



ripaex



## WHITEPAPER

[www.ripaex.io](http://www.ripaex.io)

[info@ripaex.io](mailto:info@ripaex.io)

*crypto  
asset  
marketplace*

Copyright © 2018 Ripa Founder Team

PUBLISHED BY RIPA FOUNDER TEAM

WWW.RIPAEX.IO

Licensed under the MIT License (the “License”). You may not use this file except in compliance with the License. You may obtain a copy of the License at <https://opensource.org/licenses/MIT>. Unless required by applicable law or agreed to in writing, software distributed under the License is distributed on an “AS IS” BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. See the License for the specific language governing permissions and limitations under the License.

*First printing, March 2018 - version 1.0*

*RipaEx VAT 04927110264 - Treviso (TV) - Italy*

# 1. Abstract

**Ripa Exchange is a hybrid-decentralized exchange with a strong focus on lowering the entry level of opening new exchanges and giving crypto traders safe and secure trading partners to operate on a daily basis.**

The team of RipaEx believes that, despite the recent developments in the world of cryptocurrencies, it is still expensive to open, manage and build trust on a newly created exchange not only for the resources need to run a reliable exchange platform but also for the build of the platform itself and to find the liquidity necessary to run a profitable business in the first 5 years gap.

Action is needed and action is needed now. Users are frustrated with unreliable exchanges that run away with their funds, got hacked or does not sustain the load of a growing industry of today. Despite the effort of exchanges managers to offer efficient, reliable, and easy to use platforms to trade entry prices for building such platforms is in the rage of 250-300 thousand euro and that does not include personnel cost to give platinum customer support, platform infrastructure and daily expenses for the business. All of that for then having an decent exchange platform for which you will need to pay an external software company to make changes as you request.

It is the aim of this project to give you an Open Source, efficient, reliable exchange platform and to give the needed liquidity<sup>1</sup> to your newly created exchange from day **one** so you can focus on finding your customers, give platinum support and comply with all the heterogeneous laws in the industry. As we want that the customer experience will be the sleekest possible, while making it safer to trade.

---

<sup>1</sup>Thank you to the RLSP (Ripa Liquidity Service Provider) technology





# Table of Contents

<b>1</b>	<b>Abstract</b>	<b>3</b>
	<b>Table of Contents</b>	<b>6</b>
<b>2</b>	<b>Introduction</b>	<b>7</b>
2.1	Key Terminology	8
2.2	Roadmap	8
2.3	RipaEx Partners - RipaEx Governance	9
2.3.1	RipaEx Governance	10
2.4	Project Summary	10
<b>3</b>	<b>The Ripa Exchange</b>	<b>15</b>
3.1	Mission	15
3.2	Features	15
3.3	Functional Analysis	16
3.4	Technology Stack	16
3.5	User Interface	16
3.5.1	End-User Interface	17
3.5.2	Admin Interface	18
3.6	Features at Launch	19
3.6.1	Future Features	20
3.7	Towards a Decentralized Exchange...	20
<b>4</b>	<b>The Ripa Blockchain</b>	<b>21</b>
4.1	Delegated Proof of Stake Technology	21
4.2	Hierarchical Deterministic (HD) Wallets (BIP32)	23
4.3	Fees	23
4.4	Ripa Delegates and Delegate Voting	23
4.5	Connecting Blockchains	23
4.5.1	ARK Bridged Blockchains (SmartBridge Technology)	23
4.5.2	A.C.E.S. - ARK Contract Execution Service	24

4.6	Ripa Liquidity Service Provider (R.L.S.P) .....	25
4.7	Ripa Community Fund .....	25
<b>5</b>	<b>Token Sale .....</b>	<b>27</b>
5.1	Introduction .....	27
5.1.1	Exchange Rate & Accepted Cryptocurrencies	27
5.1.2	Bonus for Investors and for new Users	27
5.2	How to Invest .....	27
5.2.1	XPX Ripa Token PreSale	27
5.2.2	RIPA TEC	28
5.3	XPX Ripa Token Distribution .....	28
5.4	Division of Funds .....	29
<b>6</b>	<b>Business Model .....</b>	<b>31</b>
6.1	Project Milestones .....	31
6.2	Market Overview .....	31
6.2.1	Cryptocurrency Market Size and Technology	31
6.2.2	Types of Cryptocurrencies	32
6.2.3	Investing in Cryptocurrencies	33
6.2.4	Outstanding Issues	34
6.3	Local Market Analysis and 5 Years Projection .....	35
6.4	XPX Token Economics .....	35
<b>7</b>	<b>Team &amp; Conclusion .....</b>	<b>37</b>
7.1	Team .....	37
7.2	Recommendations .....	38
7.3	Social .....	39
<b>8</b>	<b>LEGAL .....</b>	<b>41</b>
8.1	PREMISE .....	41
8.2	STATUTE OF LIABILITY .....	41
8.3	IMPORTANT INFORMATION .....	41
	<b>References .....</b>	<b>45</b>



## 2. Introduction

The industry of virtual currencies has a high bar to entry from a technical point of view for the average user and a high bar to entry from an economical point of view for the average entrepreneur for buying a reliable crypto exchange source code, hiring professional DevOps personnel, hiring customer support specialists, complying with national and international AML/KYC regulations and having liquidity from day one of the exchange start of operations. We want to lower this barrier because to entry this industry because **running an exchange is HARD** and we want you to focus on things that matter, not on the caveats that the industry requires because you want to start a business in this industry and you need the source code to do it.

To addition to this point, starting an exchange requires a high level of investment form your venture capital reference and the profit of your exchanges operations are not guaranteed in the first 5 years.

When building a professional exchange service we think that the source code of your exchange and the liquidity to offer to your clients from day one should be given to you free of charge: no more paying €150,000.00 to a company just to have a platform that works and for which you need to pay another €100,000.00 - 150,000.00 just to brand it and customize it for your needs so you can tie your business to a company that may go bankrupt in the future and found you in trouble as you never had the source code of the product your business relies on.

We believe that all of this should be free and we should offer you the best technology in the market so you can focus on your business while we focus on building the technology to run your business in an efficient, secure, responsive and productive way. That is why RipaEx is focusing on building a network of exchanges focusing on an exchange architecture that is *efficient, secure, UI responsive, compliant and customizable* so each exchange in the network can rely on solid foundations while customizing its single exchange instance for the needs of the business entity and having its customization easily accessible to you.

For reaching that goal, we chosen to build our Ripa Liquidity Service Provider technology on top of ARK - a blockchain for consumer adoption - which primary focus is increasing consumer adoption for blockchain technologies focusing on two critical areas: A Fast Secure Core Technology and Practical Services for Real People. ARK ecosystem is still at its early stage of development: in future implementations there will be the possibility to run smart contracts natively on the ARK 2.0 blockchain, this will permits this blockchain technology to compete with Ethereum from a technological point of view. RLSP will permits to share the same liquidity-orderbook to each exchange in the Ripa Network based on single exchange installation privacy rules and preferences in the admin area of your individual exchange instance.

The Ripa Founder Team (RFT), as presented on ripaex.io, acts in the name of the Ripa Crew. The RFT is responsible for the proper use of funds collected under the Token Exchange Campaign (RIPA - TEC) presented below in this document.

The RFT undertakes that the result of this TEC will be used exclusively for the financing of the

*RipaEx* project as explained in this whitepaper - which will be made available on the collection platform: tec.ripaex.io - and which should result in the creation of a legal entity whose name will be *RipaEx*. The creation of this company is scheduled for the first quarter of 2019.

To this end, RFT intervenes on behalf of *RipaEx*, a company in the process of being incorporated.

