

# EXXO

a decentralized blockchain exchange  
and safe wallet

- whitepaper -  
v.1

**EXXO is a cryptocurrency service exchange platform for the blockchain era who plans to become a leader of fairness in the new age of the Internet of Money, using blockchain technology to create a reasonable distribution of risk.**

**DISCLAIMER:** This draft whitepaper is for discussion and pre-information purposes only, provided as a courtesy. Please do not copy or disseminate any part of this document without including this disclaimer.

Authors: Eric Sheldon, Joshua Karni | [www.exxo.io](http://www.exxo.io)



## ABSTRACT

Blockchain is a comprehensive technology that has the tremendous potential and power to disrupt most industries over the coming years and change radically our perception and roles that business, state, government, economic development and science play in human life.

The fundamental key of a decentralized cryptocurrencies exchange is that cryptocurrencies and assets are not held by any third party. They are directly transferred from one holder to another in a Peer2Peer model. EXXO.co is operated through two main components. The first one is a multi-cryptocurrencies open source wallet. All keys are created locally on user's device and they are never sent to any server. Users control their private keys, can send and receive funds, export wallet, and encrypt the wallet with a password or seed phrase. Developers can develop and add new assets through an open plugins system keeping the wallet lightweight.

The second component is a Tracker hosted on our SecureNetwork. Users will connect to the SecureNetwork through the wallet in order to exchange assets. An application will match the orders broadcasted by the users and check all transactions and order informations to be accurate. Unlike centralized and semi-centralized exchanges, there isn't a wallet acting as a relay. Transactions are processed simultaneously through an order matching engine from one wallet to another. The Tracker on the SecureNetwork will check if the transactions are valid prior to being exchanged. The orders are then matched and transactions broadcasted in their corresponding networks. The Tracker process basic transactions and doesn't hold any private keys or assets nor can it sign transactions resulting in a trustless decentralized exchange using the SecureNetwork to validate all open orders.

## BUSINESS IDEA

Decentralized exchanges are seen as a solution to the problem of centralized exchanges getting hacked, people losing their assets or bad actors stealing funds. In EXXO, we find one more solution to that end, one of many, and this must be noted up front or else you might be confused when you see multiple other decentralized exchanges on the internet. There will be many such exchanges in the future. There will be some just purposeful to trading a certain asset into others. One day a platform will be built, one that will act as a hub to inter-network all of them, making it possible to trade anything anywhere without having any centralized point of failure.

EXXO along with other decentralized exchanges in the market will create true value, due the fact that we're gonna offer faster and more safety trades. Another thing that EXXO brings as a value is that the DEX is running on network and not on a particular server, this thing makes EXXO impossible to shut down.

The EXXO exchange will have a competitive 0.20% fee on every executed order for each user, resulting in a combined 0.40% fee per trade. The most important part of EXXO project is that EXO token holders will be exempt from paying exchange fee. Hold 10000 EXO in your wallet and never pay commission fees when using our exchange. This means that the value of the token is in the hands of EXXO initial adopters. That's an important feature of EXXO, and a definite boost to its safety score.

As a decentralized exchange, the most critical aspect of EXXO's success will be initial user adoption. Offering comparable functionality to existing, centralized cryptocurrency exchanges including basic order execution and sufficient liquidity to reflect realistic market movements will be a strong start and will likely attract a reasonable core of users interested in supporting the novelty of decentralized trading in itself.

Apart from EXXO's attractive token holder loyalty reward scheme, by joining the token sale you will be participating in a very exciting journey in which the worlds of blockchain are merging. The partnership between EXXO and the other blockchain platforms, extended to the general blockchain and cryptocurrency community, opens doors to a multitude of opportunities to innovate and provide for a more decentralized and prosperous world for all.

We have many more plans and goals than just these few, but these are the main features we aim to incorporate before opening EXXO for trading.

## TABLE OF CONTENTS

### INTRODUCTION

- 1.1 What is EXXO?
- 1.2 Overview of the current market exchange situation

### MARKET PROBLEM

- 2.1. The real danger of centralization
- 2.2 The problem of having many digital assets
- 2.3 No market information
- 2.4 Difficulties of Real-time Trading
- 2.5 Asset Security Issues
- 2.6 Failures and unannounced shut downs

### EXXO SOLUTION

- 3.1 Instant and secure exchange
- 3.2 Trustless and Secure
- 3.3 Instant trades
- 3.4 On-chain exchange
- 3.5 Peer-to-peer (P2P)

