T GET PHISHED, please 🚫 Thank you! 😊". Below it, a message says "1. BOOKMARK MYETHERWALLET.COM | 2. INSTALL MetaMask or PhishPort or Cryptonite". The top right corner shows "Gas Price: 51 Gwei" and "Network ETH (myetherwallet.com)". A red box highlights the "Network ETH" dropdown. The navigation bar includes "New Wallet", "Send Ether & Tokens", "Swap", "Send Offline", "Contracts" (which is highlighted with a blue underline), "ENS", "DomainSale", "Check TX Status", "View Wallet Info", and "Help". The main content area is titled "Interact with Contract or Deploy Contract". It has two input fields: "Contract Address" containing "mewtopia.eth or 0xDECAF9CD2367cd8b726E904cD6397eDFcAe608D" and "Select Existing Contract" with a dropdown menu. Below these is a code editor for the "ABI / JSON Interface" containing the following ABI:

```
[{"type": "constructor", "inputs": [{"name": "param1", "type": "uint256", "indexed": true}], "name": "Event"}, {"type": "function", "inputs": [{"name": "a", "type": "uint256"}], "name": "foo", "outputs": []}]
```

At the bottom left is a blue "Access" button.

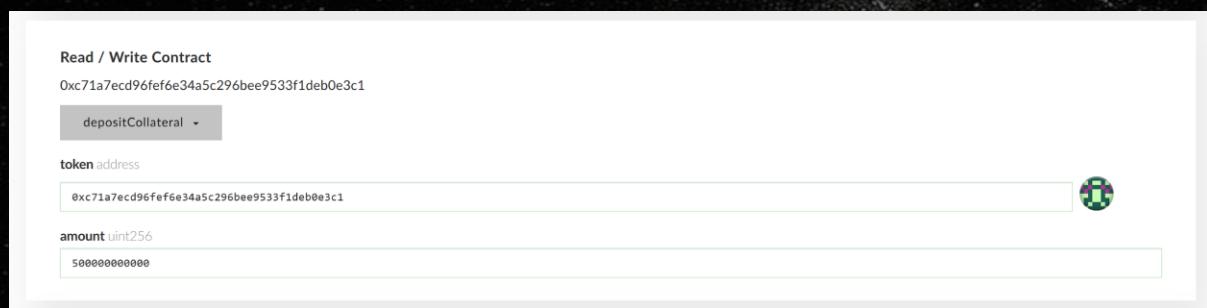
Step 2: Enter the CLM token address 0xc71a7ecd96fef6e34a5c296bee9533f1deb0e3c1 and the ABI (Copy from the bottom section of this documentation), click access

Step 3: From the dropdown box, select approve. Enter the token contract address listed in step 1, and set the \_value at 500000000000 This is 5000 CLM tokens + 8 decimals. Access and unlock your wallet and write the transaction.

