RESARDIS

Decentralized Cryptocurrency Exchange
On Side Chain

Fast. Private. Secure.

Whitepaper

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Introduction

Resardis is an order book based decentralized cryptocurrency exchange (DEX). It promises a safe and user-friendly trading experience to cryptocurrency investors. With its structure built on the side chain tech, it provides an environment to materialize a perfect trading experience. The main goal of the project is to create a decentralized cryptocurrency trading platform for cryptocurrency investors all around the world. Only cryptocurrencies will be listed on the exchange, there will be no fiat currencies.

Company Background

Resardis was established in 2019 in İstanbul, Turkey. The vision of the company was to introduce a cryptocurrency trading platform that is decentralized and at the same time user-friendly.

Ever since the foundation of Resardis, the company has been backed by various institutions. The first backer was İstanbul Technical University startup accelerator programme Çekirdek. In 2019, Resardis got admitted to ITU Çekirdek start-up Pre-Incubation Program. Thereafter, in 2020, we have been selected to the ITU Çekirdek Core Incubation phase with the funding we received from the European Funds for Southeast Europe (EFSE) during ITU Çekirdek Big Bang startup awards organization. In 2020, we were elected to the Türk Telekom Pilot Startup Acceleration Program and received financial and in-kind support from Türk Telekom. We were accepted to Istanbul Technical University (ITU) Technology Development Zone. Only around 300 companies have been accepted to the ITU Technology Development Zone in Turkey, and Resardis is one of them. Being part of the ITU Technology Development Zone brings significant advantages to Resardis in terms of law and tax. Moreover, we received financial support from KOSGEB, a state institution, to be used in technology developments. Finally, in 2021, Turkey Blockchain Platform became a strategic partner to Resardis.

Technical Insights

Resardis is a completely decentralized exchange built on top of the side-chain tech, a second layer solution. Before we explain Resardis, we need to describe two main types of exchanges: centralized and decentralized.

Centralized exchanges (CEX), such as Binance (Hong Kong) and Coinbase (USA), operate in a classical server-client relationship. User data and cryptocurrency wallets are processed in a back-end server in relation with a database server. Depending on the company structure/hierarchy; exchange owners, admins or other employees might have access to the users' data and their wallets. When trading, users send their assets to the exchange wallets. This whole workflow and structure results in serious issues. First of all, users need to fully trust that the exchange operators will not conduct any malicious activity, such as overtaking users' funds. In the past, there

have been a number of cases where users' funds were lost because the exchange owners ran away with the assets. Secondly, centralized exchanges can feed the traders with fake volume and price data, since these are just numbers in the back-end servers, server admins can input any data they like. Lastly, and the most common issue, is that centralized exchanges are open to mass hackings, since the wallet keys need to be stored in the back-end, at least for the hot wallet. Preventive measures such as insurance funds and cold wallets can only block the issue to a certain extent.

Unlike centralized exchanges, decentralized exchanges, such as Uniswap and Curve.fi, operate completely on the blockchain, using smart-contracts. There is no central back-end server. Thus, they benefit from the blockchain's security mechanisms. Depending on the smart contract code, they can be made fully non-custodial, meaning that exchange operators might not have any control over the users' assets. The first implication of being non-custodial is that exchange admins or employees cannot run away with the funds. Secondly, hackers cannot conduct mass crypto hacking (assuming smart contract is not vulnerable) on the exchange, since the contract itself does not have the authority on users' wallets. The other benefit is that exchange operators cannot fake prices and/or volumes, because they require real crypto assets. Lastly, DEXs do not require Know-Your-Customer (KYC) rules, therefore they do not ask for user data (name, address etc.) and traders can remain private.

Although DEXs have many benefits listed above, they also have issues due to intrinsic working mechanisms of the blockchains. Ethereum Network has an average block time of 15s, and this costs a high amount of gas fees, which is paid to the miners. Assuming a pro-trader conducting hundreds of orders/trades on a DEX, this is certainly not a favourable situation for him/her, since he/she would like to have instant trades and low fees. Note that if the exchange is completely decentralized, users need to wait and pay miner fees even for giving orders, not just for the trades.

In addition, Ethereum network is congested most of the time: there are too many transactions per second for the network to handle. This results in even more waiting times and higher gas fees. The network itself is not suitable for exchanges, where there are hundreds/thousands of orders/trades per second.

