



**Shareslake**

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**The first open by default stock market.  
An ecosystem for companies' success.**

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## Introduction

The current stock markets are closed systems designed to be operated by intermediate entities that are set between investors and the market itself. That approach incurs various fees and commissions that investors must lead with and a deficient flow of the capital from the investors to intermediate entities instead of companies.

Shareslake focuses on providing more funds to companies and getting rid of all the barriers that keep the average person from investing.

The **Shareslake's ecosystem** is focused on providing the tools to businesses to extremely simplify their financial management.

Both combined, the Shareslake network and ecosystem are the best environment a company can join for its own success.

Shareslake is based on blockchain technology which forces an **open system free of intermediaries and total transaction transparency**.

The Shareslake protocol not only helps **to remove all commissions and fees that investors used to pay**, but also it provides **periodical funds for companies** in exchange for the usability and investing capabilities of the **Redeemable**, the Shareslake's base coin.

Shareslake is an auto-sufficient ecosystem managed by the Shareslake team that **benefits every single person**, whether operating on it or helping to operate it, with the objective of increasing the probability of success of the companies that will change our world.

**Anyone can become an operator** of the Shareslake network or ecosystem getting a benefit from it.

Shareslake was designed around the concept that, if you can exchange the coin by something that generates more value by itself, the coin has a real value. It was also born as the solution to the following reasoning:

When you buy shares of a company in the current markets, does that directly benefit the target company? Your commissions will go to intermediate entities and the price you pay will go to the current owner of the stock, i.e. another investor.

It could be argued that a company gets benefits indirectly because the stock price could go up a bit and then the company could sell some of its shares at the highest price. But in that scenario, the company has to get rid of a part of the company itself, so, after all, there is no direct benefit. Also, a company could emit new shares at that high price, but it will be decreasing the value of the current shares.

So, to benefit from the secondary market, a company has to actively issue, sell and buy back their shares, distracting them from its actual objective, which could be a good product or service.

The fact that the company shares are traded evidences that the company has real value, the shares are traded based on the investor's belief that it will produce a net

benefit so that trade should represent a direct fund for the company, to contribute to its success, which should be the ultimate reason of the market's existence.

An investor gives money to a company to help them reach the target of being profitable, if the investor's trades do not affect the company funds, the market loses its sense.

That's the reason why Shareslake was designed in a way that, when an **investor trades** some shares of a company, the target **company obtains a direct benefit** from that operation. **The more trades, the more benefit a company obtains** compared with the rest of the companies, creating a competitive environment of trying to generate the highest value.

To fully understand the content that will be detailed during this document, we suggest reading the [presentation](#) document in order to keep in mind the list of problems solved by Shareslake and how every problem is solved, as well as a global vision of the whole project.

## Shareslake Base Coin: Redeemable (RED)

The Shareslake base coin can be used to redeem (or be exchanged by) real securities that live into the network, thus it is called **Redeemable (RED)**.

Unlike other networks like BSC, where uncollateralized assets are tokenized (i.e. fake assets) that do not give investor rights to their owners, the Shareslake network will contain the real asset, that will be trading into the Shareslake Stock Exchange, providing their investors with full investor's rights. These real assets will be exchangeable by Redeemables.

The **Redeemable** will not be finite, instead, a small and decreasing inflation rate will exist. Such minting will be managed by the Shareslake's network protocol, which will generate a fixed number of RED every certain period, and it cannot be generated in any other way (but it can be burned).

An inflation rate is a necessary component in an economy to encourage people to use the currency. Decreasing such inflation rate year after year helps to consolidate the Redeemable as a currency during the first years and stabilizes inflation at a low rate to preserve its value once it is established as a currency.

The ideal inflation rate for an economy is considered to be 2%. RED is designed to reach that rate for its 40 birthday going down to 1% for its eighty years. From there on, we can consider it established, but it will continue going down.

**The inflation will start around 8.3% and for the year 20, it will be 3%.** Those rates are conceived to allow **people to easily beat them by just staking Redeemables into stake pools**, so even though there is an inflation rate, people's money can be preserved over time. (See [Validation Pools](#))

Shareslake divides the time into epochs, an epoch lasts 432000 seconds\*. After each epoch, a fixed amount of Redeemables is created. The inflation rate of an epoch is always lower than in the previous one since the existing number of Redeemable will be greater and the amount of newly generated Redeemables is always the same.