### STANDARD COMPONENTS

- 4.1. Wallets
- 4.2. The Tracker
- 4.3. Plugins system
- 4.4. API clusters
- 4.5. SecureNetwork

### SMART CONTRACT

- 5.1. Partial Fills
- 5.2. Signature Authentication
- 5.3. Expiration Time
- 5.4. Cancelling Orders
- 5.5. Source code policy
- 5.6. Development flow

### ICO PROCEDURE

- 6.1 User-friendly KYC Process
- 6.2 Pre Sale
- 6.3 Token Sale
- 6.4 Why to invest in EXXO?
- 6.5 Token distribution
- 6.6 Restrictions

## USE OF FUNDS

### 7.1 Details about Use of funds

## TEAM

### 8.1 Core Members

## INTRODUCTION

### 1.1 What is EXXO?

EXXO is a cryptocurrency service exchange for the blockchain era who plans to become a leader of fairness in the new age of the Internet of Money, using blockchain technology. EXXO is an ultra-secure cryptocurrency trading platform with the goal of facilitating the highest volume of trades from most cryptocurrencies on one platform. The first service launched by EXXO is the most secured world zero fee for EXO holders, high-frequency cryptocurrency trading exchange that solves existing problems of cryptocurrency exchanges. Coordinated by a strong team of blockchain experts and software engineers,, we combine a solid corporate structure for best business practices with the flexibility for rapid prototyping and deployment.

### 1.2 Overview of the current market exchange situation

Though a decentralized exchange is a true progress from the centralized exchanges, the real weakness of a decentralized exchange lays in a delay between when an order is created and when it is accepted in a block.

Another problem is that the trade is executed on blockchain, only after the buyer and the seller have agreed on a particular rate. This brings the issue of trusting the intermediate party to find the best buyer for the seller.

## MARKET PROBLEM

### 2.1. The real danger of centralization

EXXO is the future of faster exchanging data securely. As of October 2017 over \$950 Millions are traded on a daily basis. Over 90% of this volume is processed through centralized exchanges. A system that relies on a centralized software to trade and store cryptocurrencies is untrustable and can easily be manipulated.

The Blockchain market is constantly growing and each day more assets are being introduced. The need to convert between different cryptocurrencies is needed every day. Centralized exchanges are vulnerable to manipulation, hacking attacks and fraud.

### 2.2 The problem of having many digital assets

In the last 6 months, we've seen a major increase of ICO's on the market. The result is more and more crypto tokens from investments. At some point an investor may end up having 20 to 30 different tokens in his portfolio. They need to be able to exchange these tokens safe and quickly.

### **2.3 No market information**

Almost all exchanges provide no market information or insights. Go to any centralized exchange and look for information on assets such as Bitcoin, Ethereum, or Ripple and you will find that they probably don't tell you what it is, how the coin or asset works, what makes it popular or where is it being used. You can even visit the asset project website and not find all of that information. We agree that users need to do their own research, but we also think that an exchange should provide information on coins that are trading on the platform and keep that information up to date with latest news. This allows for an informed trading market instead of an impulsive market.

### **2.4 Difficulties of Real-time Trading**

The 24-hour market structure requires investors to think about the daily price changes in their positions through a different conceptual lens than their stock portfolios. Most of the exchanges keep an orderbook and they rely on non real time transactions confirmations. This makes the trade not to be executed in real time.

### **2.5 Asset Security Issues**

We are all familiar with some cases where trading platforms have been hacked and huge deposits of cryptocurrencies have disappeared. Bitfinex lost around 120000 BTC during the hacking, Mt.GOX lost around 650000 BTC in 2014. This hackings have a major impact on investors trust about the cryptocurrencies market.

### **2.6 Failures and unannounced shut downs**

Another problem of decentralized exchanges lays in the infrastructure problem which often hides a lot of bugs. These bugs, some of them still remain not solved, can lead to shutdown of the exchange making traders not to be able to operate. Of course these problems have a major impact over the BTC price. For example, due some technical problems in 2014 on Mt.Gox Platform, BTC price dropped from \$260 to \$110 in one day.

## EXXO SOLUTION

### 3.1 Instant and secure exchange

First of all, EXXO is a decentralized exchange. Unlike most such exchanges, EXXO performs trade requests instantly. Moreover, EXXO does not hold clients' tokens, hence any theft or loss of tokens is anticipated from the start. This contrasts forcefully to most exchanges where confirmation time of a few minutes is typically required. Any glitch during that period could possibly result in inconvenience or in the worst case scenario loss of assets.

