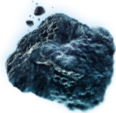




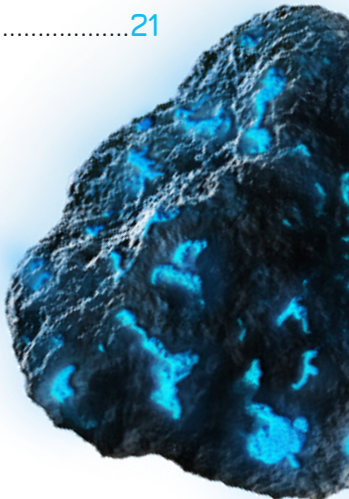
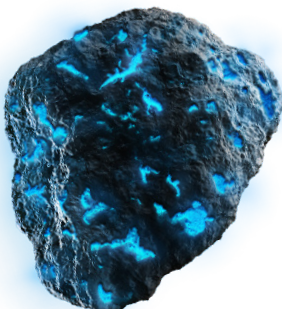
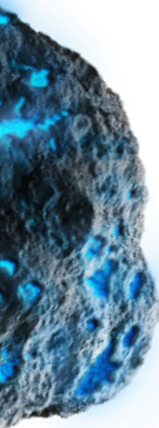
ASTERIUM
SPACE

WHITEPAPER

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INTRODUCTION

Blockchain technology has been experiencing a giant boom in recent years. As a result, it is beginning to get into the gaming industry, where it has great potential.

The initial hint of this trend was the very inspiration that led to the creation of the Ethereum platform: Vitalik Buterin's story of annoying updates that negatively affected his favourite computer game (https://about.me/vitalik_buterin).

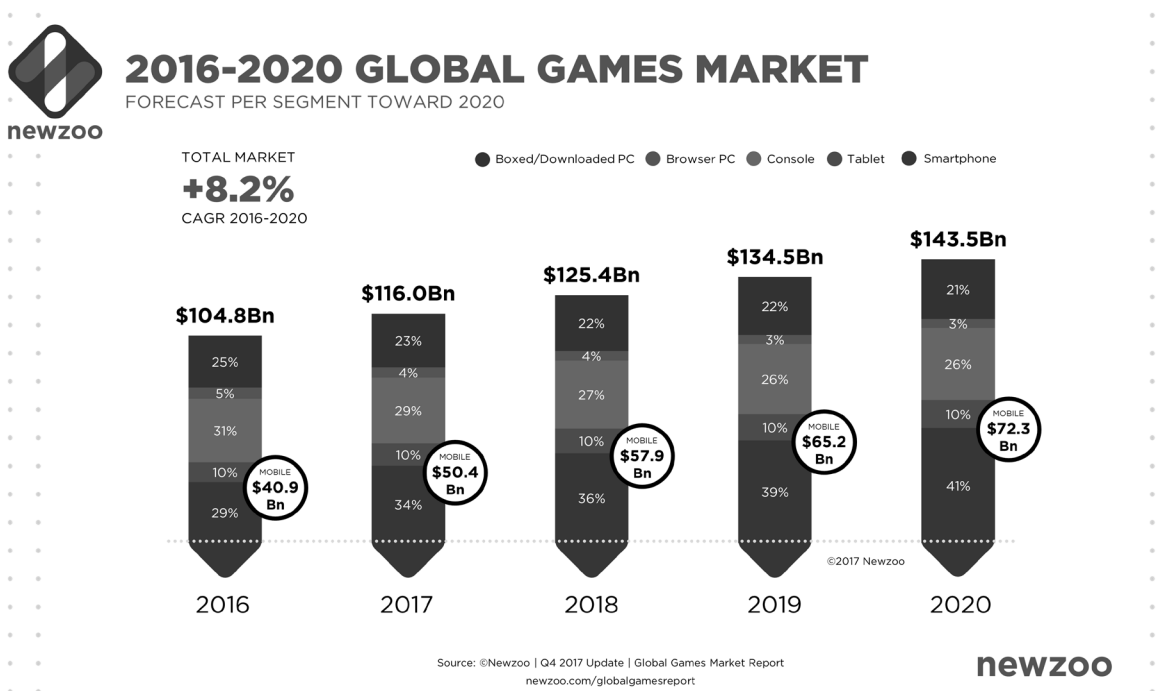
Concepts that Blockchain games can bring include, for example, the ability of players to valorize their time and effort spent by playing the game. The game items will be indelible, verifiably rare, unique and usable in other games and projects. Players will be able to freely manipulate and trade their assets.