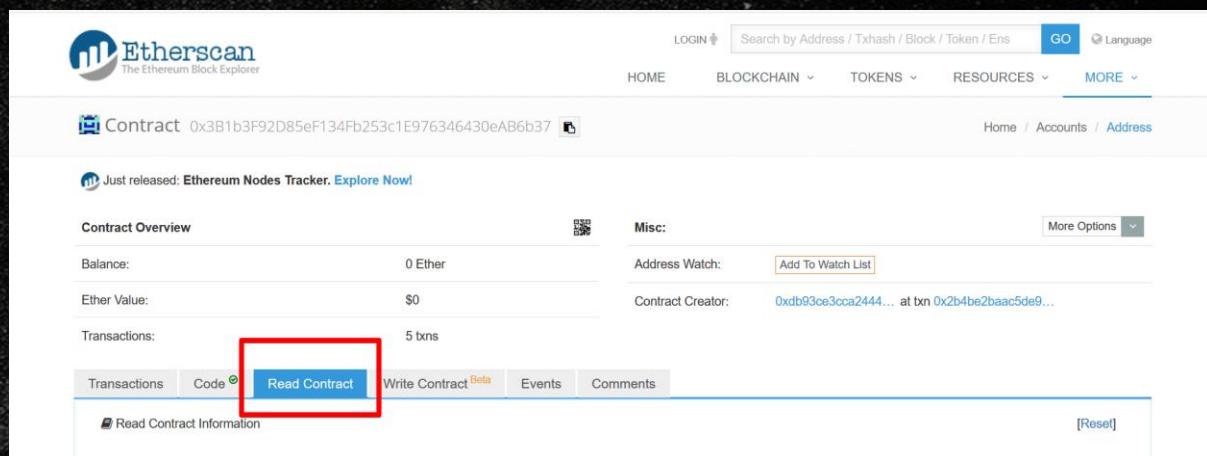


This screenshot shows the same MyEtherWallet interface after the "Access" button was clicked. The "Contract Address" field now contains "0xc71a7ecd96fef6e34a5c296bee9533f1deb0e3c1". The "Select Existing Contract" dropdown is open, showing the ABI from the previous screenshot. The "ABI / JSON Interface" code editor is also visible. The "Access" button is now greyed out. Below the ABI editor, the "Read / Write Contract" section is expanded, showing a dropdown menu with "approve" selected, a "spender address" input field containing "0xc71a7ecd96fef6e34a5c296bee9533f1deb0e3c1", and a "value uint256" input field containing "500000000000". A red box highlights the "spender address" and "value uint256" fields.

Step 4: Select the depositCollateral from the dropdownbox after the approve transaction is confirmed. Use the same parameters as used on step 3 for both token as address. Access and unlock your wallet and write the transaction.



Step 5: After the transaction has confirmed, you can go to the CaelumMasternode contract directly on Etherscan. Select the read contract tab. Scroll down to option "isMasterNodeOwner", and enter your own wallet address that you used to deposit the collateral. If you executed the steps above correctly, it should return true.



Congratulations, you are now a Caelum Masternode owner! Rewards will be sent to your wallet automatically, no interaction is needed from user perspective. For multiple masternodes on one address, use the "belongsToUser" function. Enter your wallet address and it will list all your Masternodes and their position in the payout queue. Note: When you withdraw Masternode collateral, inactive Masternodes will still be listed here. To check whether a specific Masternode number is still active, you will need to use the "masternodeInfo" function.



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Section 4 - Development and Code

## Masternode withdrawal procedure

You can stop your masternode at any given time. The token you deposited as collateral will be sent back to your wallet on the fly. To do so, execute step 4 from the masternode setup guide, and select the withdrawCollateral method from the dropdownbox. Your masternode will be disabled as soon as the transaction has been confirmed by the network, and the tokens should be back in your wallet within a couple of minutes.

## Masternode statistics and data

To see your masternodes, please go to the Etherscan masternode page listed in step 5 from the masternode setup guide. This will give you some options to interact with the contract and get data.

- Option 13: isMasternodeOwner - Returns true or false
- Option 14: getLastPerUser - Returns the last masternode in your account
- Option 16: getLastActiveBy - Returns the last active masternode in your account
- Option 17 userHasActiveNodes - Returns true or false if the account has active nodes
- Option 22: belongsToUser - Returns a list of all MN's for the user and queue position
- Option 26: masternodeInfo - Returns general data about a specific masternode ID



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## **5. Reward Structure**

The Caelum Project will use what's known as a fair reward structure. This simply means that anyone can join the project and have an equal chance to earn Caelum Tokens. Each mining phase will last approximately 1 month. Approximately 6 blocks will be produced per hour. Every mining epoch will last 4500 blocks. Calculation method:  $4500 / (6 \text{ blocks} * 24 \text{ hours})$  gives an average of approximately 32 days. Block rewards are currently 50 CLM per block, split between miners and masternodes, and this will halve to 25 when 10.5 million CLM have been mined. This is estimated to be in roughly 2.5 years time.

### **Reward calculation**

To calculate the rewards, we must determine the current mining phase. Ethereum will always round numbers, meaning having a multiplication by factor 10 is a valid way of determining the phase. First we calculate the current mining stage, Ethereum will always round numbers, so multiplication by factor 10 is a valid way of determining the phase. The first 4500 blocks will return 1, the next 4500 2 , and so on. Checks will take place on a testnet. During test runs, we can lower the amount of blocks needed before switching to the next mining stage. This is a preventative measure, because hout this parameter it would take years to fully debug and run the contract on a testnet.