## 2.1 Key Terminology

- RIPA EXCHANGE:** a FIAT ⇔ CRYPTO exchange (a cryptocurrency exchange) based on the source code of Peatio [28]
- RIPA BLOCKCHAIN:** a DPOS blockchain in which liquidity is shared for all the exchanges in the Ripa network
- RIPA TOKEN - XPX:** a cryptographically secure token exchanged on the Ripa blockchain based on the DPOS protocol
- RIPA:** the DPOS financial ecosystem composed of Ripa Exchange and Ripa Blockchain
- RIPAEX:** the name of the project, project website and hosted domain
- RLSP:** Ripa Liquidity Service Provider, a shared orderbook to exchange orders and liquidity between exchanges in the same Ripa network
- RIPAEX ICO:** the name of fixed exchange rate token exchange period composed of both the phases of PreSale and RIPA TEC
- ARK:** a platform for consumer adoption of blockchain technologies [10]
- ACES:** Ark Contract Execution Services [9] provides simple protocols and tools for building a robust blockchain service marketplace based on the ARK SmartBridge technology
- “,” OR “.”:** The Anglo-Saxon use of decimal points and commas to represent numbers has been chosen for the purposes of this document: that is to say that a “.” represents a decimal point, and a “,” distinguishes between multiples of thousands, millions and billions.

## 2.2 Roadmap

There are essentially four phases to the RipaEx project:

### FUNDING THE PROJECT: XPX PRESALE AND RIPA TEC (WP2)

This phase recognizes the existence of interest in this market development from across the World concerning the lowering of the entry level for building a cryptocurrency exchange. It aims to make the first comprehensive analysis of this state of the art to form the basis of the later project phases and build the first working prototype of a centralized exchange based on Peatio.

PHASE ENDING JANUARY 2019.



**FIRST EXCHANGE OPENING AND DEVELOPMENT OF TOOLS AND RESOURCES  
(WP3)**

The second phase takes the results of the first and develops from them a set of tools and resources which provide concise and comprehensible guidance to market actors in any Country. With the first instance of Ripa Exchange running we can make first contact with other economical players in the industry.

**PHASE ENDING JUNE 2019.**

**DISSEMINATION (WP 7/8) AND PROJECT COORDINATION (WP1)**

During the full duration of the project, dissemination activities (WP 7/8) are carried out in which results from the individual work packages are disseminated to relevant target groups including project partners, RipaEx investors, exchanges managers, banking partners as well as relevant target groups. This phase covers a wide range of dissemination techniques, from printed and electronic handbooks to workshops and training sessions, hackatons, ongoing networks, all having the ultimate goal of defining a standard for exchange communication among public and private entities. An overarching work package is concerned with the management of the project from start to finish, ensuring proper coordination, quality assurance and budgetary control (WP1).

**DEVELOPMENT OF HYBRID-DECENTRALIZED EXCHANGE (WP 4-6)**

Using the tools and resources developed in WP3, Work packages 4-6 focus on bringing collected knowledge and tools into practice. The three work packages reflect three major focal points (and target groups) within the network of exchanges created for establishing successful demonstrations on a local scale: incorporations of local Ripa Exchanges (WP4), technical analysis for the Ripa Liquidity Service Provider (WP5), and first MVP of the hybrid decentralized exchange (WP6). The demonstration phase forms the heart of the RipaEx action; WP 2 and 3 are focused on providing deliverables (e.g. tools) that enable successful and efficient demonstration activities.

**PHASE ENDING JANUARY 2021.**

## 2.3 RipaEx Partners - RipaEx Governance

Most of the partners are entrepreneurs in the virtual currency industry, but a research institute and Financial Organizations are also represented. The partners are:

- **Coordinator:** RipaEx SCIC
- **CoBeneficiaries:** Ripa Exchange Ltd

TODO: Add Ripa partners here

### 2.3.1 RipaEx Governance

Creation of a new Ripa Exchange in the Ripa network, release of RCF funds for the creation of new exchanges will be decided with a majority voting system among all the delegates of the Ripa network. The customization of the individual exchange instance, otherwise, will be decided exclusively from the company that manages that single exchange instance.

The RipaEx project will be incorporated as a collective interest company for profit as soon as the Ripa Blockchain will be stable, instead the company Ripa Exchange Ltd will manage the first individual crypto asset marketplace instance that will be opened to public in the first quarter of 2019.

## 2.4 Project Summary

1. **WHAT:** RipaEx is a project to facilitate the uptake of standards to share liquidity between crypto assets marketplaces. The objective of RipaEx is the promotion of shared source code for wallets and exchanges in the virtual currency industry: it is the aim of this reference document to give in-depth information to prospective exchange developers, or exchange managers, to enable correct decision-making and to ensure success for their proposed projects. It seeks to analyze the real potential in the Country of application for a network of cryptocurrency exchanges, and its place in the market.
2. **WHAT:** crypto assets are an alternative to centralized assets managed by (country-specific) stock exchanges. Although certain stock exchanges gives the possibility to their users to verify and manage the assets they own, the verification process is not always transparent, that is the reason because from 2009 [23] onwards a new types of (community-verifiable) assets have been implemented to give small, medium and big investors complete transparency in the managing of their investments assets.
3. **WHEN:** recent developments at European Union level and worldwide are transforming both how virtual currencies are treated and the way ICO (Initial Coin Offering) are legislated. These combined developments have made the use and production of virtual currencies an increasingly favorable prospect.

In October 2015 the European Court of Justice ruled that bitcoin and other cryptocurrencies are exempt from VAT taxation.

In July 2016 the European Commission adopted proposals for legislation to amend the 4th Anti-Money Laundering Directive (4AMLD) that will bring virtual currencies exchanged and wallet providers into the EU's anti-money laundering framework [15].

In February 2018 the European Commission launched the EU Blockchain Observatory and Forum [7] to highlight key developments in blockchain technology, promote European actors and reinforce European engagement with multiple stakeholders involved in blockchain activities.

4. **WHY:** however there is still very little regulation performed on ICOs and only United States of America at the moment has undergone a legislation defining ICO tokens as securities and property. [27]
5. **WHO:** the results indicate that medium tech savvy from 18 to 45 is the average user of virtual currencies although the corporate finance companies are also starting to put virtual currencies schemes inside their portfolio especially since the presentation of the Bitcoin futures contract from CME Group Inc. in the stock exchange of Chicago last 18th of December 2017.
6. **HOW MUCH:** total virtual currencies market capitalization has been estimated around 317 B USD<sup>1</sup> and is predicted to grow to 5,000 B USD in the next ten years span [24].

---

<sup>1</sup>Coinmarketcap data April 2018

7. **WHERE:** local authorities are working with National Governments to make sure local exchangers in the national territory are complying with national and international AML/KYC regulations. Venture capitals and Angel Investors are starting to release financing solutions to start-ups in the Fintech industry all over the world from America to Asia passing through Europe and some Countries are starting state-owned cryptocurrencies schemes to test the exchange of goods & services on those (distributed ledger) technologies [36].
8. **HOW MUCH:** the average cost for starting your own crypto asset marketplace is around €150,000.00 only for a running instance of your exchange platform: to that you need to add costs to customize the platform before launch and in the future, advertise your new business, running costs for servers, network operators, support center staff and legal department to comply with your State AML/KYC legislations and general company laws.
9. **HOW:** the main problems encountered in opening a FIAT  $\Leftrightarrow$  CRYPTO marketplace is to find trusted banking partners to comply with the many different AML/KYC rule and procedures to exchange virtual currencies to FIAT currencies.
10. **WHAT:** classical types of exchange operations are:
  - **one-way exchange:** in which a centralized application has all the liquidity to offer to its potential users
  - **two-way exchange:** in which a centralized or decentralized platform matches the selling requests with the buying requests of its users

On this, a sub-classification is also necessary:

- **FIAT  $\Leftrightarrow$  CRYPTO exchange:** in which exchange operations are performed between FIAT<sup>2</sup> currencies and virtual currencies
- **CRYPTO  $\Leftrightarrow$  CRYPTO exchange:** in which exchange operations are performed only between virtual currencies

You can build a matrix based on the four configurations above to build the exchange operation platform of your needs.

	one-way	two-way
FIAT $\Leftrightarrow$ CRYPTO	fast application to buy cryptocurrency	exchange with banking partnership
CRYPTO $\Leftrightarrow$ CRYPTO	fast application to buy cryptocurrency	exchange without banking partnership

11. **WITH WHAT:** the specifications to look when choosing for an exchange platform to run are:
  - 11.1. **Code:** Open Source, Closed Source or hybrid solution between the two
  - 11.2. **Modularization:** separation between exchange engine (orders matching engine), UI and user registry
  - 11.3. **UI responsiveness:** responsiveness of UI on all devices (desktop and mobile)
  - 11.4. **Compliance:** with current industry standards and rules & regulations
  - 11.5. **Customization:** of the exchange engine, trading currencies, UI and other aspects of

<sup>2</sup>Traditional central banks owned currencies like EUR, USD, GBP, JPY, others...

