

REVUTO WHITEPAPER

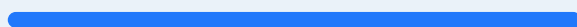


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INTRODUCTION

Revuto is a clean, intuitive, and easily accessible single-dashboard subscription management service. Revuto's mission is to save customers time, energy, and money by completely redefining the subscription management experience.

01

IS IT WORTH SOLVING?

21 billion DD transactions in 2019 and growing in value and volume since 2016 paired with strong growth of subscription revenues



21bn

Volume of Direct Debits/years¹



€7tn

SEPA Direct Debit Value/yr¹



350m

Banking Population²



€350bn

Value of subscription economy³



€7tn

Growth in subscription revenues⁴

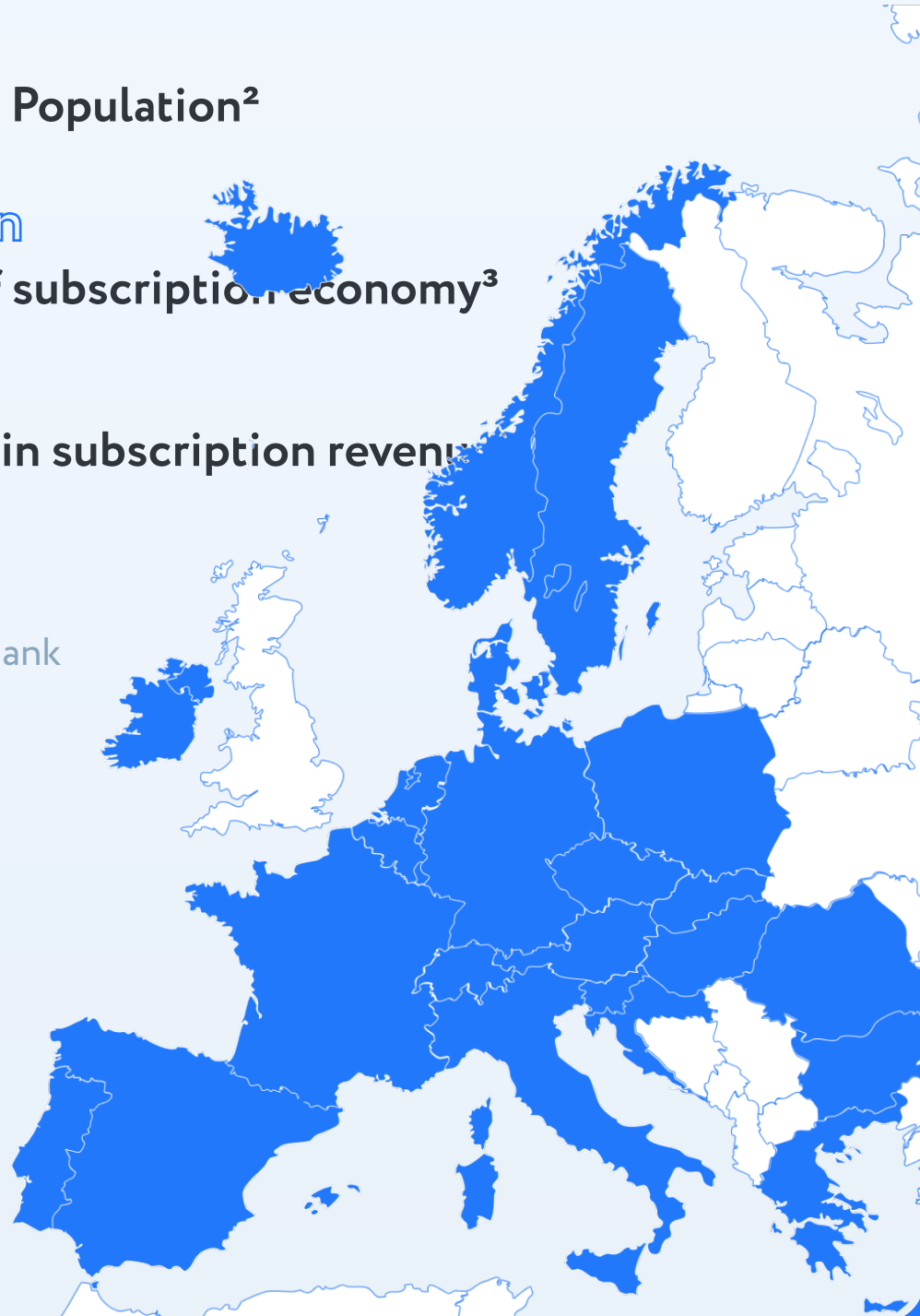
DD-Direct Debit

1-European Central Bank

2-Stabista

3-Zuora, 2016-2018

4-ING



Revuto vows to make the «Are you sure you want to unsubscribe?» line a thing of the past. No one would be jumping through all the hoops and hurdles to unsubscribe if they weren't already sure. We built Revuto because we recognize and empathize with the problem. Managing a dozen subscriptions shouldn't take the time of a part-time job, and there's absolutely no reason unsubscribing should take more than a single click.

Data shows that today's millennials would much rather subscribe to Spotify or Netflix than purchase a single album or a movie. The subscription model allows them to test a product and use a service without fully committing and paying the full price upfront.

However, while this rising trend has undoubtedly been net-beneficial for both businesses and customers, it also has certain downsides. Free trials with cumbersome cancellation policies produce unnecessary recurring losses, and managing and paying for dozens of subscription services each month results in consumer fatigue.

As subscriptions grow by 100% year on year, we're confident they're here to stay and become an integral part of everyone's life. Revuto's place in this growing economy is to filter signals from noise and offer customers a clean and pleasant subscription management experience. We believe that no one should ever again be charged for subscriptions they no longer want or use, and we have made it our primary goal to make that happen.

TARGET MARKET

01-1

In decades past, subscriptions were limited and almost exclusive to products like magazines, gyms, and cable TV. However, with the rise of technology and cloud-based computing, many companies have transitioned from the one-off purchase to the recurring revenue or the subscription business model. Consequently, nowadays we have subscriptions for everything – from food to music, TV shows, clothes, games, audiobooks, even shaving products.

For businesses, subscriptions mean constant and predictable revenue streams, higher average customer lifetime value, and greater customer inertia resulting in enhanced brand loyalty. Consumers, on the other hand, find subscriptions convenient and perceive them as more accessible and affordable than one-off payments, especially for more expensive purchases.

Nonetheless, past a certain point, managing multiple subscriptions becomes more of a chore than a task to enjoy. The average European consumer spends 130 euros per month on subscriptions, accounting for approximately 5% of their monthly expenditures. Nearly a fifth of consumers never review their subscriptions, and, as a result, half are routinely paying for products and services they either no longer use or consider not worth their money.

Understanding consumer psychology, businesses leverage these biases in consumer behavior to increase their revenues by intentionally making unsubscribing difficult. Resultantly, users either easily forget about ongoing subscription charges, find the unsubscribing process hard to navigate, or fall victim to services that charge their cards indefinitely without notification.

We believe there is a clear product-market fit for a product protecting consumers from all the unwanted consequences of subscriptions. Revuto's main deliverable is a decentralized mobile application – a single-dashboard subscription management solution that helps users control their recurring subscription-related expenses.

TARGET CUSTOMER

01-2

Revuto is primarily targeting heavy users or private persons with significant subscription-related yearly expenditures. We have identified these customer segments as primarily consisting of millennials or tech-savvy young individuals who are early tech adopters, crypto natives, digital nomads, and freelancers. Small to medium-sized businesses looking to simplify their SaaS-related subscriptions are also our target customers.

We believe these customer segments will benefit the most and naturally gravitate towards our solutions. Our goal is to maximize the value of ongoing subscriptions by simplifying the payments process and protect customers from hidden fees and subscription charges for services they no longer use.

REVENUE MODEL

01-3

More than 90% of users of online budgeting and financial applications are willing to pay for additional services if it saves them money. Revuto's goal is not just saving customers' money but giving them complete control over their subscriptions.

Revuto will generate revenues through several sources, including:

- + **Protection fees:** Free users of Revuto will pay 4% on each transaction.
- + **Monthly subscription:** Revuto Pro subscription will cost €12/month. Pro users will not pay transaction fees and will get 4% cashback.
- + **DeFi services:** Fees from stacking Revu tokens and micro lending protocol.