### 3.2 Trustless and Secure

EXXO provides zero trading fees for EXO holders to maximize traders' profit and market liquidity. The main problem with Centralized exchanges is that they require their users to trust them with their money. One of the main reasons why a decentralized exchange offers a superior alternative, is the possibility to provide a different solution when it comes to dealing with diverse digital assets and offer a better way to trade all cryptocurrencies. The exchange does not hold the tokens of the users. Hence, from the start, user's tokens are secured from theft losses, the integrity of EXXO being ensured by smart contracts.

### 3.3 Instant trades

An exchange request is executed immediately within a single transaction. This true "real-time" trading experience help users get their exchanged token at the exact moment they transferred their original token. No deposit, confirmation or waiting time is needed. This efficient and user friendly feature distinguishes EXXO from most other existing exchanges as it has the capability to process more than one million orders per second. This feature makes it establishing and making it one of the world's first cryptocurrency exchange capable of high-frequency trading.

### 3.4 On-chain exchange

The exchange runs on blockchain and is reachable for both smart contracts and normal accounts. This allows smart contracts to instantly interact with the exchange without an external third party intervention. This way allows to receive payments from different tokens that they do not support originally. The exchange won't suffer from any limitation as the structure will be hosted on a distributed network using the ability of different decentralized providers.

### **3.5 Peer-to-peer Wallet to Wallet (P2P)**

What makes EXXO unique is the fact that the trading occurs between individual parties directly. Same as in real life when we buy food from supermarket, or things on Amazon. These are private transactions and each one of the parties know ultimately with whom they transact. The assets are stored in each user wallet and not on a 3rd party platform.

## **STANDARD COMPONENTS**

### **4.1 Wallets**

The wallet will be open source and all users will be granted the ability to use, modify, distribute and redistribute the wallet. The most important features implemented are: multisignature addresses, addresses management, account management, assets creation and management, light nodes, staking wallets, multiple languages. These features will be implemented at different stages of project development according to the roadmap.

Each wallet will be unlocked with a unique user ID and a password. Those will be used by the Tracker for order origin and transactions history. The ID will be used to manage the user accounts in the wallet and enable the support for multiple accounts in the same wallet. This ID will never be used to track users. Personal data will never be asked or collected. Account management system will be implemented in the wallet and multisignature addresses will be enabled as well as part of the advance features. All users can create as many addresses as they need. The wallet will support most popular cryptocurrencies by default. This can be supported due to dynamic nature of the wallet through a flavour plugin system. It's also possible to get the transactions history for these tokenized assets.

An updater will be provided with the wallet. It will be used as a base module for the development of the plugins system allowing developers to create integrations in the wallet and allow users to choose which cryptocurrency they want to hold in their wallet. These will provide the users with features they would like to add to the wallet and extend the possibilities of the future integrations and innovations from other projects. The wallet could be used to stake POS coins, as part of the objective to provide an alternative to the usual wallets and strategy to grow the userbase. This feature will be enabled in the later development stages as it requires a lot of setup, a mature code, and an extended test flow.

## 4.2 The Tracker

The Tracker is a SecureNetwork application that will parse the orders sent from the wallets. Each order will contain order information about the user's request: currency trading pair, order type, amount, price, address A, Address B.

**Validation Process:** The first verification made by the Tracker upon the reception of a request is to validate the balance of Address A. If the balance is valid the request turns into an order then it is queued for matching. When an order can be matched with another one, the Tracker sends a payment request with order information. On the wallet side, when the message is received, the balances are checked. If the amounts are sufficient to cover the fees of the transaction and the trade, a raw transaction is created and signed then returns to the Tracker. Once the raw transaction is received, the Tracker will parse it and verify the addresses and the balances validity. If everything is valid, the transactions are broadcasted using its key and the exchange is done.

All transaction hashes and order summaries are sent back to users. Offline trading won't be supported at this stage. This downside won't affect the user experience as long as the exchange process is convenient and can be fulfilled faster than ordinary exchanges through a large active user base. All the functions involved will be secured and automated by SecureNetwork and a smart contract.