- the crypto asset marketplace platform
- 11.6. **Security** of the funds: saving in cold wallets and hot wallets configurable
  - 11.7. **Transparency** of the funds: proof of solvency of the exchange
  - 11.8. **Multi-Accounts trading**: easy to configure new virtual currency protocols
  - 11.9. **Multi-Accounts users**: possibility to interact with user accounts from Google, Facebook, Twitter to login into the platform and FIDO Alliance security standards for personal credentials

**Those are not only technical decisions to be made but also economical** especially the owning of the source code of your crypto asset marketplace platform is fundamental to make future customization of your exchange in an independent way compared to rely on a single software house that makes the customizations for you at a high cost.

12. **HOW**: options for finding users for your exchange operations are: targeted marketing campaigns, innovative features in the industry, fee level based on trading quantities, bonuses for first registration and trading quantities, affiliate marketing for paying users to bring their friends to your exchange.
13. **HOW**: for setting-up a crypto asset marketplace a project must take into account the following legislation:
  - **AML/KYC**: *Fourth Anti-Money Laundering Directive* if business set up in the European Union [6] or the AML/KYC reference implementation to your crypto asset marketplace Country of incorporation (as an example *Intelligence Reform & Terrorism Prevention Act of 2004* written by FinCEN in the United States of America). International recommendations for undergoing AML/CFT verifications are given by the Financial Action Task Force on Money Laundering [22].
  - **Payment Licence**: by far the biggest and most arduous task with regards to legitimising the FIAT ⇔ CRYPTO exchange operations is obtaining a *PSD Licence* [8]. The PSD license follows Council Directive 2007/64/EC and is applied in each country via its own national laws. Costs of an PSD license can vary between hundred thousand euro to one order of magnitude greater depending on the exchange volume.
14. **WHO**: the nature of the business under consideration by the RipaEx project (small scale, localized FIAT ⇔ CRYPTO exchanges operations), means that each enterprise likely to have 7 or 8 staff: N.2 developers, N.1 network/security operator, N.1 administrative, N.2 client support operators, N.1 legal and tax advisor.  
The turnover of such an enterprise however, because of the high value of the end product, is likely to be more than €350,000 a year and could be several times higher. A business of this scale lends itself to the following possible company structures: A simple partnership; A limited company; A non-profit company or social enterprise; A worker co-operative. Financial Agencies are potential key actors, but the type of business they can set up will depend on their legal status which does vary from country to country.
15. **HOW**: potential sources of funds for a small-medium sized crypto asset marketplaces are: Bank Loans; Low Interest Loan Schemes; Commercial Credit; Equity financing; Business Angels venture capital. Having a robust Business Plan and financial guarantees are essential elements for securing funding. The European Investment Fund (EIF) of the European Investment Bank (EIB), offers support in the form of guarantees for SMEs.
16. **WHY**: the arguments for crypto asset marketplaces are for financial freedom, decentralizing of the value-transferring operations, and real ownership of your money. There are other benefits, well documented, such as faster payments, long term gain based on deflationary economy and prediction of Great Depressions like the one that hit the global economy in 2008. But above all, virtual currencies are the only direct competitor to centralized value-transferring operations done by central banks.

17. **WHY:** there is consensus in the literature that the use of virtual currencies in place of fiat currencies will result in higher financial freedom especially as they fit into the Austrian school of economy [18] for lots of economic experts [19], although bitcoin is it better used as means of payment and is lacking the stability to be a healthy reserve of value.
18. **WHY:** benefits of virtual currencies schemes like bitcoin are in a deflationary economy, in limited emission of money, in near instant and without border value transfer operations, in relative anonymity and in the separation between the entities that produce the money (miners) from the entities that code the economic theory behind it (developers).
19. **HOW:** securing assets on the blockchains means basically performing three operations
  - 19.1. **Generating a random private key**
  - 19.2. **Converting the private key generated in (1) into a public key:** a common protocol making this conversion in the virtual currencies industry is the ECDSA curve algorithm
  - 19.3. **Converting the public key generated in (2) into a virtual currency address:** common protocols for making this conversion are hash functions SHA-256, Base58 encoding, Base32 encoding

At this point any value sent to the virtual currency address generated in (3) is secured on the blockchain of choice and accessible only from the owner of the relative private key generated in (1).

20. **WHERE:** the two critical factors affecting the cryptocurrency industry are competition from banks and State legislation (bans, etc). Although a harmonization throughout Europe would be beneficial to development of the industry both in terms of taxation and warranty approvals, this is currently not the case. Each country worldwide has its specific legislation and tax regime for all exchanges operations involving FIAT money, and State banning is going to completely liberalization of this activities like European Union to complete banning and imprisonment of operators in this industry like Bangladesh [37].
21. **WHERE:** the Asiatic countries of South Korea, China and Japan are the leader in the field of cryptocurrencies for number of transactions for over 9 years with a proactive approach and favorable tax regime. At the beginning of 2017 in Japan bitcoin has been declared legal tender but China has recently declared illegal token sale and exchanges and local cryptocurrencies marketplaces are closing down.
22. **WHERE:** any assessment of your local market should include: number of potential users to reach, type of exchange to incorporate (FIAT  $\Leftrightarrow$  CRYPTO or CRYPTO  $\Leftrightarrow$  CRYPTO), type of virtual currencies protocol to integrate (POW, DPOS, Masternodes, others...), types of services to offer (exchange only, advanced trading tools, payment processor, others...), if FIAT  $\Leftrightarrow$  CRYPTO exchange number of FIAT payments processors to accept (PayPal, OKPay, MoneyPolo, others...), number of others exchanges in your region.
23. **WHO:** there are a number of options for dealing with Warranty/Customer protection issues: creating consumer pressure by making clear to the end users that the possession of the private keys of their virtual currency addresses make **liable** for any loss of the private keys meaning nobody can help them recovering their funds if the their private keys are lost. Creating consumer pressure to not leave funds on exchanges (“*Be Your own Bank!!*”), making them choose the licensed exchanges in the market.
24. **WHO:** while it is very expensive to insure money exchanges operations and money transmitting operations, examples of customer protections in the industry are: Kraken platform which is offering Mt. Gox users partial refund of their lost, BitFinex exchange has launched the BFX token to repay users for the lost of 120,000 bitcoin (valued \$72,000,000 at the time of the hacking) caused by the change in the wallet configuration done by the exchange itself, Ethereum did a network fork on the block height 1,920,000 to stop the lost of ETH funds from The DAO, Decentralized Autonomous Organization that had a bug that permits users to

claim their ETH back using recurrency in The DAO codebase, other hacking cases...

25. **RECOMMENDATIONS FOR ALL/LAW COMPLIANCE:** if you intend to incorporate a FIAT ⇔ CRYPTO exchange you should focus from the first instance on law compliance by studying the AML/KYC laws of the country of incorporation and finding bank partners to work with. Local financial Authority can help to comply with rules & regulations and local cryptocurrencies foundations can help you to tune your exchanges operations to perform targeted operations based on the customers interests in the country of incorporation promoting cryptocurrency-friendly users in the area of interest.