	RESARDIS	UNISWAP	QUICKSWAP	LOOPRING	DeversiFi	dYdX
Censorship resistant	●	●	●	○	○	○
Ultrafast and cheap layer2 transactions	●	○	●	●	●	●
Order book based	●	○	○	●	●	●
On-chain order match engine	●	●	●	○	○	○
Multi-chain support	●	○	○	○	○	○

Now that we compared centralized and decentralized exchanges, it is time to explain the inner workings of Resardis DEX. The aim of Resardis is to bring the best of both worlds together: security/privacy of decentralized exchanges and speed/low fees of centralized exchanges. To achieve this, Resardis makes use of a cutting-edge tech which is called a side chain. A side chain can be considered as a child chain, running in parallel to the main blockchain, which in our case is the Ethereum Network. The side chain has a different consensus mechanism (Proof-of Stake, PoS for short) than the main Ethereum Network (Proof-of-Work, PoW for short). Under normal circumstances, this would result in less security in the side chain. However, the side

chain implementation that we use, the Polygon (previously Matic Network), also solves this problem. This is achieved by a trustless mechanism, called Plasma, implemented on the blockchain as smart contracts. Thanks to Plasma contracts, users can transfer funds between the side chain and mainnet without the need to trust anybody. Merkle proofs of operations done in the side chain are periodically sent to the mainnet which allows the side chain to benefit from the PoW consensus mechanism of the main network. Also, due to the PoS consensus mechanism used inside the chain, the transaction capacity per second is thousands times higher than the main network. Combined with the average block timing of 1 second, this allows for instant and scalable transactions.

There are other solutions right now, such as Zero-Knowledge roll-up and optimistic roll-up technologies. These are used by IDEX, DEversiFi and Loopring. However, the bottleneck is transactions happen on their own server. Therefore, it can be censored by them. Our solution is fully censorship resistant and public because we are again using an open blockchain.

In addition to Polygon Network, other scalable blockchains such as Avax, Binance Smart Chain, PolkaDot, also need user-friendly, censorship resistant and order book based decentralized exchanges. Therefore, Resardis DEX will also be deployed to those chains in 2022 Q2 and become multi-chain DEX.

To summarize Resardis:

Unlike centralized exchanges:

- non-custodial and trustless

- secure

- private and anonymous

Unlike decentralized exchanges

- instant

- scalable

- has no miner fees (almost 0)

Adoption

By overcoming the current issues in decentralized crypto exchanges, e.g. scalability, semi-centralization, speed problems and high miner fees, we aim to get adoption among the common population. We think that adoption and usability is the key to shift the world towards a peer-to-peer and censorship resistant trading. If this happens, it also means that the weight of banks will be reduced, if we are speaking about banking in the common sense. Higher adoption because of the mentioned advantages is also beneficial for the people who do not have proper access to financial instruments.

DEX Growth

With the growth of DeFi, we've seen the re-emergence of decentralized exchanges (DEXs) as one of the vital applications for trustless and censorship-resistance marketplace. We observe a clear growth in popularity of DEXs. This implies there is a strong signal that the volume on the DEXes will continue to expand and the number of users increases in future. Even though daily volume of DEXs reached ~5 billion dollar, it is quite small compared to centralized exchanges. Only ~5% of the total cryptocurrency market volume consist of DEX trades. Nevertheless, latest data showed that the DEX volume growth is faster than CEX volume growth. Hence, the growth potential of DEXs is significantly high. We need to get more users on DEXs. We believe the ease of use feature of Resardis DEX will contribute to the growth of

DEXs and bring new users on DEXs. By the time Resardis comes online, we expect to get at least 5% of the DEX volume share. Based on our volume prediction model, we expect to have 600 M daily volume on our exchange.
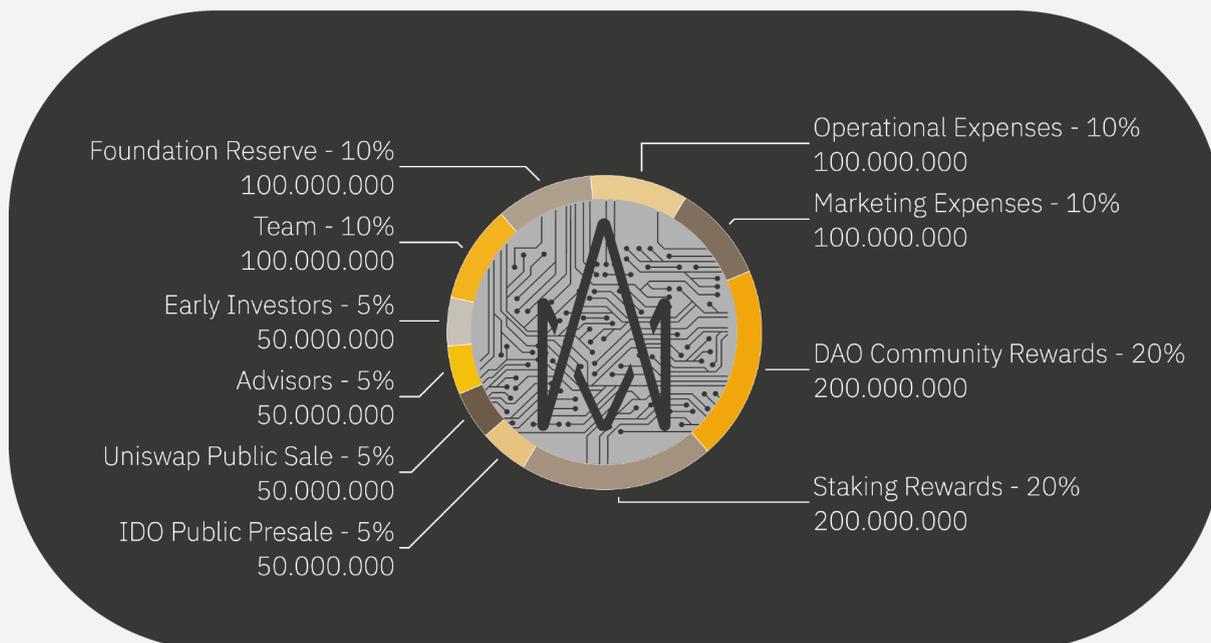
Resardis DAO and Resardis Token