We are trying to implement these concepts in the form of a mobile game running on Ethereum Blockchain, which offers players a new method of cryptocurrency „mining“ and acquiring collectibles in a form that is also very friendly to beginners who would otherwise not participate in crypto world.

GAMING INDUSTRY

In recent years, the gaming industry has been growing as never before. In 2017, the total turnover of the gaming industry was about \$116 billion, the greatest share of which is made up of mobile games, with a total turnover of \$50.4 billion.

Forecasts suggest that this growing trend will continue, with the gaming industry expected to have a turnover of around \$143.5 billion in 2020, with more than half from mobile devices.



Players spent on average \$87 in mobile games in 2017. This amount is expected to continue rising with the growing market.

Sources

<https://newzoo.com/insights/articles/new-gaming-boom-newzoo-ups-its-2017-global-games-market-estimate-to-116-0bn-growing-to-143-5bn-in-2020/>

<http://intelligence.slice.com/blog/2016/hardly-pocket-change-mobile-gamers-spend-an-average-of-87-dollars-on-in-app-purchases>

BLOCKCHAIN, ETHEREUM AND DECENTRALISATION

What is Blockchain?

In information technology, Blockchain is a special type of distributed decentralised database maintaining a continuously increasing number of records that are protected against unauthorised interventions from both the outside and peer-to-peer network nodes themselves. The most common application of Blockchain technology is its use as a ledger for cryptocurrencies (e.g. bitcoin) that retains transactions made by users.

Ethereum Blockchain allows individual transactions to execute pieces of code that they contain, which can be used to create tokens and decentralised applications.

Benefits of decentralisation in the gaming industry

Decentralised Astereum architecture has many benefits. One of the major ones is the provable scarcity and uniqueness of game assets, such as Astereum Ore, Artefacts, ships and stations.

Another great benefit of decentralisation is the economic freedom that Blockchain provides for all the assets within the game. Each owner can manipulate all of the assets from the game without any limitations, create other projects that use these assets in new, innovative ways, or trade them freely.

Last but not least, decentralised architecture will allow for democratisation of decision-making on the direction which Astereum.Space will take after its launch. Owners of Astereum tokens will be able to vote on major issues and thus partly influence the subsequent development of the game.

ABOUT THE GAME

Astereum.Space is a long-term, turn-based, strategic space game, the complete engine of which runs on Ethereum Blockchain with an interactive layer in the mobile application form running on a UNITY engine.

The main activities of the player in the game include exploring the vast and diverse universe, scanning and mining astereum ore tokens that are found in various objects floating in space, discovering rare artefacts, and upgrading and developing their own fleet of spaceships and stations.

Another major activity that the game enables players to do is trading of astereum ore tokens (ERC20) on crypto-exchanges, and all other game items with other players in an in-game shop.

The universe is full of demonstrably unique and rare objects, such as artefacts, spacecraft and stations that you can collect, trade or upgrade.

Players have an opportunity to temporarily seize mining quarries in special areas, including quarries owned by other players. These quarries generate astereum ore and other rare items.



TECHNOLOGY

Blockchain

The whole game runs on the Ethereum Blockchain platform. All game mechanisms are completely processed in solidity smart contracts, where all game data is also stored on. Code of those smart contracts will be publicly available on GitHub.

Along with high safety standards, we pay attention to the highest possible level of smart contract optimisation to minimise both the Ethereum network load and the operating costs.

Ethereum platform is still the best choice for this project, even through competing platforms are evolving rapidly. We pay close attention to those and are willing to adapt or migrate the project to those new technologies, if it aids in sustaining the long-term growth and success of Astereum.Space ecosystem.

Scaling

Scaling of decentralised applications on Blockchain has proved problematic so far. As an example, we can point out network load at the time of success of the decentralised application CryptoKitties.

To avoid the same problems, after the launch of the Astereum.Space project, a limited number of space stations that users can own will be available, which will prevent a disproportional network load.

Players will produce/discover new stations that they can subsequently sell, which will naturally increase the number of potential players in the game.