THE REVUTO ECOSYSTEM

02

The Revuto ecosystem consists of three integral parts:

- ⊕ The subscription management software - Revuto dApp
- ⊕ The governance/utility token REVU
- ⊕ The decentralized Revuto micro-lending and borrowing platform.

The application, and the DeFi micro-lending and borrowing platform will each play a distinct role in rewarding a portion of the value generated by the ecosystem back to its loyal users

The entire Revuto stack is planned to be built on Cardano – a decentralized third-generation proof-of-stake blockchain platform and home to the ADA cryptocurrency.

What makes Revuto uniquely different from other blockchain-based projects is that we look outwards rather than inwards in our ecosystem growth and adoption approach. We seek to create a subscription management solution with immediate real-world applications. Rather than catering to a niche audience of existing crypto users, we seek to bring crypto to the mainstream world.

WHY CRYPTO?

02-1

Three decorative blue circles of varying sizes are positioned in the upper right area of the slide. One large circle is at the top left, a medium circle is at the top right, and a smaller circle is at the bottom right.

Decentralized, blockchain-based protocols are poised to tear down the exclusionary, monolithic foundations of traditional finance, radically reconfigure how money is used, created, and distributed, and build a superior, more transparent, and equitable financial system on top of its ruins.

At Revuto, we not only believe that crypto is the future of finance but also have our interests perfectly aligned with the cypherpunk ethos. Blockchain-based digital assets are designed for transparency, ease of access and provide users complete control over their funds, which is the same what Revuto is trying to do with subscriptions.

Our team of industry experts is convinced that cryptocurrencies provide significant advantages in terms of payment processing compared to outdated centralized solutions. As a forward-looking FinTech startup, we are looking to integrate these solutions into our platform and place our company at the forefront of the Web 3.0 revolution.

WHY CARDANO?

02-2

Cardano's mission, vision, and approach to building scalable, user-centric blockchain solutions are perfectly aligned with Revuto's requirements.



Cardano is the first blockchain platform to evolve out of a scientific philosophy and a research-first-driven approach. First-generation blockchains like Bitcoin were the first to offer the world decentralized ledgers for secure cryptocurrency transfers. However, they did not create a functional environment for developing more complex smart-contract-based financial solutions. Second-generation blockchains like Ethereum introduced smart-contracting capabilities to blockchains but are unfortunately suffering from significant scalability issues.

On the other hand, Cardano is conceived as a more evolved, future-proof third-generation blockchain that combines the former's properties and evolves to meet all its users' arising needs. Consequently, the Revuto team believes that Cardano will play a leading role in the upcoming digital revolution, and thus, deciding to build our decentralized platform on Cardano was hardly a choice at all.

REVUTO dAPP

02-3

Revuto's flagship product is the Revuto dApp – a decentralized mobile application that enables users to actively manage their subscriptions from a single dashboard. Revuto saves users money by allowing them to approve, block or snooze subscription charges as they occur.



Furthermore, by paying their subscriptions through the Revuto dApp, users will have the opportunity to earn rewards, receive cashback, and apply for micro-loans paid out in crypto. The micro-lending feature will provide users with easy access to liquidity, allowing them to better manage their cash flows and never miss a subscription payment.

In phase one, Revuto will only support subscription payments and rely on third parties existing payment processors to execute crypto-to-fiat swaps and process fiat transactions. At this stage, all subscription payments with Revuto will be made using actively managed Revuto Virtual Debit Cards supporting fiat currencies, REVU tokens and Cardano-native EURR stablecoin once they will be made available in Cardano blockchain.

Later, Revuto is intended to broaden its product offering by adding support for other recurring payments such as utilities, cable and cell phone bills, or gym memberships. Moreover, in the latter phase, Revuto plans to acquire a payment processor license or engage an independent service provider, allowing it to further reduce friction in payments, eliminate third-party dependencies, and ultimately increase profit margins.

SUBSCRIPTION PAYMENTS

02 - 3 - 1

The Revuto dApp will support both push and pull payment options, where push payments will require user's authorization on each billing cycle, while pull payments will be automatic.

Revuto stands out from the competition because it is the first subscription management service to incorporate cryptocurrency payments. Using the Revuto dApp, users will be able to pay for their subscriptions using the Cardano-native REVU token and EURR stablecoin.

With Cardano's Plutus smart contract platform's arrival, users will be able to acquire the Cardano-native EURR stablecoin either by minting it as a loan using REVU tokens as collateral or by directly purchasing EURR stablecoin on the open market.

Users who want to pay for their subscriptions using crypto will need to download Revuto's wallet and approve automatic (pull) transfers.

The Revuto Wallet is a simple and secure cryptocurrency wallet supporting all Cardano-based tokens, while by default including REVU and the EURR stablecoin. The wallet will also have specific functionalities allowing for automatic pull payments. The end goal here is to offer Revuto users an option to subscribe to service providers using only their Revuto Wallet address.

In order to pay for subscriptions using cryptocurrency, the users will first need to approve the REVU or EURR stablecoin from within their wallet. This process is similar to adding a bank card as a payment option for online purchases or subscriptions. After the user sets up the wallet for recurring payments, the wallet will invoke the smart contract, permitting the server wallet to spend the funds (REVU or EURR) from the user's wallet at specific points in the future.

The added benefit here is that the users have the freedom to define the access period in which the server wallet can access their funds and manually set a limit to the amount of crypto they wish to spend for subscriptions. This adds an additional layer of security for the users and effectively gives them complete

REVVU TOKEN

02-4

The REVU token is Revuto's utility token native to the Cardano blockchain. Its purpose will be twofold: to serve as a governance token for the Revuto ecosystem through staking and pose as collateral for micro-loans on Revuto's decentralized micro-lending and borrowing platform.

For users, the incentive for holding REVU tokens is ultimately to save money and pay less in crypto for subscription charges than they would with fiat money.

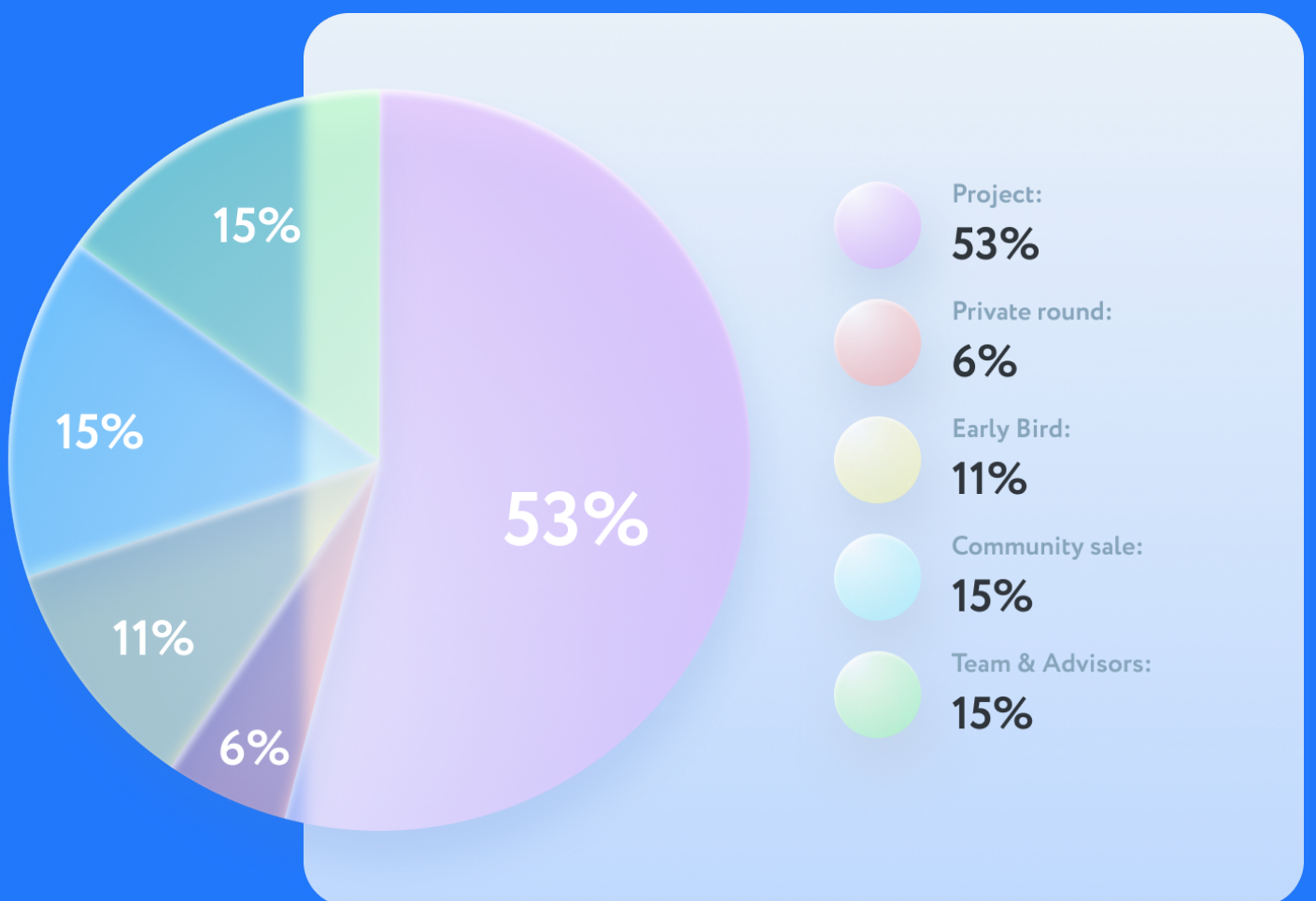
Revuto's ecosystem is designed to be sustainable regardless of crypto market conditions. The Revuno dApp gives users greater flexibility in terms of managing and paying for subscriptions.