*\* Note that it is similar to the Cardano epoch, this is because the Shareslake Network is based on the Ouroboros Praos protocol like the Cardano network. We aim to provide full integration with tools in the Cardano ecosystem (Wallets, Smart Contracts, block explorers, etc.).*

The initial quantity of Redeemables in circulation is 10 million. Every epoch 12328.76712 Redeemables will be added to the existing circulation. Those values have been calculated to achieve the explained inflation rates, and they also fit in reaching a 100 million supply in 100 years.

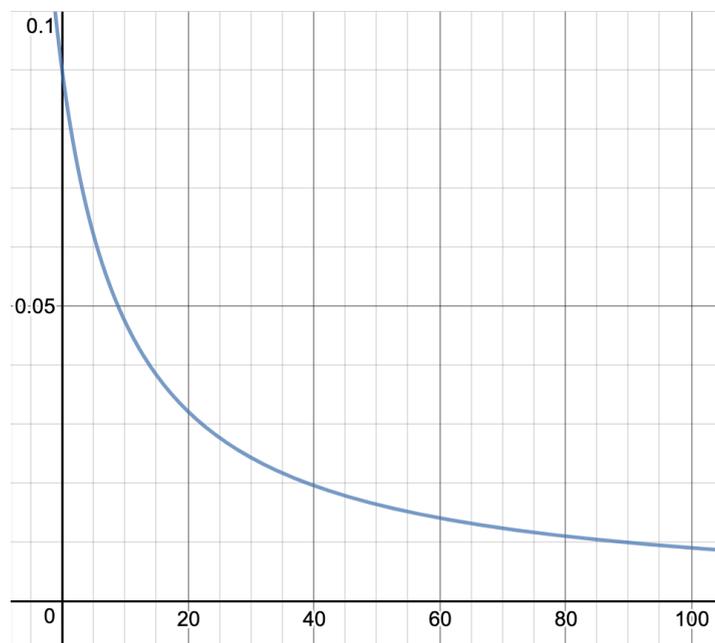
The following formula can be used to calculate the inflation rate at the end of the year  $x$ :

$$y = \frac{k}{10000000 + kx}$$

$$k = 900000$$

$$x \geq 1$$

Below is a graph that represents the inflation rate per year according to the above formula:



The amount of Redeemables **generated by inflation** will be used to reward the companies providing RED with **usability** and **investment capacity**, to cover the investors' network fees and the Shareslake's team. Also, the Shareslake's network protocol by design will also distribute the new Redeemables between staking pools. The distribution is done as follows\*:

- **98%** to cover investors' fees and as public companies reward.
- **2%** will be distributed to the Shareslake's team. This, in principle, could seem high but note this is the way that the Shareslake's team (not only developers) gets the necessary resources to continue building and improving the network, deal with legal regulations in different countries, attract new companies, and develop the Shareslake ecosystem.

*\* These percentages could be modified in the future depending on how the project evolves to make allocation fairer.*

The **10 million initial supply** will be distributed as follows:

- **8 million RED** to be sold during 3 initial batches according to the following rules:
  - **First batch (pre-sale): 2.6 million** will be sold into the Cardano network at an exchange rate of 2,34 RED per ADA. This is calculated to raise 1 million euros at an ADA price of 0.90 euros, as it is at 16:00 January 25th, 2022 (the previous day of the pre-sale). This will allow the subsistence of the development team during the initial phase and the will be also used to deal with legal stuff. This batch **will be released through a Cardano smart contract as a direct purchase available on the official Shareslake webpage**. These tokens will be migrated with an equivalence of 1 to 1 once the Shareslake network is released.
  - **Second batch: 2.6 million** will be sold, doubling the price of the RED that is already in circulation from the first batch, at a minimum of **0.77 €** per RED. The second batch **will be released once the Shareslake Network is launched**. This batch will allow us to expand the team and the resources dedicated to continuing building and improving the network and the ecosystem.
  - **Third batch: 2.8 million** will be sold, doubling the value of the RED in circulation from previous batches, at a minimum of **1.5 €** per RED. The third batch will be released **once the first company issues its shares** into the Shareslake network.
- **2 million RED** for the Shareslake's team. That will be created once the Shareslake network is released.