The scaling possibilities of the Astereum.Space project go hand in hand with the possibilities of Ethereum Blockchain technology, which the project runs on.

One of the alternatives to running the game on ethereum is the use of application side chain technology, or our own blockchain. We are thoroughly researching alternatives and considering their application.

There is a rapid development of both on-chain and off-chain solutions. On-chain technologies that are under development include PoS or Sharding technology. Off-chain technologies include for example Raiden Network or Loom Network.

Mobile application

The mobile application Astereum.Space serves only as an interface between the user and Ethereum smart contracts driving all in-game mechanisms.

The application will be available on Android and iOS devices.

However, in compliance with the basic principles of decentralisation, no mobile application is needed to interact with smart contracts, which among other things allows anyone to create their own interface or communicate directly with smart contracts.



GAMEPLAY

The unique concept of Astereum.Space aims to achieve a unique and still unprecedented complexity of a blockchain game.

Universe and exploration

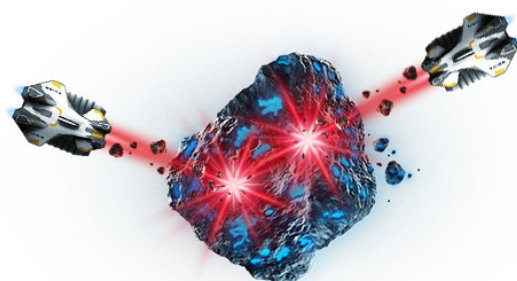
The game world of Astereum.Space is set in a vast space environment, divided into quadrants for easier orientation and visualisation of distances.

This universe contains lots of resources to mine, items and locations that can be discovered.

Mining

A player sends spaceships from their spacestation to unexplored parts of the universe to discover and identify various objects containing astereum ore, which they mine and transport back to their space stations.

Some objects contain valuable artefacts, which the player can use for their own benefit, or sell them in in-game marketplace.



Spaceships

Spaceships are built according to unique blueprints, giving them their appearance, basic attributes and supported upgrades.

The user can further modify each spaceship at their own discretion by various upgrades, which they might acquire when exploring the universe, by purchasing in in-game marketplace, or by crafting them themselves.

Spaceships are divided into two categories. The first category includes space stations that operate as a starting point for all players' activities and also as a control centre for spaceships.



Each station has a capacity for controlling a certain number of spaceships. This number can be increased by upgrading the station or using artefacts.

The second category of spaceships includes smaller spaceships which the user sends from their stations to explore and mine.

These ships differ in speed, size, cargo space, scanning efficiency and mining abilities. Spaceships can be purchased and sold in in-game marketplace, discovered deserted in space, or produced.

Artefacts

Artefacts represent a special type of item in the game that can be acquired by mining certain objects, bought or crafted. Each artefact is unique and has its own attributes.

Artefacts can be purchased and sold in in-game marketplace.

They can also be combined, with a chance to create even more valuable and rare artefact.

Artefacts may be used for example to upgrade ships and stations.

Mineable space objects

Mineable objects are located all over the universe. Players discover them when scanning unexplored corners of the universe.

Mineable items are of various types and sizes, each with different characteristics, for example:

Asteroid

- Contains big amounts of Astereum Ore
- Has a lower chance of containing an artefact

Spaceship wreck

- Contains lower amounts of Astereum Ore
- Has a greater chance of containing an artefact and other items

And many more.

Mining quarries

Special areas in certain sections of the universe include mining quarries. These quarries, once seized by players, generate ore and provide other bonuses.

Players can seize these stations from each other and thus strengthen their domination over any given territory.

In-game marketplace

A marketplace in the game enables players to trade Ships, Artefacts, Blueprints, Astereum Ore and other items with each other.

Transactions will be paid with Ethereum.

For each transaction, a small overhead charge will be deducted to cover the cost of running the mobile apps.

Achievements

When completing difficult achievements, the player gets unique rewards, which raise their position in the community ladder and help them become a respected miner.

Augmented Reality

Really rare artefacts can be viewed using AR technology, for example on a players desk, and thus enabling the player to transfer their in-game achievements to the real world or to show them off to their friends in a cool way.

ETHEREUM TRANSACTIONS AND THEIR ECONOMIC CONSEQUENCES

All the actions a player performs in the game are handled within Ethereum transactions on Blockchain, which means that individual game operations consume Ethereum Gas. All Smart contracts are developed with maximum emphasis on optimisation and simplification with the aim to minimise gas consumption.