REVVU TOKEN DISTRIBUTION

The total supply of REVU tokens upon the Revuto platform's launch will be hard-capped to 280,125,000 REVU tokens.

02 - 4 - 1

To ensure a fair initial token distribution, the token distribution process will be guided by two principles: optimal decentralization and efficient distribution.



In this context, optimal decentralization means that:

- ⊕ The tokens are distributed to as many Revuto users as possible, with the number of token holders reasonably growing in time;
- ⊕ The biggest token holders do not hold significant portions of the total token supply, no token holder will be provided with any powers related to the Revuto company;

An efficient initial distribution implies a distribution of tokens primarily to:

- ⊕ Users deeply involved with the project that willingly contribute to the project its development;
- ⊕ Participants from different backgrounds, that reasonably contribute different experiences into the project.

REVU TOKEN SALE DISTRIBUTION

REVU TOKEN SALE: 32% OF
TOTAL SUPPLY / 89,640,000
REVU TOKENS

02 - 4 - 2

DISTRIBUTION	PERCENTAGE	TOKEN SUPPLY
Project	53%	148 466 250 REVU
Private stage	6%	16 807 500 REVU
Early backers	11%	30 813 750 REVU
Community sales	15%	42 018 750 REVU
Team and Advisors	15%	42 018 750 REVU
Total supply	100%	280 125 000 REVU

TOKEN SALE TIMELINE

02 - 4 - 3

DISTRIBUTION	STARTING DATE	FINISHING DATE
Private stage	03.05.2021.	14.05.2021.
Early backers tier 1	18.05.2021.	19.05.2021. (36h)
Early backers tier 2	20.05.2021.	21.05.2021. (36h)
Community sales	22.05.2021.	29.05.2021. (8 days)

REVVU TOKEN SALE PRICE AND CAP FOR THE PER SALE STAGE

02 - 4 - 4

DISTRIBUTION	TOKEN PRICE	SALE STAGE CAP	TOKENS
Private stage	0.085 EUR	300K EUR - 1M EUR	16 807 500 REVU
Early backers tier 1	0.085 EUR	500 EUR - 1K EUR	15 406 875 REVU
Early backers tier 2	0.09 EUR	5K - 100K EUR	15 406 875 REVU
Community sales stage	0.1 EUR	100 EUR - 5K EUR	42 018 750 REVU

DISTRIBUTION	TOKEN PRICE	SALE STAGE CAP	TOKENS
Private stage	0.085 EUR	300K EUR - 1M EUR	1 428 637.50 EUR
Early backers tier 1	0.085 EUR	500 EUR - 1K EUR	1 309 584.38 EUR
Early backers tier 2	0.09 EUR	5K - 100K EUR	1 386 618.75 EUR
Community sales stage	0.1 EUR	100 EUR - 5K EUR	4 201 875.00 EUR

REVVU TOKEN RELEASE PLAN

02 - 4 - 5

DISTRIBUTION	STARTING DATE	FINISHING DATE
Team & Advisors	18 months	3 months
Private stage	12 months	3 months
Early backers tier 1	12 months	3 months
Early backers tier 2	6 months	3 months
Community sales	3 months	

REVVU TOKEN RELEASE SCHEDULE

02 - 4 - 6

DISTRIBUTION	TOKENS	VESTING PERIOD
Community sales	42 018 750 REVU	3 months
Early backers Tier 2	15 406 875 REVU	6+3 months
Early backers Tier 1	15 406 875 REVU	12+3 months
Private stage	16 807 500 REVU	12+3 months
Team and Advisors	42 018 750 REVU	18+3 months

RELEASE SCHEDULE FOR REVU TOKENS DISTRIBUTED TO REVUTO

REVUTO WILL HOLD A TOTAL
OF 148 466 250 REVU TOKENS
AFTER THE TOKEN SALE ENDS

02 - 4 - 7

RELEASE	AMOUNT	VESTING PERIOD
20%	*29,693,250 REVU	3 months
20%	*29,693,250 REVU	12 months
20%	*29,693,250 REVU	21 months
20%	*29,693,250 REVU	30 months
20%	*29,693,250 REVU	39 months

*the final number will depend on REVU tokens issued through referral program, cashback, DeFi services, etc.

REVU TOKEN RELEASE SCHEDULE

Holders of REVU tokens bought in the REVU Token Sale will be awarded with additional REVU tokens based on a percentage on the number of unreleased tokens.

02 - 4 - 8

DISTRIBUTION	VESTING + RELEASE PERIOD	10%
Private stage (16,807,500 REVU)	12 M LOCK 3 M RELEASE	*1 680 750 REVU
Early backers Tier 1 (15 406 875 REVU)	12 M LOCK 3 M RELEASE	*1 540 687.50 REVU
Early backers Tier 2 (15 406 875 REVU)	6 M LOCK 3 M RELEASE	*770 343.75 REVU
Community sale (42 018 750 REVU)	3 M LOCK	1 050 468.75 REVU

*minimal amount of REVU tokens because of the 3 months release period

GOVERNANCE

In the true spirit of decentralization, the REVU token will give holders certain governance rights over the protocol.



Once the governance over the protocol will be transferred to the community, REVU token holders will be able to submit protocol improvement proposals and vote on issues including:

- + **The rate of issuance of the REVU token;**
- + **Lifting the total token supply hard-cap;**
- + **Adjusting micro-loan fees;**
- + **Changing the cashback, referrals, and staking rewards amount;**
- + **Control spending from Revuto's REVU token reserves;**
- + **Any other community proposals;**

The initial governance voting parameters are designed as follows:

- + **Token holders will need 2% of the total REVU token supply to submit a governance proposal;**
- + **5% of the total REVU supply will be needed to approve a proposal and reach quorum;**
- + **The voting period will be set to 10 days;**
- + **The time lock delay on execution will be set to 3 days;**

REVUTO DeFi

FEATURES

02 - 6

After the platform is launched and the fair distribution of the REVU token is over, Revuto will introduce the token staking and the decentralized micro-lending and borrowing platforms.

STAKING

02 - 6-1

Within the context of the Revuto ecosystem, staking means locking up REVU tokens in a smart contract for a certain period.

The benefits of staking is straightforward users who lock their REVU tokens in the staking contract will get access to unique product benefits and staking rewards.

To get the product benefits and earn the rewards, users will have to commit and stake their REVU tokens for 6, 12, or 18 months, with a certain percentage for each.