## Validation Pools

A validation pool is an entity that validates transactions, pushing blocks to the blockchain. To encourage validation, the network fees are earned by validation pools.

The validations are done using a Proof of Stake, which requires much fewer resources than the Proof of Work used by Bitcoin or Ethereum. The number of blocks that a validation pool will validate depends proportionally on the number of RED it has stacked. Thus, the more RED in the stack, the more fees it will collect from validating transactions.

It is important to note that stacking the Redeemable does not prevent its owner from using the funds. When stacking Redeemables what you are actually adding to the pool is like a lottery ticket, it is not the real Redeemable. The more lottery tickets in a pool, the more likely the pool will be elected to validate a new block and obtain the fees for that block.

Anyone can create a node as part of the Shareslake network and start validating transactions to obtain rewards at any time, there is **not** a minimum amount of RED to do it.

We use the Ouroboros Praos protocol for consensus, so deploying a validator pool is exactly the same process as other networks using the same protocol, like Cardano.

Any transaction on the Shareslake Network requires a fee. Thanks to those fees, as we explained in the [Shareslake economy](#) section, the inflation is also distributed between validation pools. Remember this happens because to refund the fees to public company investors, new transactions are needed with their associated fees, which will be paid using the inflation itself. The network operators can get up to 50% of the inflation.

The fees do not directly go to the validation pool producing the block. They will be temporarily pooled and they will be distributed between all the pools that created blocks during the epoch so the cost of having a node validating transactions is always covered to all members of the network.

# Shareslake Native Companies

Any company either private or public can join the network by itself at any moment to take advantage of the ecosystem.

In order to become public, thus obtain funds from inflation and provide the free trading privilege to their investors a company has to provide RED with usability and investment capacity:

1. **Investment capacity:** Their shares are issued directly into the Shareslake Network, providing their owners full investor rights. Those shares are bought using RED, so RED can be exchanged for something that potentially produces more value.

This also implies the following:

- The company has to distribute dividends using Redeemables between its Shareholders (when distributing them). Some smart contracts will be created to easily perform these kinds of tasks.
- The company has to save its financial audited data every 3/6 months, as well as the annual results, into the blockchain in a standard format. This makes the data easy to be processed by third-party tools, like serving a standard API for DeFi applications making use of real shares.

2. **Usability:** They accept RED as payment for their products or services. Providing RED with the capability of being used for buying daily stuff.

The usability is not limited to the provided by the companies but it is also provided by the network itself, since you can use RED to execute smart contracts into the Shareslake network, either for financial transactions, signing real-world deals, etc.

A business will be verified by the Shareslake team to try to ensure that a company listed as public is not a scam.

# Shareslake Economy

Public companies will receive continuous rewards for as long as they remain public. The funds for those rewards will come from Redeemable inflation.

The Shareslake network has been designed to distribute **at least** 5% over the total public companies' market capitalization annually as a reward to those public companies (which does not mean that every company will receive a 5% over its capitalization annually).

The Redeemable inflation is introduced into the Shareslake economy by:

- Rewarding public companies for providing the Redeemable with usability and investment capabilities.
- Paying back public companies' trading fees. Which will also implicitly distribute the inflation between the validator pools.

The Shareslake economy can be summarized as calculating the appropriate network fees depending on the RED value measured in fiat and the total public companies' market capitalization allocated into the network.

The conditions to maintain a functional model are the following:

1. The inflation must be low to maintain the RED value over time, but enough to provide public companies a relevant amount compared to its own size.
2. The inflation must cover the trading fees and still remain enough to provide funds to the public companies. So, the trading fees must never overcome the inflation amount. Or, what is the same, the fee per transaction must be always smaller than the company reward for that transaction, extended to the whole set of transactions. (See [Avoiding fraudulent transaction](#) section)
3. The network fees must be small enough to be able to fulfill statement 2 but still preserve network security against DoS attacks by making network flooding prohibitively expensive. It is important to keep in mind that a small network fee is relative to how much the RED is worth when exchanging it for fiat currencies.
4. There must be a fair distribution of the inflation between the public companies.