### 3. The Ripa Exchange

Ripa Exchange is an crypto asset (fiat money or cryptocurrency or something) marketplace, following the latest industry standards and resting in the principles of “*open source, secure and efficient*”. Ripa Exchange aims to serve a platform for crypto-currency enthusiasts by providing a safe, secure, UI responsive, customizable and easy to use exchange that embraces open source principles and public trust.

Ripa Exchange is implemented with the Rails framework and other cutting-edge technology and will be migrated to an hybrid-decentralized exchange where all exchanges in the Ripa network will share liquidity thanks to RLSP technology.

#### 3.1 Mission

*“Our mission is to build the world best open source crypto asset marketplace with a high performance trading engine and safety which can be trusted and enjoyed by users. Additionally we want to move the crypto currency exchange technology forward by providing support and add new features. We are helping people to build easy their own exchange around the world.”*

Help is greatly appreciated, feel free to submit pull-requests or open issues in our GitHub repositories.

#### 3.2 Features

A free, transparent and internationalized open source crypto currency exchange.

OPEN SOURCE 	COMPLIANT 	TRANSPARENT & CONFIGURABLE 
<p>All source code are fully released under the terms of the MIT License.</p> <p>Ripa Exchange is a customizable cryptocurrency exchange solution architecture enables easy connection to KYC/AML, authentication, ETL/reporting, and other services.</p>	<p>International KYC/AML standards.</p> <p>Ripa Exchange KYC efficiently submits and exchanges KYC information to meet the banking supervisory standards and comply with Customer Due Diligence (CDD) requirements.</p>	<p>Customize in your own way</p> <p>Major functions have been embedded in the source code – neat registration and log-in interface, personalized deposit and withdraw procedure, best match of bid and ask, etc. These functions are comprehensive and are ready to use with no extra work needed.</p>

<b>INTERNATIONALIZATION</b> 	<b>PROOF OF SOLVENCY</b> 	<b>MULTI-ACCOUNTS TRADING</b> 
All users are able to view Ripa Exchange in a language to their best convenience.  Supporting many common languages, Ripa Exchange makes it easy for users to operate in their mother tongue. You are encouraged to contribute to our language variety. Users will benefit from your efforts.	Easy deployable PoS.  Ripa Exchange Proof of Solvency (PoS) allows users to verify the solvency of the Ripa Exchange based cryptocurrency exchange without compromising user privacy.	Easy currency configuration.  Ripa Exchange allows to create multiple accounts and trading in multiple currencies. Ripa Exchange makes it is easy to trade different currencies.
<b>MULTI-ACCOUNTS USERS</b> 	<b>ENTERPRISE EXCHANGE</b> 	<b>FUNCTIONAL &amp; INTUITIVE</b> 
Easy account configuration.  Ripa Exchange allows to create multiple login accounts Google, Facebook, Twitter and FIDO Alliance login standards to secure your account.	Start small, grow big.  Ripa Exchange enterprise exchange features include a high-performance matching engine, scalable distributed worker threads, and SMS 2-factor authentication.	For the new trader, for the experienced trader.  Clean, user friendly registration and login interface. Personalized deposit and withdraw procedure and a built-in proof-of-solvency audit.
more details	more details	more details

### 3.3 Functional Analysis

- more details
1. WHY REDIS-RABBITMQ IS NEEDED:
  2. WHY NODEJS:
  3. WHY PUSHER:
  4. ER MYSQL:
  5. RUBY FOLDERS HIERARCHY:

### 3.4 Technology Stack

- more details
- RUBY ON RAILS:
  - MYSQL:
  - REDIS:
  - RABBITMQ:
  - NODEJS:
  - PUSHER:

### 3.5 User Interface

Ripa Exchange user interface is based on Peatio user interface a UI responsive user interface built in Ruby on Rails and completely separated from the exchange order engine. Design for a customised UI are in place to offer to Ripa Exchange users the best experience on all devices: here you can find some screenshots of the current exchange interface design.

### 3.5.1 End-User Interface

Following some screenshot of the end-user Ripa Exchange-Peatio interface: those screenshots are a work in progress and they may not represents the user interface of the final product

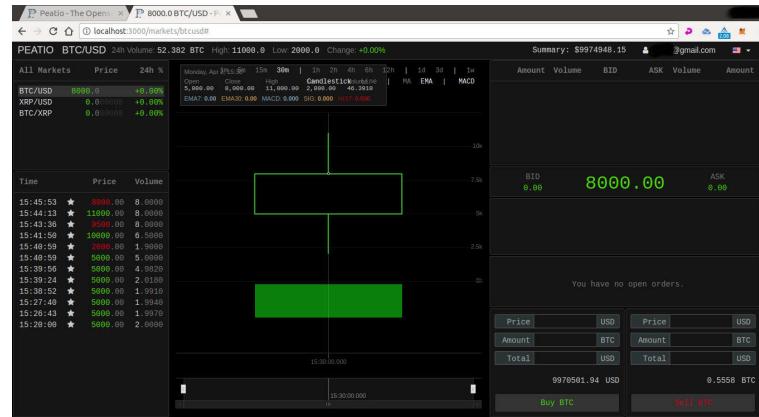


Figure 3.1: Ripa Exchange trading UI

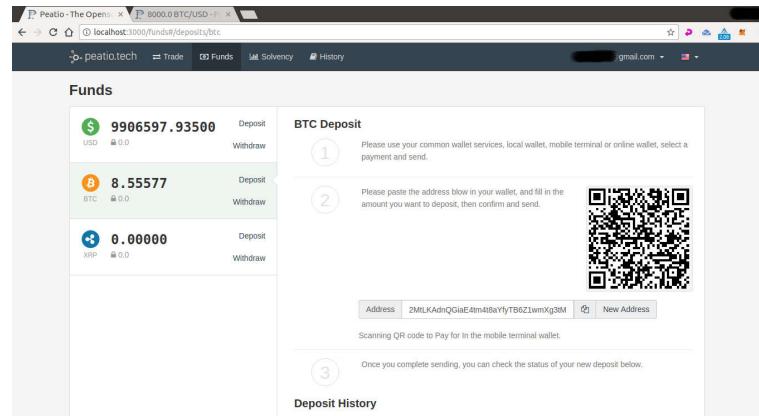


Figure 3.2: Ripa Exchange deposit/withdraw

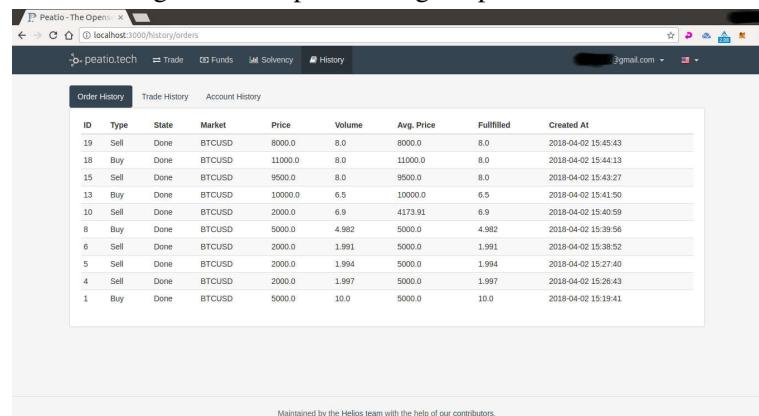


Figure 3.3: Ripa Exchange order history



Figure 3.4: Ripa Exchange solvency screen

### 3.5.2 Admin Interface

Following some screenshot of the administrative console of Ripa Exchange-Peatio interface: **those screenshots are a work in progress and they may not represent the user interface of the final product**