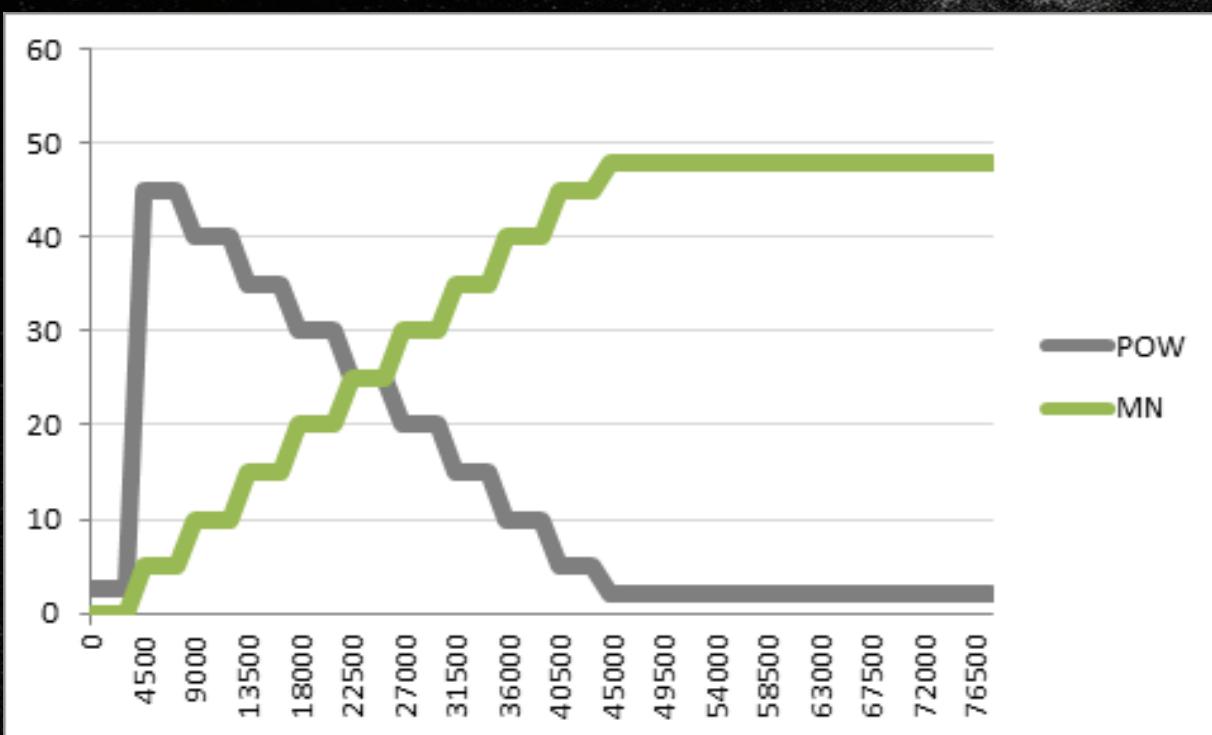
### **Launch and Initial 45000 Blocks (Approx. 12 months)**

During the first month, the mining rewards will be low. This is to ensure that the mining process is running as expected and prevents any instant mining attacks. For example, during a mining attack, miners with a powerful setup could potentially race to mine the first hundreds of blocks, leaving small scale miners unable to mine any Caelum Tokens. This hurts the fair distribution methodology that the token is built upon. In addition this also hurts the future of the token to have token holders who hold an excessive quantity of tokens. Using such preventative measures should enable everyone to have a fair chance of preparing mining software ready for the second month of the mining phase. At launch there was a 2% premine to cover future project costs and exchange listings collateral if needed. We feel that 2% is not an excessive amount, and is significantly lower than what many other projects put aside for their development and costs at the launch of their project.



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### Graphical overview of Launch and Initial 54000 Blocks (Approx. 12 months)



### After Block 45000

The function calculates the reward in relation to the mining stage. At Stage 4, the reward is calculated as 40%. The remaining 60% reward goes towards the masternodes. The reward structure is 100% of the initial reward amount for 210,000 blocks, divided between the PoW and Masternode Rewards in relation to the mining stage as a percentage.

CLM launches as a 100% Proof of Work and 0% Masternode, and with each mining phase (4500 blocks), 10% will be decreased for PoW and increased for Masternode Rewards until 98% masternode rewards are reached. (98% masternode, 2% miners as explained above)



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## Conclusion

Mining and Masternodes have both been proven to be a good way to distribute cryptocurrencies. The Caelum Project will use the advantages of both of these methods to ensure an equal and fair distribution with the aim of giving Caelum Tokens an intrinsic value through ‘Proof of Work’ and whilst encouraging users to deposit tokens as collateral to access masternode rewards locking away tokens, reducing circulating supply.