## 4.3 Plugins system

This system will be built on top of the updater, which was described previously and will use the same servers and routes. On the wallet side, the users will have access to a menu displaying the plugins. Some plugins can be used directly after downloaded, while others will trigger a wallet reload. The most important part of implementing a plug-in system is to enable a reverting possibility. This will be a mandatory prerequisite to any plug-in. Plug-in categories like cryptocurrency support, prototype feature and flavour plugin are the main ones that will be added. Other types may be added later depending on the needs for them. Cryptocurrency support plug-ins enable integration of new cryptocurrencies into the wallet. Prototype features will be released by the EXXO Team according to the community requests. During the development, the EXXO Team will release alpha features. Users that wants to participate in these test can download them separately. This will provide the EXXO Team with better feedbacks regarding the stability and bugs of each feature. Flavours are wallets with different features than the basic wallet, as an example, a trading flavoured wallet will provide a trading focused user interface with enhanced features like enabled arbitrage with different exchanges. The plugins system open room for third party services and companies to build services within the wallet. An ecosystem can be created that will help acquire users for the wallet and ultimately to the exchange. A payment system can incentivize developers to add productive features to the wallet or help companies create paid products as a plugin.

#### 4.4 API clusters

To present a continuous service without having to send any information to third parties, an API cluster network will be deployed. It is a simple architecture meant to provide different informations to the wallet and ease the integration of tokenized assets and functions from the different cryptocurrencies that may not be available using regular API.

Its advantages are :

- Better response time
- Customized data formatting
- Usage of advanced functions
- Support for all cryptocurrencies
- Doesn't require to send high level informations
- Availability guaranteed with API failover

What is a Cluster ? An API Cluster is the regroupement of different servers, each one dedicated to a single usage. As an example, if EXXO were to use this system at the release of the Demo, a typical cluster would consist of :

- 1 server for bitcoin blockchain
- 1 server for Ethereum blockchain
- 1 server for Ripple ledger
- 1 Processing server

#### 4.5 SecureNetwork

The SecureNetwork intents to provide distributed computing in a secure environment by splitting the informations and contents into encrypted chunks and storing them in the network. Due to the nature of the Tracker, it will use SecureNetwork because of the advantages provided and decentralized nature of the network.

Why use the SecureNetwork instead of a Smart Contract? Smart contracts and SecureNetwork are two different elements. When it comes to creating an autonomous organizations, Smart Contracts are ideal as the code is saved in the blockchain and can be run remotely. The problem is low amount of data that can be stored in the blockchain, even if some blockchains provides more storage than others. Regarding the SecureNetwork, this is a distributed file storage system and a distributed computing system that provides resources to the applications and projects built for it. This environment is more suitable for the Tracker as it's size and resources consumption will definitely grow over time. The other advantage is that it respects the decentralized requirements as the data will be securely stored within the network.

## SMART CONTRACT

### 5.1 Partial Fills

Partial fills occur when there is not enough volume to close a trade due to low liquidity. Each time an order is filled, the mapping stores the order hash and the cumulative value filled. The exchange smart contract stores a reference to each previously filled order to avoid a single order from being filled multiple times. Also, multiple partial fills may be executed on a single order as long as the sum of the partial fills does not exceed the total value of the order.

### 5.2 Signature Authentication

The exchange smart contract is able to authenticate the order originator's signature using a function, which takes a hash and a signature of the hash as arguments and returns the public key that produced the signature. If the public key returned is equal to the maker address, the signature is valid.

### 5.3 Expiration Time

An order's expiration time is declared by the Maker when the order is signed and this value cannot be changed once it has been submitted. The expiration state of an order does not depend of the time when a Taker fill an order, instead it depends of the time when the fill function is being executed by a miner, which can vary from blockchain to blockchain. As a result, a miner cannot set the block timestamp of the current block to be earlier than the timestamp of the previous block.

### 5.4 Cancelling Orders

Any order that has already been sent to a Taker but not yet filled nor expired can be cancelled by it's author via the exchange smart contract's cancel function. The cancel function assign an order's hash to the order's maximum value, preventing successive fills. Cancelling an order costs gas and is only intended to serve as a fallback mechanism.

### 5.5 Source code policy

The plugin and wallet codes will be open source, users will be granted the ability to use, modify, distribute and redistribute the wallet. We use a simple tar-like format that concatenates several files into a single file to avoid wrong manipulation of the wallet's source. Users who wishes to amend the code, or read it can find guides on how to open an ASAR archive. The Tracker code will be closed source until a proper version is available for public

## 5.6 Development flow

The progress of each modules will happen simultaneously, as each module has to be adapted to each other. EXXO wallet updates will be released on a monthly basis with accurate release notes. As there will be a plug-in system, it is better to fix the release dates for the wallet to have enough time to proceed to the required test prior to any public release.

## ICO PROCEDURE

### 6.1 Token details:

Token name: EXXO TOKEN

Symbol: EXXO

Protocol: ERC20

Decimal number: 18

Legal qualification: Utility Token

Currency accepted during ICO: ETH

Tokens (EXO) issued: 125.000.000

Hard cap: 19.000 ETH

Soft cap: 15.000 ETH

Accepted currencies: ETH

### 6.1 User-friendly KYC Process

EXXO will enforce KYC processes to comply with AML laws by providing user-friendly identity authentication services. The process usually be completed and approved within 24 -48 hours of customer submission.