MICRO-LENDING AND BORROWING

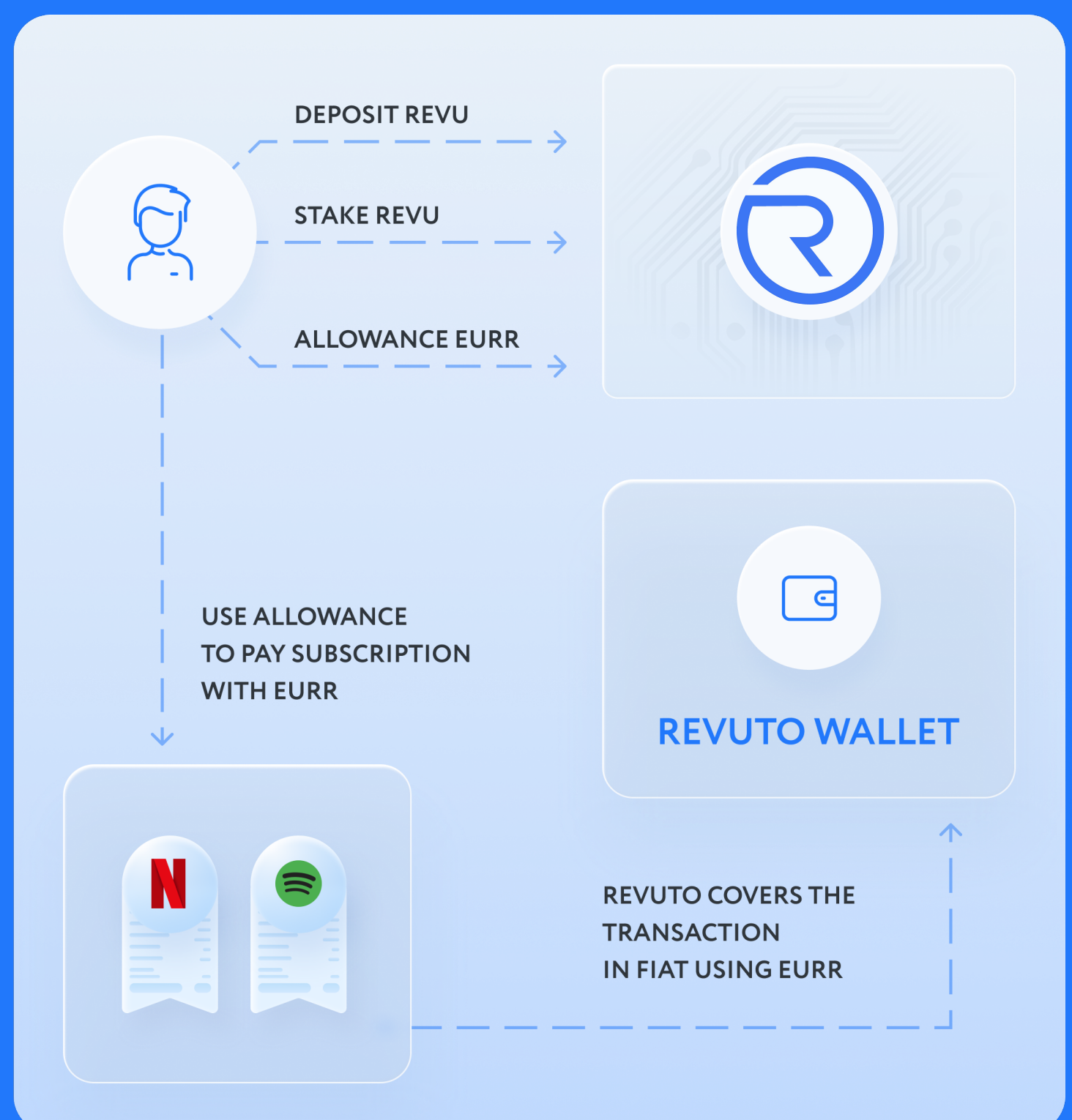
02 - 6 - 2

Revuto's decentralized micro-lending and borrowing platform will give REVU token holders quick and easy access to liquidity (working capital) in the form of small loans denominated in EURR stablecoins. The goal is to allow REVU token holders to pay their subscription payments on time without using their REVU tokens. This way, users will retain their REVU tokens and keep earning staking rewards even when they do not have cash for subscription payments at hand.

Token holders will take out loans by staking their REVU tokens as collateral on the platform. The amount they can borrow will depend on the value of the deposited collateral. The loan-to-value (LTV) ratio will initially be set at 2:1 – i.e., for \$100 worth of REVU tokens staked, the users will be able to borrow 50 EURr tokens.

When borrowing, users will receive newly minted EURR tokens (Cardano-native stablecoins pegged to the Euro) as a loan they will later need to pay back with fixed 20% interest. When paying back the loan, the EURR tokens are burned, and the collateral is returned to the borrower. In case the deposited collateral at one point becomes insufficient to back the loan, the staked REVU tokens will be liquidated.

THIS FLOW IS SHOWCASED IN THE FOLLOWING DIAGRAM.



CUSTOMER ACQUISITION AND RETENTION INCENTIVE STRUCTURES

03

To ensure the development of the Revuto ecosystem and, acquire new users, we've baked in well-thought-out incentive mechanisms into the protocol.

Through referrals, cashback and other rewards, users will be incentivized to behave in the following ways:

- + **Increase acquisition** – Users get a percentage of every subscription transaction that a user is subscribed for a lifetime.
- + **Increase engagement** – Revuto will incentivize community engagement through REVU token rewards and unique product benefits.
- + **Increase retention** – Users will be incentivized to keep using the Revuto dApp through cashback, referral, and staking rewards.

REFERRALS & CASHBACK

03 - 1

Revuto will employ incentivized referral programs and cashback to grow and build its customer user base. For every new user that signs up through a referral link and pays for at least one subscription using the dApp, the referral link owner will earn rewards in REVU tokens



The referral rewards will account for 6% of the revenue generated from the referred users. For example, if the referred user signs up for the Revuto Pro version, which will cost €12, the referral link owner will earn 6% of that user's cashback which is determined to be 4%. If the referred user signs up for the free version of the app, spends €100 every month on subscriptions, and pays 4% or €4 to Revuto for protection fees, the referral link owner will earn 6% of that (or €0.24 in this case) every month for that user and each other user they onboard onto the platform.

This means that everyone who onboards new users onto the Revuto platform will keep earning recurring revenue in the REVU tokens for as long as the referred user uses Revuto to pay for subscriptions. The rewards earned through the referrals will be collected and sent directly to users Revu wallets once per month.

The cashback rewards will be reserved only for paying Revuto users (Pro app). All Revuto Pro users will receive 4% cashback in REVU tokens on all of their subscription purchases.

ROADMAP

04

Q1-Q3
2021



- REVU Token Sale
- Minting token supply
- Applying for the crypto to fiat exchange license at HANFA
- Revuto App available on Android and iOS
- Trademark protection submitted at EUIPO

Q4
2021



- Enabling REVU/USDT / REVU/BTC liquidity & exchange
- Start releasing REVU tokens into the supply
- Allow staking and vesting lockups
- EU Payment processor integration

Q1-Q4
2022



- Open governance
- Integrate fiat on-ramp in the Revuto App
- Two patent applications submitted at EPO and USPTO
 1. Method and system for determining merchant behavior in recurring payment ecosystems
 2. Method to use transaction and merchant similarity clusters to manage payment approvals in recurring payment ecosystems
- App and services support for other native tokens from Cardano
- EURr stablecoin creation and listing
- Converter to swap EURr with other native tokens on Cardano
- Introduce a physical Revuto Debit Card to pay for goods with crypto and with an option to leverage DeFi services
- Open DeFi micro-lending & borrowing
- Micro-loans for subscription payments (borrow EURr)

Q1-Q4
2023



- REVU wallet upgrade to support pull payments and pre-authorization
- Pushing REVU wallet to payment gateways and service providers
- Adding recurring payments such as utilities to manage them and pay with crypto
- Leverage public utilities payments with DeFi services

*events may change according to development on the Cardano blockchain (functionality of Plutus smart contracts)

CONCLUSION

05

Revuto is a European Fintech startup leveraging next-gen crypto and DeFi technology to offer clients a superior subscription management experience.



Revuto's flagship product is the Revuto dApp – a decentralized mobile application that enables users to actively manage their subscriptions from a single dashboard. Revuto saves users money by allowing them to approve, block or snooze subscription charges as they occur.