Although this may appear to be a negative at first glance, it was, in fact, the original inspiration behind Astereum.Space project.

There is a certain similarity with the process of bitcoin mining, in which electric energy is consumed. Thanks to this fact, the production of one bitcoin has real costs, which partly give bitcoin its value.

These bitcoin production costs continue increasing with the amount of bitcoins already mined. Similarly, the production of Astereum ore carries with it small costs, not in the form of consumed energy, but in the form of transaction fees necessary to acquire it (exploration, mining and transport back to the station, etc.).

Ore acquisition will be more and more difficult and time-consuming as time goes by, because it will be necessary to fly to more distant parts of the universe to find and mine it. This results in an increase in the average fees associated with its acquisition.

This fact gives real value to astereum ore tokens, which is the basis of the game's economics and enables players to potentially valorize their time and experience.

Astereum ore will be created in a limited volume. Game mechanisms and algorithms will be set such that the difficulty to acquire this token will increase over time.

TOKENS

Astereum | Main token

Astereum is an ERC-20 token, compatible with most Ethereum wallets.

The total Astereum supply is 311.538 million, of which 65% will be distributed through ICO, 5% will go to the team and advisors, 15% will be kept as a company reserve, 5% in bounty programs and 10% will be distributed through the game.

After completion of the ICO, we will strive to make the token registered at crypto exchanges as quickly as possible. Astereum Tokens are used in many essential in-game mechanisms, such as building new space stations, upgrading ships, stations and artefacts, combining artefacts, and in premium in-game market services.

Ownership of Astereum Tokens also provides owners with an ability to participate to a certain extent in decisions affecting the entire Astereum.Space ecosystem.

As most of the Astereum Tokens will be distributed through ICO, and the game will be built to make their use very desirable, These tokens will be in great demand from players and that should have a positive effect on tokens future price development.

Token acquisition

You can acquire Astereum tokens during the pre-sale and main sale stages of our ICO. Token distribution is controlled by a publicly available smart contract, to which users can send Ethereum (ETH), for which the contract will send them Astereum tokens according to the specified exchange rate.

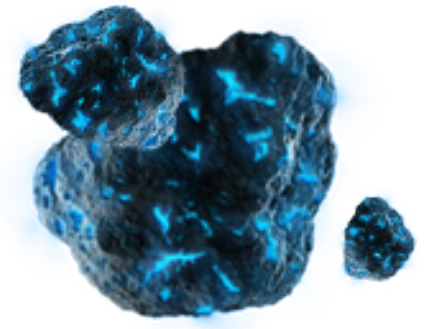
Another channel for acquisition of the Astereum Tokens is playing the game itself, where Astereum Tokens will however be a very rare commodity that is not easy to obtain.



Astereum Ore | Secondary token

Astereum Ore is an ERC-20 token, compatible with most Ethereum wallets.

It is a basic token of the Astereum.Space ecosystem, and is linked to absolutely all game mechanisms. Its acquisition works through the mechanism of exploring, scanning and mining objects located within the entire game system.



This token will not be for sale during ICO.

The difficulty of Astereum Ore token acquisition will increase over time, with the rising number of players, and with the increasing costs of upgrades and exploring the universe, which should lead to increase in value of the token.

Total Astereum ore supply is 36 billion.

After game launch, we will strive to make the token registered at crypto exchanges as quickly as possible.