### 6.2 Pre Sale

Presale Whitelisting will start on 1st of February 2018 and will end on 15 February 2018. Presale starts on 15 February 2018 and will continue for 4 weeks until 15 March 2018. Maximum target figures for attracted funds during the presale 5000 ETH. EXO tokens can be purchased only with Ethereum (ETH).

**10-100 ETH = 15% bonus**

**101 ETH - 500 ETH = 20% bonus**

**>501 ETH = 35% bonus (maximum bonus available)**

### 6.3 Token Sale

The ICO's start is scheduled for 20th of March, 2018 and is and continues for 8 weeks until 15th of May 2018.

## 6.4 Why to invest in EXXO?

We have good news: Exemption from paying exchange fees. There is a way for not paying commissions when trading on EXXO.io All users which at the moment of a trade will hold at least 10000 EXO in their wallet are exempt for paying fees. This means that the value of the token is in the hands of EXXO initial adopters. Isn't this a good way to reward our investors?

## 6.5 Token distribution

19% — Team

6% — Marketing and Bounty for EXXO community

30% — Pre Sale

45% — Token Sale ( ICO )



Any tokens that will not be distributed during the funding period will be later on distributed to the contributors proportionally to the amount contributed during the funding period

## 6.6 Restrictions

Currently, the EXO token sale is NOT available to residents of the United States, China and Singapore due to local regulation. Although, after ICO ends, everybody can buy EXO from exchanges. Please refer to the Terms & Conditions to see restrictions on the Pre-Sale and Token Sale.

## USE OF FUNDS

### 7.1 Details about Use of funds

New ICOs are appearing almost every day, which can either be great for innovation or end up causing more problems than what they're promising to solve. We have been following many ICO projects and have noticed there are a lot of good projects, as well as a lot of near impossible projects. Almost all ideas, however, set out to raise way too much capital with their ICO and then leave their investors wondering what the raised funds are being spent on. It's also widely speculated that most ICOs will fail to launch because their projects are either technically impossible, run by inexperienced leaders, and/or funds get wasted on worthless expenses.

Funds raised during the funding period will be used solely for the development and benefit of the EXXO Ecosystem.

## TEAM

### 8.1 CEO & Founder - Sheldon Eric

Chris's background includes extensive experience in the financial sector, working with Deloitte Consulting. I believe "EXXO is more than just a simple exchange solution. It's a complex platform that evolves in order to constantly improve the lives and business flow of its users". He has been involved in blockchain technologies since late 2015.

### 8.2 Co-Founder & CTO - Karni Joshua

Huge experienced in backend and frontend development, Joshua has over 8 years experience as a senior frontend developer at Wix.com. His main contribution on EXXO's project are backend codebase ( smart contracts ) and optimizing consensus implementation to be faster and more accurate.

## TEAM

### 8.1 CEO & Founder - Sheldon Christopher Eric

Eric's background includes extensive experience in the financial sector, working with Deloitte Consulting. I believe "EXXO is more than just a simple exchange solution. It's a complex platform that evolves in order to constantly improve the lives and business flow of its users". He has been involved in blockchain technologies since late 2015.

### 8.2 Co-Founder & CTO - Karni Joshua

Huge experienced in backend and frontend development, Joshua has over 8 years experience as a senior frontend developer at Wix.com. His main contribution on EXXO's project are backend codebase ( smart contracts ) and optimizing consensus implementation to be faster and more accurate.

### 8.3 BLOCKCHAIN SENIOR DEV - Craig Michael

Michael was a Software Quality Assurance Engineer at Google. He discovered Bitcoin and Blockchain in 2015 as being obsessed with the new technology.

### 8.4 Senior Programmer - Klarman Jay

With deep understanding of crowdfunding and blockchain technology, Jay concentrates on creation of convenient and multifunctional products. His main interests in this project are SecureNetwork and The Validator. Jay has been involved with Bitcoin since 2010 but did not seriously commit to the development until 2014 when he started to study the blockchain technology.

## DISCLAIMER

This document is for informational purposes only and does not constitute an offer or solicitation to sell shares or securities in EXXO or any related or associated company with EXXO. Any offer or solicitation will be made only by means of a confidential offering memorandum and in full accordance with the terms and conditions of all applicable securities and other laws existing at the moment.