Revuto will also offer an in-app decentralized micro-lending and borrowing platform, giving users quick and easy access to liquidity (working capital) in the form of small loans denominated in EURR stablecoins. The goal is to allow Revuto users to pay their subscription payments on time without liquidating their REVU holdings.

Revuto believes that no one should ever again have to pay for subscriptions they no longer want or use and that managing subscriptions/unsubscribing from services shouldn't take more than a single click.

We believe that decentralized, blockchain-based, and community-driven protocols are the future. Consumers should have the opportunity to help build and lead the products they use and amply benefit from their success.



**THANK YOU
FOR THE SUCCESSFUL
TOKEN SALE ON
CARDANO**

crypto.revuto.com



Revudex

Product/Technical Specification

Version 1.0

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01 Summary

Project statement

To expand its versatile ecosystem, and offer its users a possibility to easily exchange Cardano Native Assets kept in their non-custodial Revuto wallet, the Revuto team decided to take a step forward into Defi on Cardano by introducing a decentralized exchange on mobile devices.

Revudex is the first order-book decentralized exchange for mobile devices built on the Cardano blockchain. As Revuto is taking a mobile-first approach when building dApps on Cardano, Revuto's decentralized exchange is part of the Revuto mobile app built natively for iOS (Swift) and Android (Kotlin) devices. With Revudex, Revuto combines all the benefits of a simple user experience when it comes to mobile apps with the EUTxO Cardano accounting model.

Project Overview

A simple-to-use decentralized exchange built into the Revuto mobile app and connected directly with the Revuto wallet. By adding Revudex to its mobile app, Revuto will offer a variety of unique and profitable incentives both to REVU token holders and other Cardano native tokens holders.

Glossary

Bot-wallet

Instead of going with the initial idea to use Liquidity Pool Smart Contract, one of the significant changes that the Revudex architecture is introducing is called "bot-wallet". The bot-wallet contains a fragmented liquidity pool (UTxOs) which means it will contain UTxOs from both Cardano native tokens, which can match with orders.

These UTXOs will contain a small amount of both trading pair native assets. The price from which UTXOs can be matched with Order Smart Contract will be configured and can be adjusted with bot settings configuration.

Removing Liquidity Pool Smart Contract and utilizing the capabilities of bot-wallet enabled us to have faster performance than traditional AMM-based decentralized exchanges on Cardano. In short, more orders can be fulfilled now in parallel.

In the full version, the bot-wallet owner can be any external user.

Bot-wallet owner

The responsibility of the bot-wallet owner is to add initial liquidity for the trading pair of two Cardano native tokens to the wallet and decide what will be the market-making strategy for that particular bot-wallet since it is configurable. Another responsibility is to refund liquidity to delegators (LP token holders).

The current DEX architecture allows self-hosted liquidity-providing opportunities. The setup provides a more accessible way to become a liquidity provider when liquidity providing bot is open-sourced. Additionally, it provides the ability for the end-user to become a bot-wallet owner as well.

Order Script/Smart Contract

Order Script/Smart Contract is an on-chain smart contract holding all swap order UTXOs, and it is the only smart contract we have in the current Revudex architecture. Each token we want to sell on our platform permits matching order by the rules defined in the validator of the script.

Batcher / Arbitrager

As part of the Revudex backend, Batcher helps find appropriate UTXO(s) as input and inserts Order Script/Smart Contract address as output. It fetches all swap order UTXOs from the order script address, processes and matches orders, and executes only appropriate swap orders. Also, it can be used to adjust a transaction, so we ensure that the liquidity pool ratio is not radically changed.

Cardano node

Cardano node enables us to communicate and monitor the Cardano blockchain. One of the main functionalities is validating, building, and submitting the transactions.

Blockchain scanner

The primary purpose is to do monitoring of the blockchain over the Cardano node and Blockfrost. It includes cached data, so Blockfrost API and Cardano node do not need to be called/scanned too frequently.

Blockfrost

API for the Cardano decentralized blockchain. Allows us to interact with the Cardano blockchain and parts of its ecosystem.

Cardano CLI

Cardano Command Line Interface is used for building transaction files required from the frontend application based on the provided wallet address and order parameters. It's necessary because Plutus Application Backend lacks some functionalities we need. Besides generating transaction files, it's used for submitting transactions. Cardano Node is required in order to work Cardano CLI.

Fragmented liquidity pool

A combination of order book style DEX and EUTxO Cardano accounting model allowed us to have higher throughput in terms of orders per minute or second. A fragmented liquidity pool simply means that liquidity in the liquidity pool is simply broken down into many UTXOs, which allows parallel execution of orders.

With this liquidity providing mechanism, Revudex can match more orders per block (more than three, in comparison with other common DEX architectures on Cardano, where three was the limit to match with one liquidity pool)

Slippage

Difference between the expected and executed price of a trade

EUTxO

Extended Unspent Transaction Output is an accounting model that Cardano blockchain is based on. It gives an opportunity of using smart contracts, which is one of the disadvantages of the UTXO model. Assets are stored on the ledger in unspent outputs rather than in the account like Ethereum's account-based model.

On-chain transactions

An on-chain transaction, simply called a transaction, occurs and is considered valid when the blockchain is modified to reflect the transaction on the public ledger.

02 DEX business logic

One of the main features Revudex will provide to the end-users is the ability to swap Cardano Native Tokens using market order or limit order functionality.

Market order

A market order allows the end-user to buy or sell specific tokens at the market's current best available price. They are optimal when the primary goal is to execute orders immediately. The function ensures order execution but doesn't guarantee a specified price like in the case of a limit order. A market order is the most common transaction executed on most centralized and decentralized exchanges. It is a default option for the end-user.

End-user on the mobile app provides the amount and currency (token pair) he wants to swap. The mobile app asks the backend what orders can be directly matched. Few conditions need to be met - provided orders need to have a similar amount that the user already provided, and the price needs to be in the range of market price that we are fetching from 3rd party exchanges API.

To better understand market order logic, let's imagine a case where the end-user wants to swap 100 REVU tokens for ADA. Besides providing the amount and currency, End-user also defines the slippage with which he is comfortable for a particular market order. Few scenarios are possible how the backend can provide matching orders:

1. You can match one sell order of 100 REVU tokens in total for a price of 0.1 ADA for REVU
2. You can match orders 50, 40, and 15, which is 105 REVU in total for a price of 0.1 ADA for REVU
3. You can match orders 30, 60, which is 90 REVU in total for a price of 0.09 ADA for REVU

If a user chooses one of the options from above, the market order will be fulfilled immediately. Options will be offered (whether it will be case one, two, or three) based on provided limit orders located at the Order Contract.

A user can choose not to use any of the proposed options. In that case, the user can set that order as a limit order with the proposed price fetched from 3rd party exchanges with slippage. This limit order will be with the same price that the matching-bot has, raising the probability of immediate order execution.

Limit order

A limit order allows buying or selling a token with restrictions on the maximum price to be paid or the minimum price to be received. This gives the end-user greater control in setting conditions for order execution. Execution is not guaranteed like in the case of market order since the price is more important than the speed of order execution. One of the differences from market order is that there is no slippage here, so the user doesn't set that option at the beginning of the swap. The other distinction from market order is that in the case of a limit order, the user sets the expiration time for the order, which we check off-chain.

End-user defines how much and for which price he wants to place an order. It stays in the order book until it finds a perfect match. Limit orders can be used for matching market orders, or the matching bot can match them between each other and a fragmented liquidity pool in the bot-wallet.

Order selection and bot-direct matching

As an order book style decentralized exchange, we have the following procedure for making order selections after users place their buy and sell orders. Firstly, we are

sorting all orders by price and the time they are placed. After that, we use buy and sell orders from which we create batches. A batch is a collection of up to 3 orders. The next step is to check if they have direct matching. If that is the case, we immediately execute direct matching. If that is not the case, the next and final step is to do the bot-direct matching.

Bot-direct matching means that we are selecting orders that can match the current market price, and we are creating and submitting batches of them (combining max three orders).