This approach ensures a durable solution where Caelum tokens will have an intrinsic value because of the costs associated with mining the tokens.

When taking these calculations into consideration, it's important that the user is aware that every masternode will receive a block reward in turn, just like any other masternode system. Once every masternode holder has been rewarded, a new round opens and the payout starts from the first address in the order that they were added to the Masternode payout list.



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## 6. Funding

The Caelum Project is run entirely on donations. Donations and Contributions from the community are a key catalyst to help the project achieve its goals. That said, the decentralised nature of the project means that now the contract has been deployed, it cannot be stopped. Caelum token and all its existing functions will exist for all eternity. This is a key strength of the project.

The project was founded and created by Skippy Brussels. As a result he has been the main contributor of funds and has already donated a significant amount of his own funds to get the project started. Therefore, Donations have been considerable so far, and the lead developer has contributed significant funds and time to launch the project. There are currently sufficient funds available to continue development for the foreseeable future, and there are a number of key contributors and donors willing to support the project. Going forward, the two areas that the Caelum Project is most likely to need donations for are to keep the community mining pool running, and (if needed) to fund any exchange listings fees. Caelum does not seek donations to cover development costs.

### **Community Mining Pool Donations**

Donations have already been made by several Caelum community members to support the community mining pool at the following addresses:

Ethereum: 0xbBAf778404f29dAfaBFB07981E3Cf3faE29cE385

Caelum Tokens: 0x2eA361F3FeA795d242a1eF9Cf132cbEe829C3555

### **Community Funded Exchange Listings Donations**

Donations have already been made by several Caelum community members to fund future exchange listings at the following addresses:

Ethereum: 0xdE411A2FC591f98762eC2bf8f336DECEEF7B62F6

Bitcoin: 3JGBEwwX6gGJcv9JDxaVp8TEt58Ay2sNRx



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## **7. Future Developments: Decentralised Digital Inheritance and other future utilities**

Our first objective is that "*Caelum is the future of digital inheritance*". Given the points mentioned above, we will be the first team to actually deliver a fully working decentralised solution, and all without the need for raising funds through an ICO or similar. The masternodes will serve an important role in securing the digital asset storage network, as every transaction will need to be approved by the majority of a rotating set of masternodes. This is similar to other platforms, such as Steemit for example. Once this is achieved, we will look to develop other use cases that will benefit cryptocurrency and future adoption.

Another possible utility that crossed our minds is to make the first 0xBTC protocol rig rental service, where masternodes could use their status to offer or rent hashing power. Since Caelum is based on 0xBTC, and is fully compatible with the EIP918 standard, this could serve many other projects, not just 0xBTC.

There has also been some research and development looking at whether we can create a DEX that uses CLM tokens. The ideals of the exchange would be to support and list legitimate projects only, projects that have a proven track record of development. This could possibly allbe automated through analysis of github or CoinGecko or similar.

Ultimately, the Caelum Token will be used with any of the utilities developed under the Caelum Project umbrella, and beyond the first utility outlined above, future utilities are yet to be finalised. There will be a separate paper outlining the Digital Asset Storage Solution released at a later date. This will also be the case for any planned future development, so please keep up to date with the latest updates about the roadmap.



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Section 7 - Future Developments

## 8. Roadmap

Below is an outline of development milestones completed, as well a future development tasks with planned completion dates

September 2018

*Ropsten Testnet*

September 2018

*Contract Deployment*

September 2018

*Mining Pool*

October 2018

*Full block rewards*

October 2018

*Contract Upgrade*

*for greater EIP918 Compatibility & future proofing*

Q1 2019

*Alpha of first utility Digital assets storage/inheritance platform*

Q2 2019

*Public Beta Digital assets storage/inheritance platform*

Q3 2019

*Final Production release of the Digital assets storage/inheritance platform*

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\* Future utilities and further developments TBC



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Section 8 - Roadmap

## 9. The Caelum Project Core Contributors

As stated previously, this is a community project, lead by Skippy Brussels. The current list is not exhaustive. There are many members of the community who are willing to help Caelum to achieve its ambitious goals, and this list will expand over time as more people join the project.

### Co-founders

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#### **Chris V**

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Manager of the French Community

### Founding Members and Contributors

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### Ambassadors

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