The network fees also depend on the total market capitalization of public companies allocated into the network (the network fees are also be set to cover operation costs and include a benefit for the operators).

## Public Companies Rewards

At the end of each epoch, the inflation generated (12328.76712 RED) will be distributed in the following order:

- **2%** for the Shareslake's team
- **98%** that will be distributed as follows:
  - **a maximum** of 49% (**50%** over all the fees) in reimbursing the stock exchange's investors' transaction fees.
  - **a minimum** of 47,04% (**48%** over all the fees) in distributing funds to public companies.

Note that, first, the investors' fees will be covered, after that, the remaining amount of Redeemable will be distributed between public companies. Also, the percentages above are not fixed and they could be changed if required.

The rewards are based on the company's capital negotiated into the Shareslake Stock Exchange. Since we use the company's capital negotiated, **every transaction of the shares of a company will increase the funds the company will receive.**

This way of distributing funds also **helps to reduce short-term volatility**. Imagine a company that has an issue and a large number of its shares are sold making the price fall down. That will produce a volume that will make the company get more funds when distributing the inflation, so the massive sell-out is producing a benefit for the company, keeping the stock price. Also, the company will own more funds to solve the issues and recover from the downstate.

There are 2 exceptions in which instead of distributing the inflation all the RED will be burned:

- Receiving a DoS attack during an epoch. If during an epoch the network receives a DoS attack, at the end of the epoch the Redeemables won't be distributed, thus, the fees won't be reimbursed nor the companies will get a reward. All the inflation from that epoch will be burned. This avoids financing network attacks through the Shareslake Stock Exchange.
- There is a minimum price of each Redeemable depending on the total market capitalization. Having certain total public companies' market capitalization measured in a fiat currency, the RED price has to be a price that makes the 5% of the total market cap to be at most 8640000 Redeemables.

If during an epoch, the restriction above is not fulfilled, the distribution of Redeemables won't take place for public companies, but it will for the rest (i.e. Shareslake's team and reimburse investor fees).

With that restriction, we assume that the public companies as a set are in charge of providing the Redeemable coin with a value, if they do not reach their target the reward is not distributed, thus, the annual inflation will be less than the expected and the value of the Redeemable will rise.

This restriction also guarantees that we never run out of Redeemable to reimburse the fees to investors so the economy continues working as expected.

Finally, to make the distribution of rewards fairer between public companies, **the protocol does not allow the distribution of more than 2% over its own market capitalization to a single company**. Note that, a 2% over the company's market capitalization is usually a high amount compared to the revenues since a company usually trades at some valuation multiple that represents future growth.

## Avoiding Fraudulent Transactions

Since a company's inflation allocation depends on the capital negotiated by the company, it could happen that an insider decides to perform several transactions with the objective of increasing the inflation allocation for his company.

It can theoretically happen, but since the only transactions that count are the ones performed into the Shareslake Stock Exchange, such insider would need to perform the transactions in the market like any other investor, so such kind of trading will be associated with a high risk for the insider of losing its money.

The only possible scenario would be for a company with a really small volume, in which an insider can place both buy and sell orders at the same limited price, in which case, he would be exposed to a second investor to show up and intervene in the operations for a minimal reward since the company volume would be so low that the company will get almost nothing when competing for the inflation with the rest of the companies.

So, in short, we avoid fraudulent transactions making them dangerous for the person performing them.

Also, in the improbable case that an insider gets all its fraudulent transactions to be executed properly, the company rewards are still limited to 2% of the capitalization, so the impact is limited for the rest of the companies.

## Free of Fees

Every transaction in the network needs to have an associated fee:

- The fees protect against DoS attacks by making flooding the network prohibitively expensive.
- The fees serve as the incentive for network operators. Network operators can deploy new nodes to participate in the PoS (Proof of Stake) validation protocol in order to obtain a reward for their work and the resources they are providing.

The network fees cannot be directly eliminated from the market trades, because it won't be fair for network operators and we would be compromising the network security.

Shareslake solves the **removal of the fees by including a reimbursement process** on the Shareslake protocol.