How end-user can delegate to the bot-wallet

The end-user will be able to delegate funds to bot-wallets via Revuto Staking Center. In the future, a better UX (setup) may come in the form of separate bot-wallet features within the Revuto app. In the Revuto Staking center, there will be bot-wallets (liquidity pools) for specific tokens (trading pairs) supported by the Revudex exchange.

Adding new token pair

The process of adding new token pairs required the following procedure and changes:

- Creation of new Order Script with information about token
- Changes on the backend side
 - Adding new token
 - Monitoring UTXOs on Order Script
 - New bot-wallet for the new token pair on DEX
- Changes to our custom wallet
- Changes in User Interface of the Revuto mobile app

As part of the business development strategy, in the first version of the Revudex exchange, Revuto will control which tokens Revuto's non-custodial wallet will support on the front end and which trading pairs Revudex will offer for the exchange.

Handling large orders

In Revudex, there will be a warning if a user tries to create a large order which would change bot-wallet token allocation (price) too much. If the user chooses to submit that large order anyway, he will have to wait until we find a large enough order to match him directly, or there is more liquidity in the bot-wallet (so it could match it).

Fee structure

Limit order fees (total ~ 1,2 ADA)

- Transaction fee - around 0,2 ADA
- Batching fee 1 ADA
- Deposit of 2 ADA
 - Will be returned to user after limit order is executed

Market (Direct) order fees (total ~ 0.6 ADA)

- Transaction fee which are a bit higher since we are using smart contract - around 0,6 ADA
- Deposit of 2 ADA
 - returned in the same transaction to the user

Cancel order fee (total ~ 0,54 ADA)

- Transaction fee ~ 0,54 ADA
 - Since we are calling smart contract in this scenario transaction fees would be a bit higher than standard transaction fees

Create Collateral (total ~ 0,17 ADA)

- Transaction fee ~ 0,17 ADA

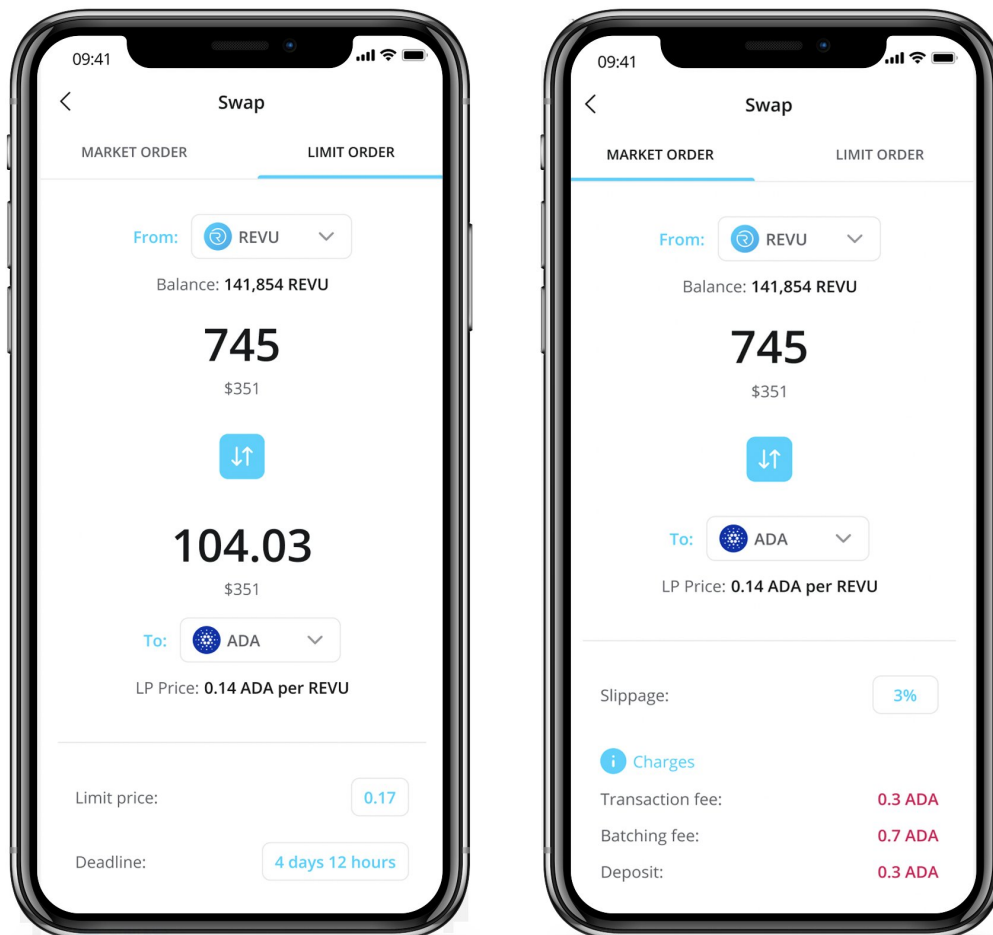
We decomposed the fee structure by transaction types. One is triggered by the user and the other is triggered by the bot-wallet.

Revuto bot-wallet market-making strategy

Revudex will make profit from following scenarios:

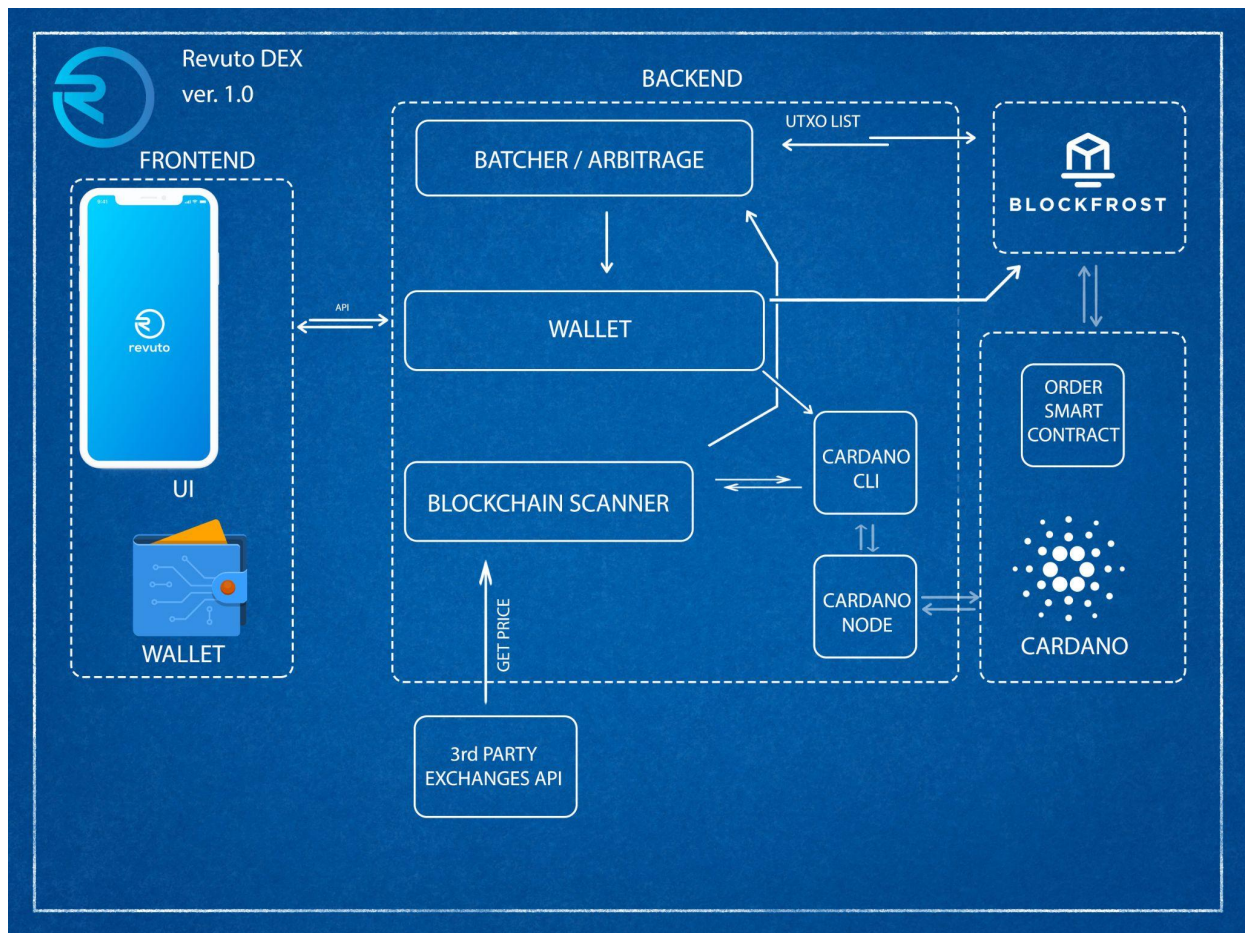
- Direct match with liquidity pool orders (UTxOs in bot-wallet)
- Direct match without liquidity pool orders (just matching limit orders) - direct match between limit orders
- Market order (Direct match) - only in situations where we have more than one order in the batcher
- Arbitrage opportunities

preview of the Revudex UX



03 Product Architecture

Version 1.0



Picture 1 - Overview of enhanced DEX architecture

After the user selects the type of the order he wants to place and provides all the necessary information required, sign and submit a transaction with his wallet, and order parameters will be sent to the backend to create a placeholder which will be updated when the order UTXO is found on the blockchain.