Other tokens

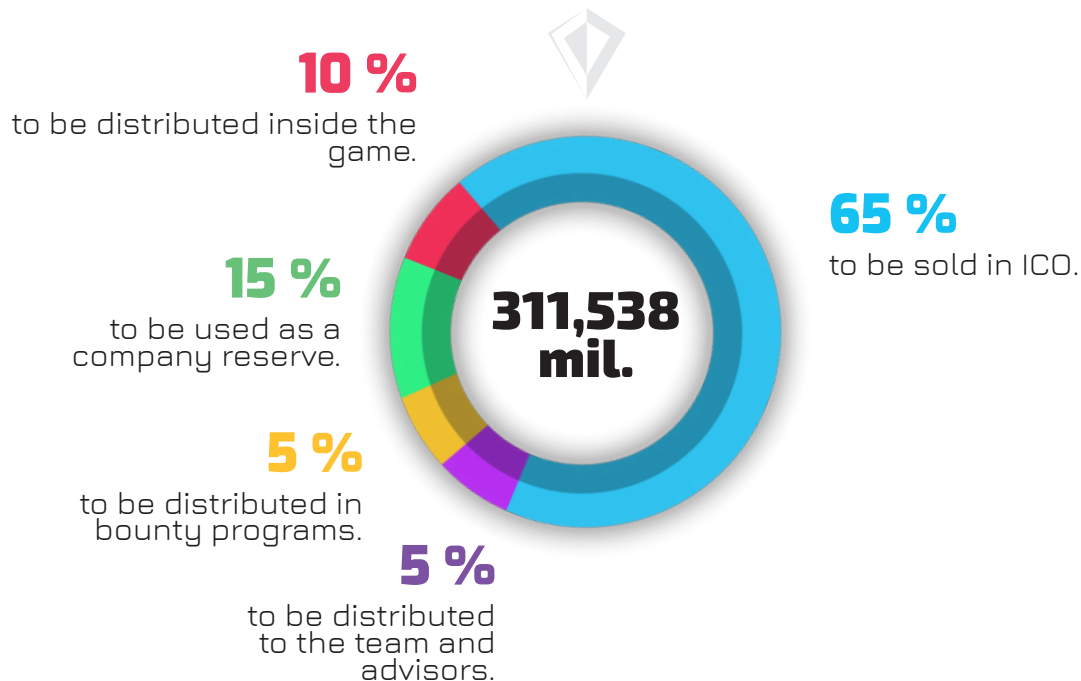
The game will include many other ERC-721 tokens, such as Space ships, Stations, Artefacts and other items.

All these tokens will be demonstrably rare and unique, and will find their use directly in the game.

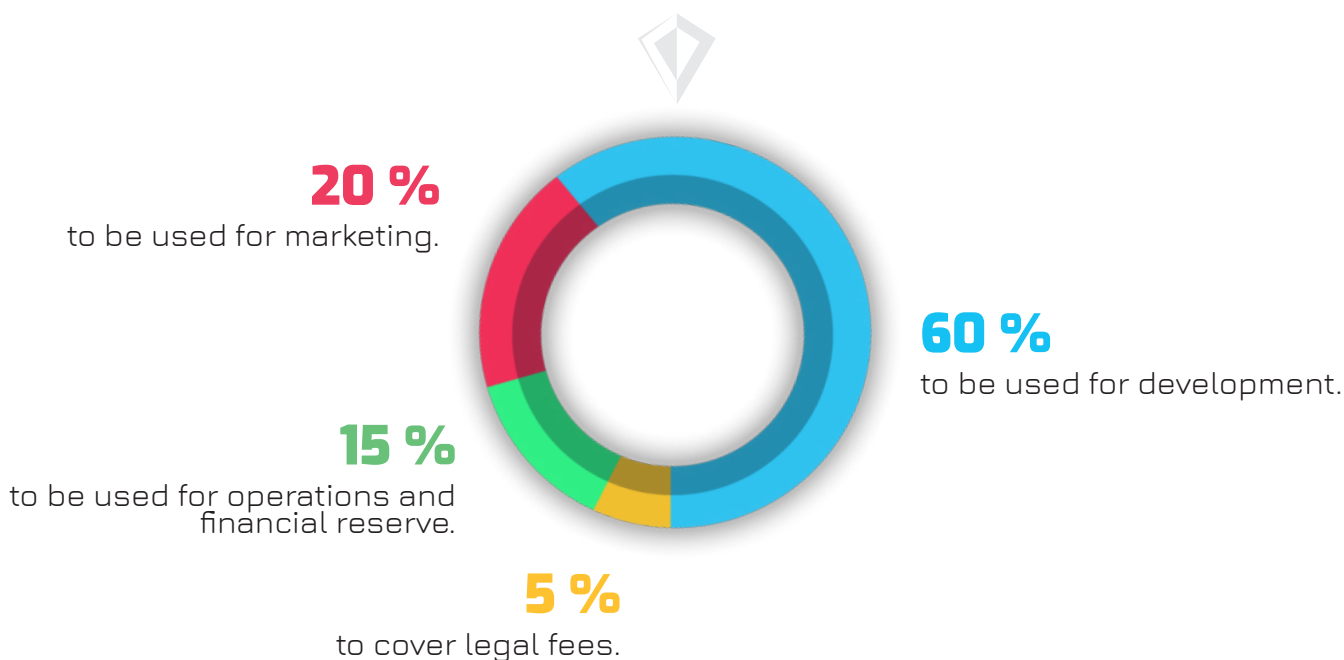
These tokens will at the same time function as collectibles that can be transferred to the real world using AR technology or 3D printing.