Resardis is aiming to be a community driven project. Therefore, we are building a Decentralized Autonomous Organization (DAO). Control of the Resardis DEX rests in the hands of the community holding the Resardis tokens.

RSD   0x73627974adea82397bcf7fac5848207cce88938d
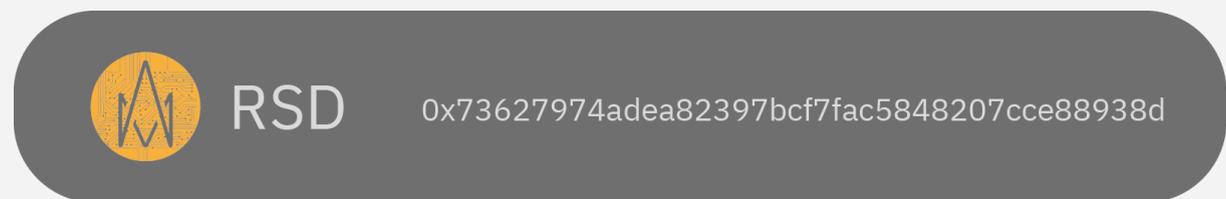
The Resardis Token exists to govern the Resardis DEX. Any changes to the DEX will be proposed and voted on by Resardis Token holders. These proposals can include things like adjusting the fee percentage, implementing scaling solutions and controlling future distribution of Resardis Token to project contributors. In future, Resardis Token will be able to be used as an optional commission payment.

Tokenomics

The total Resardis token supply is 1,000,000,000. After a year waiting period a 2% yearly inflation can be implemented if DAO (token holders) choose. Community liquidity is instant. Investors (3 years), advisors (3 years), team (5 years) and the foundation (5 years) have a linear time-lock. The following is the initial distribution:

Foundation Reserve - 10%
100.000.000

Team - 10%
100.000.000

Early Investors - 5%
50.000.000

Advisors - 5%
50.000.000

Uniswap Public Sale - 5%
50.000.000

IDO Public Presale - 5%
50.000.000

Operational Expenses - 10%
100.000.000

Marketing Expenses - 10%
100.000.000

DAO Community Rewards - 20%
200.000.000

Staking Rewards - 20%
200.000.000

Road Map

2021 Q2 - Resardis Token & DAO Token

Resardis Token will function as an optional commission payment method for the trades happening in the exchange. In addition, we are planning a model (DAO Token) in which users will receive shares from the earnings of the exchange, in proportion to the amount of DAO Token that they hold. This cryptocurrency will be used as a means in which the users will decide on the changes that will be made on the exchange, in a completely decentralized manner (DAO = Decentralized Autonomous Organization).

2021 Q3 - Resardis Demo on Testnet

The basic version of the project will be live for users to test during the demo phase. Transactions will be carried out with dummy cryptocurrencies in the test

network. The main goal is to clean bugs in the software and to perform security tests before trading with real crypto assets.

2021 Q4 - Resardis Launch

The first production version of the project will be launched. Real crypto assets will be tradable. Users will be able to trade crypto assets with simple order types (limit and market order).

2021 Q4 - New Order Types

Order types other than the market and limit orders will be added to the smart contract.

2022 Q1 - User Friendly Features

Deposits and withdrawals will be simplified for the end-users. In addition, frontend improvements will be made to increase the user experience based on the data and feedback collected since the launch of Resardis Demo.

2022 Q2 - Resardis Dex on multiple chain

In addition to Polygon Network, we are aiming to deploy Resardis Dex on other scalable chains that support EVM, such as Binance chain, Polkadot, and Avax.

2022 Q3 - Resardis AMM

Resardis is an order book based DEX, however we are aware of the popularity of automated market maker (AMM) DEXs. We are going to add AMM to Resardis DEX.

2022 Q4 - Resardis Decentralized peer to peer lending platform

Resardis will go all in DeFi and will provide a peer to peer and decentralized money lending market on layer 2.