Blockchain scanner, Batcher/Arbitrager, and the bot-wallet represent the bot for matching on the backend and will find order matches, build transactions, and send back the status of transactions, price ratio, etc., to the frontend.

Blockchain scanner helps us find appropriate UTXOs on script addresses, collects metadata from Blockfrost API, and saves them in the database.

Batcher/Arbitrager is ordering and selecting orders from the database and creates batches from those orders (combination of max three orders). After that, it checks if there are some direct matches and submits them if it finds them, and those that can't be directly matched we save in the database so we can offer them to other end-users for the direct match (market order). After it completes direct matching, it checks if any orders can match with the current price (prices that we get from APIs from other exchanges). If there are, it combines them in batches of three and submits them.

Bot-wallet is used for building, signing, and submitting transactions that *Batcher/Arbitrager* creates.

To provide price, we are using different exchange API sources. We generate prices based on that info and provide prices for market orders.

On-chain/Off-chain DEX components

This section wants to enlist all DEX components that we developed and classify them, whether on-chain or off-chain.

On-chain components

- Order Script/Smart Contract

Off-chain components

- Bot-wallet
- DEX services which provide API for mobile application
- Batcher/Arbitrager
- Blockfrost scanner
- Frontend wallet

Tech stack

- Node.js
- TypeScript
- React (dashboard)
- Plutus
- Cardano CLI (shell scripts)
- Cardano-serialization-lib (mobile-wallet)
- Postgres

04 Integrations

3rd party exchanges APIs

In the beginning, Revudex will use different APIs to get the prices of Cardano native tokens listed on centralized exchanges. In addition, Revudex will use information about token prices from the Revuto wallet and its integration with Chainlink oracle. Lastly, if there are tokens listed on decentralized exchanges only, Revudex will use available APIs or methods to live-track token prices on other decentralized exchanges.

05 Revenue Streams for LPs

- Batching Fees
- Yield from delegating ADA (in bot-wallets) to Cardano Staking Pools
- Bot-wallets (programmable market-making strategies)

06 Roadmap

- External Audit
- Market and limit orders
- End-user created Bot-wallets and trading bot strategies
- Yield Farming
- Governance
- Liquidity pools



Governance Model

Specification

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01 Context

To get a positive legal opinion about not being a security token and to list REVU tokens on centralized exchanges, the Revuto team had to remove Buy-back and governance mechanisms from the initial Revuto whitepaper. By doing so, the REVU tokenomics lost an opportunity to benefit from additional buying pressure on tokens available in the

circulating supply. To bring back those mechanisms, the Revuto team is introducing a second layer of liquidity to the revuto ecosystem by adding a new token called the R token.

The goals of adding R Tokens to the ecosystem are:

- to incentivize the user base to hold and create additional buying pressure on REVU token to get R Token (Airdrop)
- to serve as a governance token, the initial affected area is Revudex. Later, governing mechanism may affect other areas of the Revuto ecosystem.
- serving as a revenue-earning token (Buy-back mechanism) to create additional buying pressure on the REVU token as there will be R to REVU trading pair on Revudex
- supporting Yield Farming setups and liquidity providing rewards to save the REVU token from inflation in the Revudex setup
- adding the token which we'll never list on CEX
- adding the token which won't work as a top-up source for the Revuto Debit Cards
- adding the token to partially cover the batching fees on Revudex

02 R Token

Distribution

Revuto will mint 3 billion R tokens on the Cardano blockchain to distribute them to the Revuto community.

Distribution mechanisms

a) Airdrop

- Starting with June 1st. 2022. and until July 15th. 2022, Revuto will take several snapshots of the Revuto wallets within the Revuto app to check the balance of REVU tokens. The goal is to track and calculate how many REVU tokens Revuto users and/or investors hold within the Revuto app (Revuto wallet, Staking center) to Airdrop them R tokens. The average amount of REVU tokens

the user will hold on the day of snapshots (Revuto will disclose when it took four snapshots during the 45-day period) will decide how many R tokens the user will get. The ratio to get an R token based on the average REVU token wallet balance is 10:1.

- The R token airdrop will last 24 months with 25% of tokens unlocked and sent to the user's wallet every six months. The counting period will start on June 1st, 2022., meaning the first airdrop will happen on January 1st, 2023.

b) ISPO

- Will start (TBD) between August 1st, 2022. and January 1st, 2023.
- The total allocation is 180,000,000 R Tokens (6% of the total supply)
- Token distribution will start on January 1st, 2023.
- Revuto will partner with Cardano Stake Pool Operators and announce which Cardano Staking Pools users will need to delegate their ADA to get R tokens.

c) Yield Farming

- Revudex will offer its liquidity providers to Yield farm their LP tokens to get R tokens
- R token staking rewards will be announced once Revudex launches
- in future, Revudex may offer other tokens as staking rewards

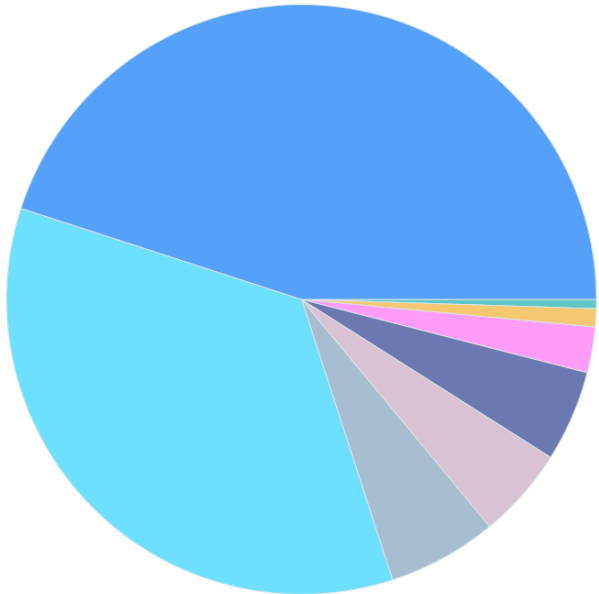
d) Staking in Revuto Staking center

- Revuto will introduce rewards in R tokens for staking specific tokens within the Revuto Staking Center

Tokenomics

TOTAL SUPPLY: 3,000,000,000

TOKEN DISTRIBUTION



Initial Liquidity	0.5%
IFO (Initial Farm Offering)	1.0%
Partnership & Marketing	2.5%
DAO Treasury	5.0%
Development	5.0%
ISPO	6.0%
Airdrop	35.0%
Community	45.0%

- **Initial Liquidity**

0,5 % of the total supply or 15,000,000 R tokens, will be allocated for the initial liquidity on the Revudex. The stated amount of R tokens will be used for initial liquidity for the R / REVU token trading pair with a 10:1 ratio, meaning we will also add 1,500,000 REVU tokens as liquidity for the mentioned pair.

- **IFO (Initial Farm Offering)**

1 % of the total supply or 30,000,000 R tokens will be used for IFO (Initial Farm Offering) in the Revuto Staking Center. Users will be able to stake REVU, ADA and LP tokens to farm R tokens.

- **Partnership & Marketing**

2,5 % of the total supply or 75,000,000 R tokens are allocated for future partnerships and marketing activities.