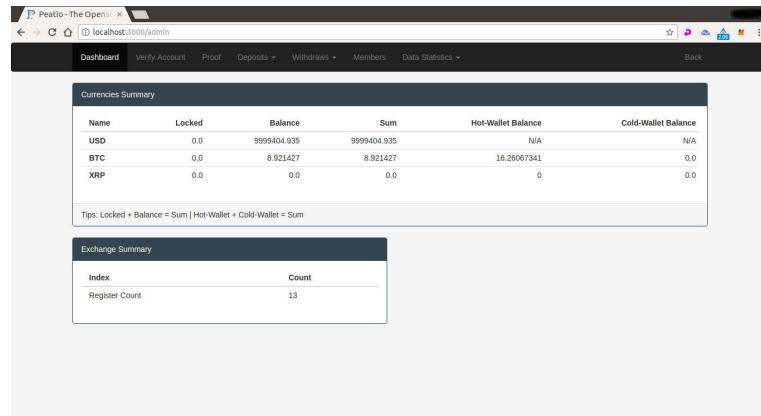


Figure 3.5: Ripa Exchange Admin console dashboard

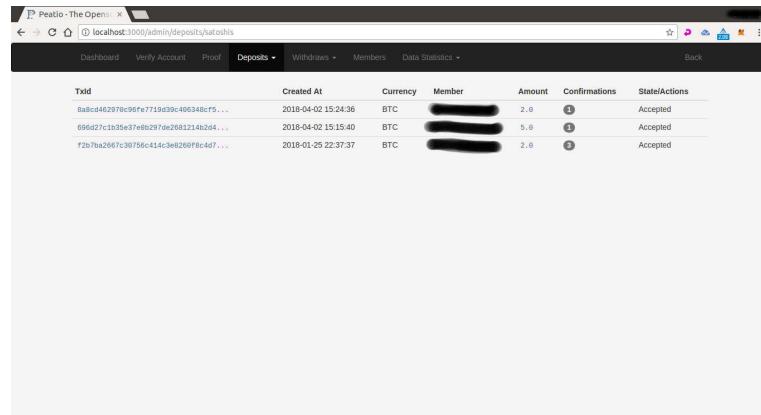


Figure 3.6: Ripa Exchange Admin console deposit screen



Figure 3.7: Ripa Exchange Admin console withdraw screen

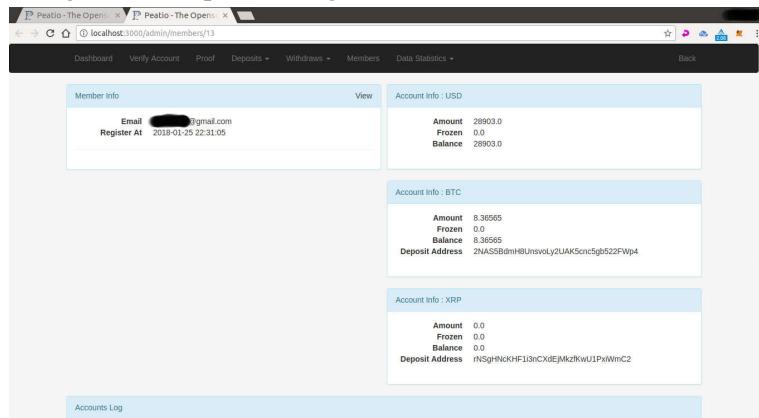


Figure 3.8: Ripa Exchange Admin user info screen

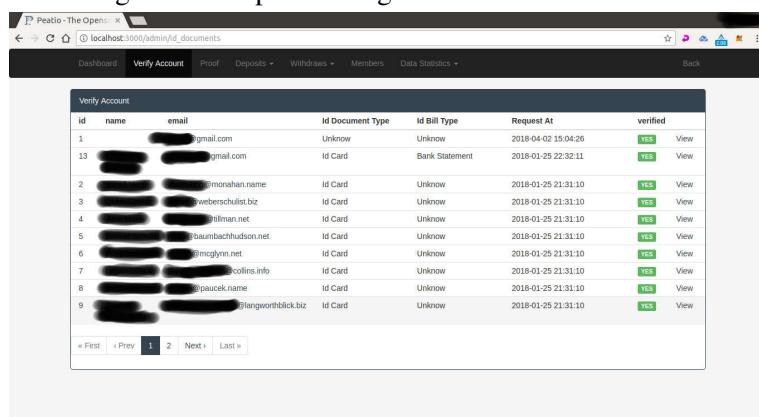


Figure 3.9: Ripa Exchange Admin verify account screen

## 3.6 Features at Launch

At the first working Ripa Exchange instance opening the following features will be functioning:

- CRYPTO ↔ CRYPTO:
- OAUTH: Facebook, Google, Twitter
- FIDO: login with FIDO Alliance standards
- PROTOCOLS: POW, DPOS, Masternode, tether, ERC20
- CURRENCIES: BTC, ETH, DOGE, BCH, TUSD, ARK, LISK, SHIFT, RISE, KAPU, OXY,

- RIPA, promising ERC20 tokens
- MAIN MARKETS: BTC, ETH, ARK
- ORDERS TYPE: market, limit

### 3.6.1 Future Features

Future instances of Ripa Exchange implementations will have the following features:

- E-WALLETS: OKPay, NETELLER, MoneyPolo, others...
- ADVANCED TRADING FEATURES: margin trading, stop loss and take profit,
- FIAT ⇔ CRYPTO
- OTHER TOOLS: VISA/MasterCard, merchants tools, P2P Lending

## 3.7 Towards a Decentralized Exchange...

Ripa Exchange is a centralized exchange which will be converted into an hybrid-decentralized exchange to create a network of exchanges that share the same liquidity between each of them so you can offer liquidity from day 1 of your exchanges operations.

To offer the PROs of a centralized exchange like platinum customer support and FIAT exchange, with all the PROs of a decentralized exchange like liquidity, without the CONs of both of them, we need to perform an intermediate step where Ripa Exchange will be converted into an hybrid-decentralized exchange and during phase 3 of our project (WP4-6) we will make all the functional and technical analysis required to make the next step on solid ground and offer to the RipaEx community an open source, secure and efficient exchange.



## 4. The Ripa Blockchain

The RipaEx project will have its own blockchain called Ripa which will be run on the DPOS protocol and has the XPX token (₱ symbol) running on it that will serve the five following purposes:

1. to list new cryptocurrencies on Ripa Exchanges
2. to advertise new projects
3. to buy RipaEx gadget on the RipaEx Store
4. to pay for the sell of goods & services on authorized resellers with our RipaEx POS (Point of Sale)
5. to share liquidity between Ripa Exchanges in the same network

Ripa (XPX or ₱) is a cryptocurrency derivate from ARK, Lisk, Crypti and BitShares with unique differences and improvements for reaching the goal of shared liquidity between exchanges in the same Ripa network. This code however inherits the simplified interactions between ARK and other blockchain systems using DPoS as their consensus. This homogeneous codebase allows for the potential to provide service bridges in the form of ARK-Lisk blockchain apps, along with any other additional systems provided by their blockchain administrators.

**RIPA BLOCKCHAIN IS AN ARK FORK AND THE USE OF A BLOCKCHAIN TECHNOLOGY FOR THE NETWORK OF EXCHANGES CREATED WILL COMPLETE THE RIPA ECOSYSTEM BY PERMITTING EACH EXCHANGE IN THE RIPA NETWORK TO SHARE THE SAME LIQUIDITY. WE WILL ALWAYS ENTRUST ARK AS OUR BLOCKCHAIN TECHNOLOGY PROVIDER TO MERGE THEIR CODE INTO OUR LATEST FEATURES FOR WHAT CONCERNING THE RIPA BLOCKCHAIN**

Explained the use of the Ripa Blockchain in the RipaEx ecosystem and explained the RIPA - ARK technological relations what is following are the specifications of the Ripa Blockchain derived/inherited from ARK.