DISTRIBUTION OF TOKENS

Astereum Tokens will be created (ASR)



Distribution of funds from ICO



BOUNTY

5 %

Of Astereum Tokens have been reserved for rewards in our bounty program. Bounty program will continue even after ICO completion, after which rewards will be distributed in multiple phases.

Bounty program will consist of rewards for likes, shares, original content on social media and different types of challenges and easter eggs on our social media channels. This way people can support our project and get valuable tokens in exchange.

ASTEREUM.SPACE/BOUNTY

ICO

Astereum token distribution event is based on ethereum blockchain platform. The distribution will be divided into two phases, pre-sale and main sale (Details on both phases can be found below, in section ICO STAGES).

Participants will receive ASR tokens in exchange for sending ETH to a designated address. Detailed instructions explaining the process will be available after ICO launch on <https://astereum.space>.

ASR tokens will not be transferable before the ICO completion.

Maximum contribution per participant will be equivalent to 1000 USD as specified by USD/ETH exchange rate at the start of the ICO.

ICO STAGES

Pre-sale

Token pre-sale date will be announced on our website Astereum.space

A maximum of 15 000 000 Astereum Tokens (ASR) will be distributed in it.

Tokens will be sold with 40 % discount.

On the first day of the sale, the value of one ASR in ETH will be set such that the cost of one ASR (without discount) after conversion will be \$0.05.

The pre-sale soft cap will be \$150 000. If this milestone is not achieved, all funds from the pre-sale will be released for refunds.

The pre-sale hard cap will be \$450 000. After the hard cap is achieved, the pre-sale will be terminated.

The funds from pre-sale will be used for financing the Astereum.Space development, launch and marketing of the main ICO stage. In case Main sale does not reach its goal, funds raised in pre-sale will not be refunded.

All unsold tokens from this phase will be burned.

Main Sale

Token Main sale date will be announced on our website Astereum.space

A maximum of 187 500 000 Astereum Tokens (ASR) will be distributed in it.

On the first day of the sale, the value of one ASR in ETH will be set such that the cost of one ASR (without discount) after conversion will be \$0.05.

Tokens will start selling with a 20 % discount. We will continuously reduce the discount until the last week before the end of the sale when it will stop at the value of 5 %.


The main sale soft cap will be \$1 200 000. If this milestone is not achieved, all funds from the main sale will be released for refunds.

The main sale hard cap will be \$7 500 000. After the hard cap is achieved, the sale will be terminated.


If the sale is successful, the funds will be used for Astereum.Space project development, maintenance, legal fees, and for global marketing.

All unsold tokens from this phase will be burned.



TEAM




PROGRAMMER
DANIEL BENDA




PROGRAMMER
DANIEL BENDA





PROGRAMMER
DANIEL BENDA





PROGRAMMER
DANIEL BENDA





PROGRAMMER
DANIEL BENDA





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DANIEL BENDA



PROGRAMMER
DANIEL BENDA



ROAD MAP

Q3 2018



Project online

Astereum.space website has been launched, social media accounts created and project promo has begun.

Q4 2018



ICO start

Astereum token distribution event will begin. Up to 60 % of Astereum tokens will be sold to contributors.

Q4 2018



Development starts

Game development will speed up. Additional developers and consultants will be hired.

Q1-Q2 2019



Beta launch

Beta version of the game will be launched on a test net. Beta versions of mobile apps will be available for download from our website.

Q2-Q3 2019



Game launch

The game smart contracts are created on ethereum main net, mobile apps are available for download on Google Play and Apple App Store



LEGALS

A maximum of 202.5 million Astereum Tokens (ASR) will be sold. These tokens are compatible with the ERC-20 standard. After completion of the ICO, no more Astereum tokens will be created. All undistributed tokens will be burnt.