- **DAO Treasury**

The DAO Treasury has an initial allocation of 5% of the total supply of 150,000,000 tokens. All unused and/or unclaimed tokens from the Airdrop allocation will be returned to the DAO Treasury, which will be governed by a community using governance mechanisms.

- **Development**

We reserved 5% of the total supply of 150,000,000 tokens for the development fund.

- **ISPO**

6% of the total supply or 180,000,000 tokens will be allocated for the ISPO through the six epochs, with 1% of the total supply for every epoch.

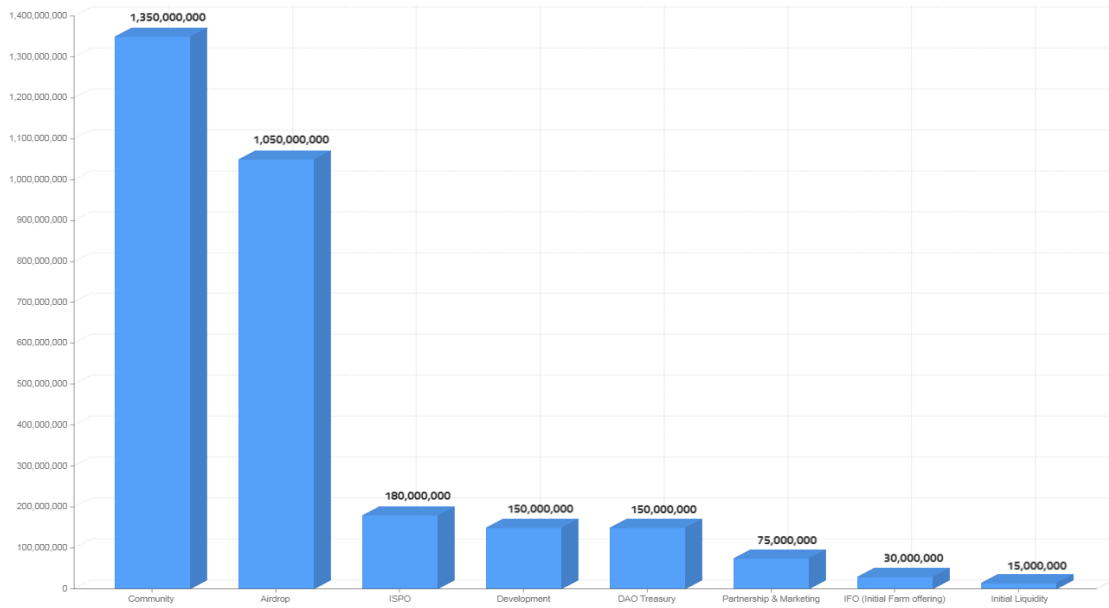
- **Airdrop**

Although 35% of the total supply or 1,050,000,000 tokens are reserved for the Airdrop allocation, please note that this is the highest possible number of potentially claimable tokens. The final number of claimed tokens will, in the end, certainly be much smaller. Unspent tokens that will remain from this initial allocation will be returned to the DAO Treasury. We included the whole circulating supply for the Airdrop allocation, including tokens currently on exchanges and other wallets, locked tokens from all Revuto Token Sale rounds, including Private Sale, Early Backers Tier 1 rounds, vouchers, and earned referral rewards.

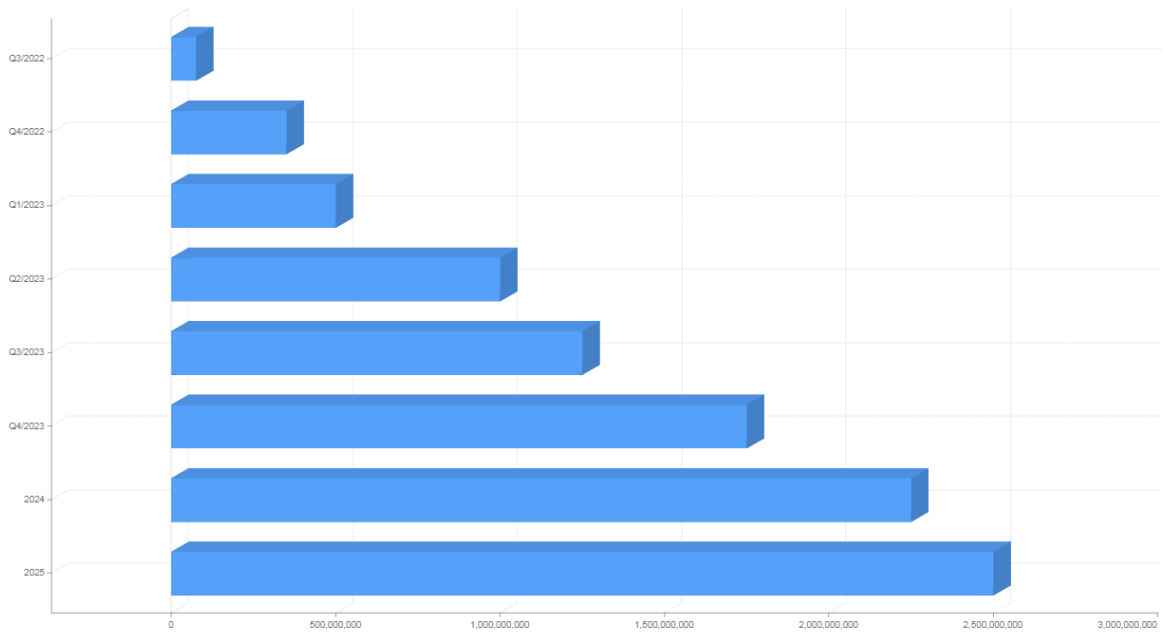
- **Community**

The largest allocation of the total supply, 45% or 1,350,000,000 tokens, is allocated for the Yield Farming and other initiatives to incentivize liquidity and utilization of Revudex.

R token allocations - graphic comparison chart



R token Vesting Schedule



Decentralization

With the introduction of the R token, the Revuto team is adding a voting mechanism to and gradual decentralization of the Revuto ecosystem divided into three stages of governance development:

1. Pre-DAO era

- a. DEX development fully controlled by the Revuto team

2. Semi-DAO era

- a. Partial involvement of the community in the development of DEX
- b. Partial off-chain voting mechanism
To make the user experience better and faster, the voting will not be fully on-chain voting since end-users will vote with their Revuto wallets and R tokens, and the Revuto backend will collect those votes off-chain.
- c. Revuto Request for Change / RIP - Revuto Improvement Proposal

3. Full DAO era

- a. Community in charge of Revuto ecosystem development
- b. On-chain voting mechanism
- c. Revuto Request for Change mechanism fully implemented

03 Governance models

3.1. Global Revudex governance

The global Revudex governance model allows R token holders to participate in decision-making processes necessary for the overall DEX direction and development.

Benefits of holding R token

- Trading pair Listing/Delisting on the Revudex
- Participation in decision making and voting for the Revudex fee structure
- Propose and vote on Revu market-making strategies
- Initial voting for the first bot-wallet owners

- TBD which would be prerequisites that qualify potential bot-wallet owners to participate
- Revudex will introduce a slashing mechanism for bot-wallet owners as a way to prevent potential malicious moves by bot-wallet owners
- Treasury fund management
 - R token would give voting power to holders to participate in fund management
- Ability to participate in yield farming stake pools and earn more R tokens
- Access to advanced DEX features reserved only for R token holders
- Staking
 - Delegation of ADA to the stake pool
 - Users can choose in which pool they can delegate their tokens

3.2. Local Revudex governance

The local Revudex governance model allows LP token holders (users receive LP tokens after delegating exchange (pair) tokens to the liquidity pool) an opportunity to participate in decision-making processes that are important for the bot-wallet owner.

Benefits of holding R token

- Choose market-making strategies of the bot-wallet owner
- Profit-sharing structure on the level of bot-wallet owner

04 Bot-wallet owner dashboard

As a way to increase transparency, at some point, Revudex will have a Dashboard where all current bot-wallet owners will be enlisted, showing information that could help users in deciding where to allocate their funds.

IMPORTANT: Revudex Paper is not a final document and is subject to changes. Improvements and additional functionalities to the Revudex will be added with time.