### 4.1 Delegated Proof of Stake Technology

Ripa Blockchain, will inherits the Delegated Proof of Stake (DPoS) consensus system that was first introduced by BitShares. This consensus algorithm was designed to eliminate the issues associated with Proof of Work (PoW), namely the centralization of computing power and the exponentially increasing waste of real world energy. While not completely decentralized as it relies on consensus by a fixed number of elected delegates, it guarantees a better decentralization than Bitcoin. The consensus algorithm implementation is improved over time, evolving into an optimal consensus system.

The technical description of the Ripa blockchain is as follow:

1. DPoS (Delegated Proof of Stake)
  - 101 active forging Delegates
  - Delegates selected by vote mechanism built into DPoS
  - 115,000,000 XPX - Seeded Genesis Block
2. Multi-signature accounts
3. Constant block reward
  - 2 P per block
  - Inflation Rate (with 8s block times)
    - 6.31% for the first year
    - 5.93% the 2nd year
    - 4.02% the 10th year
  - 8-second block time
    - Decreased block time possible with future upgrades to the core.
  - 25 transactions per block
    - Increased via soft fork as needed.
4. Routing tables
5. SmartBridge data field for custom use and bridging blockchains (ARK Contract Execution Service)
6. Batch transactions<sup>1</sup>
7. Custom transaction fees<sup>1</sup>
8. Native smart contract execution<sup>2</sup>

**AS SAID RIPA BLOCKCHAIN IS AN ARK FORK AND WE WILL ENTRUST ARK AS OUR BLOCKCHAIN TECHNOLOGY PROVIDER TO MERGE THEIR CODE INTO OUR LATEST FEATURES FOR WHAT CONCERNING THE RIPA BLOCKCHAIN,** features like:

- **Scaling network** up to the level of major Credit Card networks with core upgrades
  - Increasing the number of Forging Delegates
  - Increasing the Block Size to include more transactions
  - Implementation of pre-approval PBFT block concept testnet [codename: TwinChain]
  - Routing tables, to minimize hops among nodes when blocks are broadcast
  - Include forging with RIPA Uncles.
- **Two node types** is used to secure the RIPA network:
  - **Relay nodes** - Nodes with full API functionality, acting as a back-end for the feature rich lite clients. Relay nodes do not collect any transaction fee and do not have the ability to Forge RIPA Blocks.
  - **Forging nodes** - Nodes with reduced API functionality, decreasing the exposure to potential DDoS attacks on the RIPA Platform. Forging nodes are able to Forge RIPA and receive transaction fees.
- **Official lite client** for network access is be provided shortly before the mainnet launch including desktop clients (Windows, MacOS, and Linux) and mobile clients (Android and iOS).
- **OffLine wallet creation:** the network itself does not use a Graphical User Interface by default. Any RIPA account can be created off-line and managed at no cost with a single device (computer, mobile phone, embedded ARM, IoT).

---

<sup>1</sup>Future upgrade: when ARK 2.0 will be released

<sup>2</sup>Future upgrade: when ARK Virtual Machine will be released

## 4.2 Hierarchical Deterministic (HD) Wallets (BIP32)

The structure of the public and private key generation follows the same specification as Bitcoin. A custom implementation of BIP32 for Hierarchical Deterministic Wallets is provided to RIPA users.

## 4.3 Fees

The fee for standard transactions is set at ₡ 0.1 but the will be flexible in future releases of Ripa Blockchain. At mainnet launch, a fee structure is provided out of the box to forging delegates with the following rules:

- Transaction ₡ 0.1
- Vote ₡ 1 (101 votes per transaction)
- Second Signature ₡ 1
- Multi Signature ₡ 1 per signature + ₡ 1 per signing account
- Registering a delegate ₡ 25.

All fees are paid to the forging node which processes the block containing those fees.

## 4.4 Ripa Delegates and Delegate Voting

Any node running the core blockchain code wishing to become a forging node must register their account within the RIPA network. The fee for this registration is set to 25 ₡ per delegate account registered. RIPA incorporates a new DPoS voting system originally envisioned by the Crypti Founders. The RIPA system fee is 1 ₡ per delegate vote. The voting weight of each wallet will be split evenly between all delegates voted. For example:

- If a wallet votes for one delegate, that delegate receives 100% of the wallets voting weight.
- If that wallet votes for an additional delegate, the entire vote weight is split evenly between the two delegates at 50%.
- By adding a third delegate, the voting weight splits again, and each of the three delegates receives 33.333% of the voting weight from that wallet.

The 101 forging nodes with the highest number of votes are eligible to Forge RIPA blocks. This design eliminates the possibility that any single large RIPA holder or an organization holding large percentages of RIPA are able to gain control over the entire network by voting for all of their nodes into forging positions, thus effectively taking complete control over that DPoS Blockchain. Votes from XPX Tokens held by RIPA Crew may be used at RIPA Crew's discretion.

## 4.5 Connecting Blockchains

### 4.5.1 ARK Bridged Blockchains (SmartBridge Technology)

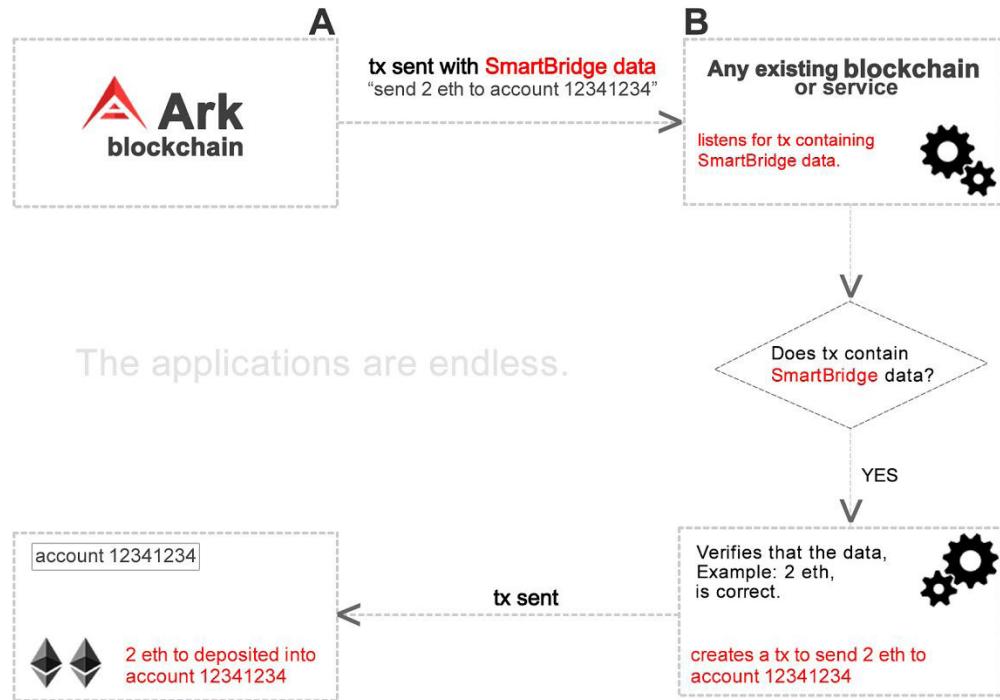
The ARK Platform does not provide direct support for sidechains or dapp databases. Instead, a mechanism to bridge together blockchains is provided via a bridging function built into ARK Core where any blockchain can send and receive trigger function notices and informational data through the primary ARK network via custom developed **SmartBridge(s)** and **Encoded Listeners**.

## What is SmartBridge?

Imagine SmartBridge being a piece of a transaction. This piece of information can be sent in a tx to another blockchain or service. The other blockchain or service can listen directly (via an encoded listener).

Example:

- Server A sends an ARK tx with SmartBridge field filled with "send 2 eth to account 12341234"
- Server B receives this tx, reads the SmartBridge field, verifies the amount sent, and if correct, creates a tx to send 2 eth to account 12341234



This is a very simplistic example, but SmartBridge data can be more complex (send equivalent amount, split it over several accounts, create an ETH smart contract as addressed by SmartBridge), etc...