A trade is always composed of a selling and its corresponding buying operation. Placing any of those operations in the market requires a network fee that will later be reimbursed by the protocol.

To maintain a fair environment, the fees to reimburse each company's investors will also serve as a penalization for the resources used by that company trades. That penalization will be applied by discounting from a company's rewards the fees of its investors.

This also encourages investors to create a few big transactions instead of several small ones.

There are just 2 exceptions for the reimbursement to happen:

- Transactions that are never executed. This is, buy/sell operations not matched with any respective sell/buy operation. This guarantees that the orders placed into the exchange contain reasonable prices that the rest of the people are willing to accept. So, in case a non-realistic operation is submitted and it is never executed, the investor needs to cancel it, incurring in both fees: one of the transactions to place the order and the one from the transaction to cancel the order.
- The network receives a DoS attack. If during an epoch the network receives a DoS attack, at the end of the epoch the Redeemables won't be distributed, thus, the fees won't be reimbursed nor the companies will get a reward. All the inflation from that epoch will be burned. This avoids financing network attacks through the Shareslake stock exchange.

The fees reimbursement will also serve to distribute the inflation to the network operators through the validation pools. The transaction to send back to an investor the fees he paid will also have an associated fee, the new associated fee will be paid back to the investor using inflation, and the validation pools when processing such a transaction will earn that new associated fee that proceeds from the inflation. So, in the end, the network operators can get up to 50% of the inflation.

## Shareslake Stock Exchange

There will be a new document describing only the Shareslake Stock Exchange in depth. Nevertheless, we need to provide some basic information for completing the [Free of Fees](#) section.

The Shareslake Stock Exchange will support two kinds of operations: Limit orders and market orders.

A limit order is an **order to buy or sell a stock at a specific price or better**.

A market order **is an order to buy or sell a stock at the current offered price at the market**.

When processing a limit order there will be, most of the time, a gap between the buy and sell prices.

Executing the orders at the specified price will maintain investors happy since they obtained the price they wanted to, while the protocol can take advantage of that gap.

The Shareslake Stock Exchange will use that gap for two purposes:

1. As an incentive for the matchmaker, **anyone can become a matchmaker** and benefit from it.
2. As the fee for the transactions that will be used to reimburse the investors' fees.

# Shareslake Ecosystem

To finish, this section describes briefly the Shareslake vision about the entire Shareslake ecosystem.

The ecosystem is developed around the Shareslake network, which is compatible with the software of the Cardano ecosystem due to its own nature.

We aim to create an ecosystem for companies' financial management. That means the main objective is to make financial processes easier and open, allowing everyone to create new automated processes for their workflows that can also be used by others, either for personal or enterprise financial management.

It is even possible to develop a company based on creating software to be used by other companies for its own financial management based on the Shareslake network.

Some examples of what is possible using the Shareslake ecosystem are salary payments, controlling who can own the shares of a private company, distributing dividends, managing automated shares vesting processes, companies board voting processes, etc.

There are an infinite number of new possibilities on the Shareslake ecosystem, probably more than we can think of.

The ecosystem is also an important part to maintain the network running properly. When smart contracts are executed, the associated fees go to the validation pools as rewards for their job. The more applications running on the network, the more incentives validators will receive to continue performing a good job on validating transactions.

The Network will start by supporting only company's shares, but it will be evolving to support other types of financial assets, like bonds or options.

## Notes

We have explained certain concepts making use of the RED price, i.e. the exchange rate between RED and a fiat currency. In a future where the fiat currencies could disappear, there will still be some currencies supported by central banks and authorities. Note the calculations have been done using a general “fiat price” concept, without specifying the collateral currency. This allows creating a stable coin to use as a reference for the RED price that, in case it is needed, can be bound to a different future currency while maintaining the concept of the Redeemable price.

## Risks

There are several risks in trying to dramatically change the way in which the current market works, including having to deal with legal stuff on both sides, companies and the network to be approved by the authorities.

We designed a particular way of approaching the markets of the future, we are breaking the status quo, knowing that several organizations will not accept our approach, like current stock exchanges.

We know this is a competitive market but as it has been demonstrated we have the path clear for building a part of our future economy, a fairer system that feeds itself in the best possible way benefiting every single person on it.

The only question is, will you join us?

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