Figure 4.1: ARK SmartBridge Technology

### 4.5.2 A.C.E.S. - ARK Contract Execution Service

ACES is a blockchain interoperability platform that provides simple protocols and tools for building a robust blockchain service marketplace.

ACES is composed mainly of the following three components:

- **Listeners** ACES Listeners provide a way for all the different blockchain transaction events to be easily consumed via a common REST-ful API. The API allows consumers to create subscriptions and receive blockchain events in real-time using Webhook callbacks.
- **Services** ACES Services create and execute Service Contracts, which can be anything from

uploading a file to a storage blockchain, performing value transfers, creating smart contracts, executing code on blockchain based computing platforms, or interacting with IoT hardware.

- **Marketplace Console** The ACES Marketplace Console is a consumer dashboard for searching and executing service contracts listed on the Marketplace. ACES Service providers can list their service nodes using the Marketplace API.

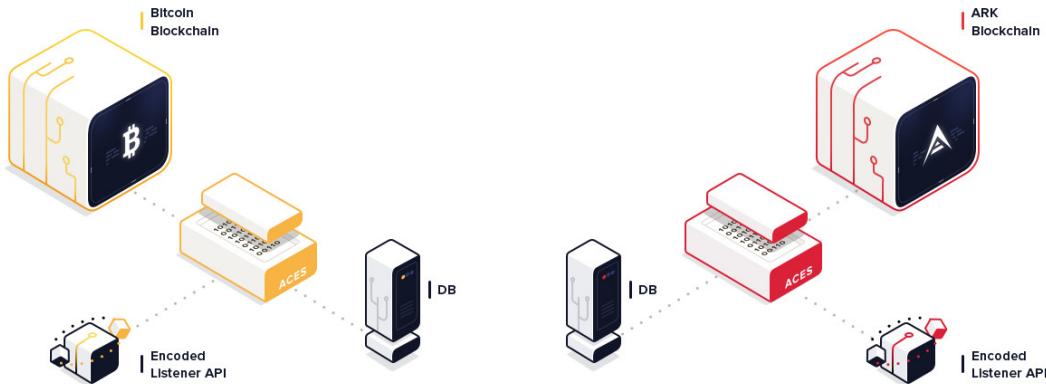


Figure 4.2: ARK-BTC A.C.E.S. SmartBridge Implementation Overview

## 4.6 Ripa Liquidity Service Provider (R.L.S.P)

Using the SmartBridge technology RipaEx will build a mechanism to share liquidity between all the exchanges in the Ripa network by writing the single exchange orderbook in the Ripa Blockchain and by executing order matching between all exchanges in the network.

In this way you can have the benefits of a decentralized orderbook (like liquidity) with the benefits of a centralized exchange (like platinum customer support and FIAT exchange).

## 4.7 Ripa Community Fund

To permits the birth of new exchanges in the Ripa network a Ripa Community Fund - RCF - is created with the following characteristics:

- **Starting Principal:** the RCF will have a starting operating capital of 5% (5,750,000 P) of the genesis block
- **Recurring Participation:** each delegate will contribute to the RCF with 5% of its forged XPs

To obtain funds from the RCF to start your own Ripa Exchange you will submit your proposal in the official RCF section in the Ripa forum at anytime after the first Ripa Exchange instance will be operational.





## 5. Token Sale

### 5.1 Introduction

The RipaEx Xpx token sale will be separated into two phases:

- **PRESALE:** that will run from April to June 2018
- **RIPA TEC:** that will run from July to December 2018

You can easily refer to both phases PreSale and RIPA TEC as *RipaEx ICO*.

#### 5.1.1 Exchange Rate & Accepted Cryptocurrencies

During the token sale the exchange rate for the Xpx tokens will be **₽ /€0.10**.

The following cryptocurrencies are accepted: **BTC, ETH, ARK, LISK**.

If you want to send us a different cryptocurrency send us your choice and we will tell you immediately if we can make the exchange and how to execute the operation in detail (receiving address, exchange rate, quantity)

EXCHANGE RATE IS BITSTAMP LAST AND IS VALID 60 MINUTES FROM QUOTE.

#### 5.1.2 Bonus for Investors and for new Users

For all investors in the RipaEx ICO will be given €1,000.00 credit in trading commissions in the first Ripa Exchange instance running, while a bonus of ₽ 1,000.00 will be given to all new registered users during the RipaEx ICO to use at your own will.

### 5.2 How to Invest

#### 5.2.1 Xpx Ripa Token PreSale

Private sale of Xpx tokens has **started on Monday 04/02/2018 at 00:00 GMT and will end on Sunday 07/01/2018 at 23:59 GMT**.

You can buy directly here:

[WWW.RIPAEX.IO/PRIVSALE](http://WWW.RIPAEX.IO/PRIVSALE)

or send us your buying inquiries on our social Slack, Telegram, Facebook, Twitter or on other social networks where we are present which you can check in Section 7.3. For all the duration

of the private sale period every exchange operation **will be executed at the exchange rate of  $\text{P}/\text{€}0.0500$  until the first 5,000,000 XPX tokens** have been exchanged and will be exchanged at the rate of  $\text{P}/\text{€}0.05714286$  thereafter.

## 5.2.2 RIPA TEC

Fund-raising through the RIPA TEC platform will follow the schedule:

- ***Exchange from 07/02/2018 to 07/15/2018***: at the rate of  $\text{P}/\text{€}0.0500$  (**100% bonus**)
- ***Cooling-OFF from 07/16/2018 to 07/22/2018***: at the rate of  $\text{P}/\text{€}0.05128205$  (**95% bonus**)
- ***Exchange from 07/23/2018 to 08/05/2018***: at the rate of  $\text{P}/\text{€}0.05714286$  (**75% bonus**)
- ***Cooling-OFF from 08/06/2018 to 08/12/2018***: at the rate of  $\text{P}/\text{€}0.05847953$  (**71% bonus**)
- ***Exchange from 08/13/2018 to 08/26/2018***: at the rate of  $\text{P}/\text{€}0.06666667$  (**50% bonus**)
- ***Cooling-OFF from 08/27/2018 to 09/02/2018***: at the rate of  $\text{P}/\text{€}0.06802721$  (**47% bonus**)
- ***Exchange from 09/03/2018 to 09/16/2018***: at the rate of  $\text{P}/\text{€}0.07142857$  (**40% bonus**)
- ***Cooling-OFF from 09/17/2018 to 09/23/2018***: at the rate of  $\text{P}/\text{€}0.07246377$  (**38% bonus**)
- ***Exchange from 09/24/2018 to 10/07/2018***: at the rate of  $\text{P}/\text{€}0.07692308$  (**30% bonus**)
- ***Cooling-OFF from 10/08/2018 to 10/14/2018***: at the rate of  $\text{P}/\text{€}0.07751938$  (**29% bonus**)
- ***Exchange from 10/15/2018 to 10/28/2018***: at the rate of  $\text{P}/\text{€}0.08333333$  (**20% bonus**)
- ***Cooling-OFF from 10/29/2018 to 11/04/2018***: at the rate of  $\text{P}/\text{€}0.08403361$  (**19% bonus**)
- ***Exchange from 11/05/2018 to 11/18/2018***: at the rate of  $\text{P}/\text{€}0.09090909$  (**10% bonus**)
- ***Cooling-OFF from 11/19/2018 to 11/25/2018***: at the rate of  $\text{P}/\text{€}0.09174312$  (**9% bonus**)
- ***Exchange from 11/26/2018 to 12/09/2018***: at the rate of  $\text{P}/\text{€}0.0952381$  (**5% bonus**)
- ***Cooling-OFF from 12/09/2018 to 12/16/2018***: at the rate of  $\text{P}/\text{€}0.09615385$  (**4% bonus**)

Coins distribution will be available at the end of each trading day and performed automatically through the RIPA TEC platform. Minimum threshold to reach is 25 BTC.

AS THE XPX EXCHANGE RATE IS CALCULATED AGAINST THE EURO CURRENCY DIRECTLY YOU ARE GUARANTEED TO NOT LOOSE ANY INVESTED FUND DURING THE SALE PERIOD AS THE XPX TOKENS WILL BE LISTED ON OUR EXCHANGES AT THE BEGINNING OF 2019 DIRECTLY WITH THE SAME  $\text{P}/\text{€}0.10$  EXCHANGE RATE AGREED DURING THE TOKEN SALE-ICO PHASE.

RIPA TEC platform will be available at the following link after July 2018:

TEC.RIPAEX.IO

follow us on Facebook, Twitter, Telegram, Slack and all of our official social channel to know when RIPA TEC is starting!!

## 5.3 XPX Ripa Token Distribution

**115,000,000** XPX tokens are seeded into the genesis block: distribution of the XPX tokens generated are described into figure 5.1 and table 5.1.

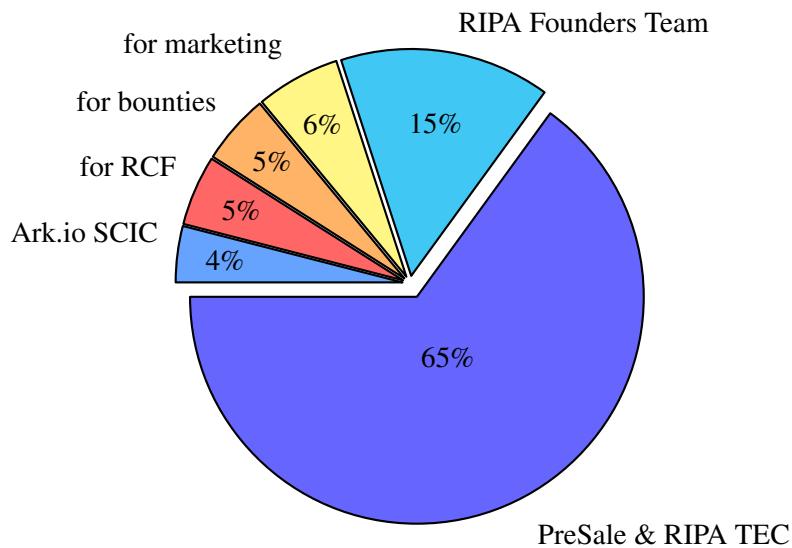


Figure 5.1: Ripa token distribution

Percentage (%)	Quantity (P)	Purpose
65	74,750,000	to distribute in PreSale and RIPA TEC
15	17,250,000	to RIPA Founders Team
6	6,900,000	for marketing
5	5,750,000	for bounties
5	5,750,000	for Ripa Community Fund - RCF
4	4,600,000	to Ark.io SCIC

Table 5.1: Ripa token distribution

**Tokens not sold during the phases of PreSale and RIPA TEC will be burnt** forever to permits and equal distributions of the funds and avoid speculations on the token remaining.

## 5.4 Division of Funds

The funds collected during the PreSale and RIPA TEC phases will be divided as explained in figure 5.2 and table 5.2 below

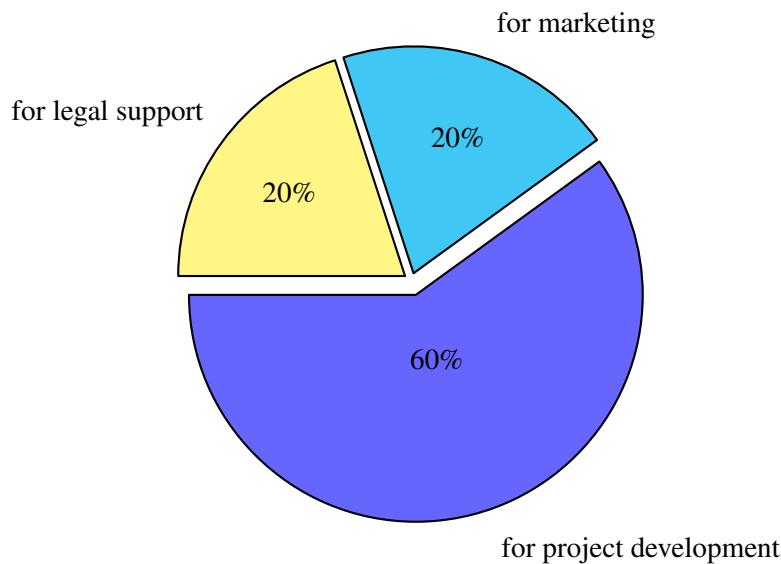


Figure 5.2: Ripa division of funds

Percentage (%)	Purpose
60	for project development
20	for marketing
20	for legal support

Table 5.2: Division of funds

where the row “for project development” funds allocation is described in table 5.3 below.

Percentage (%)	Purpose
50	functional analysis, technical analysis, development, testing
20	technical support
15	infrastructure
10	security
5	analytics

Table 5.3: Project development focus



## 6. Business Model

### 6.1 Project Milestones

Following the matrix of development per area of interest based on the funds collected during the phases of PreSale and RIPA TEC:

	25 BTC	50 BTC	250 BTC	1000 BTC
DEVELOPMENT	CRYPTO ↔ CRYPTO exchange release with 25 cryptocurrencies supported and 3 main trading pairs	CRYPTO ↔ FIAT exchange release with MasterCard prepaid card. 50 cryptocurrencies supported and 3 main trading pairs	Advanced trading features. Open of a second and third Ripa Exchanges to join the Ripa network	Open of ten Ripa Exchanges across the globe
MARKETING	Support from one agency, adv campaigns on targeted channels	Support from two agencies, adv campaigns pushing harder, store with RipaEx gadgets	International presentation event in London	Support from five agencies, targeting all UN countries, presentation event in Tokyo
LEGAL	Legal department working on AML/KYC international standards	Legal departments working on AML/KYC international standards in various locations around the Globe	Open of office in New York	Open of office in Tokyo, intergovernmental partnership for defining AML/KYC standards
BLOCKCHAIN	DevNET development for RLSP and future ARK releases	Contributions to ARK development for AVM	Contributions to ARK development for standard timing releases	Partnership with ARK for blockchain technology developments

### 6.2 Market Overview

#### 6.2.1 Cryptocurrency Market Size and Technology

- The cryptocurrency market cap has been projected to reach as high as \$1-2 trillion in 2018 [25].
- The market cap of Bitcoin exceeded \$70 billion [5], with peak trading volumes around \$3 billion per day.
- Technology consulting firm CB Insights has identified 27 ways [2] blockchain can funda-

mentally change processes as diverse as banking, cybersecurity, voting, and academics.

- The World Economic Forum estimates that by 2027, 10% of global GDP [16] will be stored on blockchain technology.
- Most mining pools are located in China, comprising more than 70% [35] of total Bitcoin mining. China manufactures most cryptocurrency mining equipment and leverages the country's cheap electricity prices.



Figure 6.1: Cryptocurrency market capitalization April 2018

### 6.2.2 Types of Cryptocurrencies

- There are over 1,000 cryptocurrencies [4] in existence right now (called “altcoin”); over 600 have market capitalizations of over \$100,000.
- While Bitcoin’s price has generally been following upward trend, in early 2018, Bitcoin’s price fell sharply, dipping below \$8,000 [20] as news of tougher regulation from China and South Korea surfaced. Bitcoin’s price also fell following announcements of SEC crackdown [33] on crypto exchanges and after Binance was reportedly hacked [32].
- Bitcoin’s market share has fallen from 81% in June 2016 to 41% one year later, in June 2017. However, Bitcoin’s price has continued to soar.
- In August 2017, Ether’s market capitalization was around \$28 billion. At one point, commentators [12] anticipated that Ether’s market capitalization would surpass that of Bitcoin (the “flippening” [13]). However, issues with Ethereum technology have since caused its value to decline.

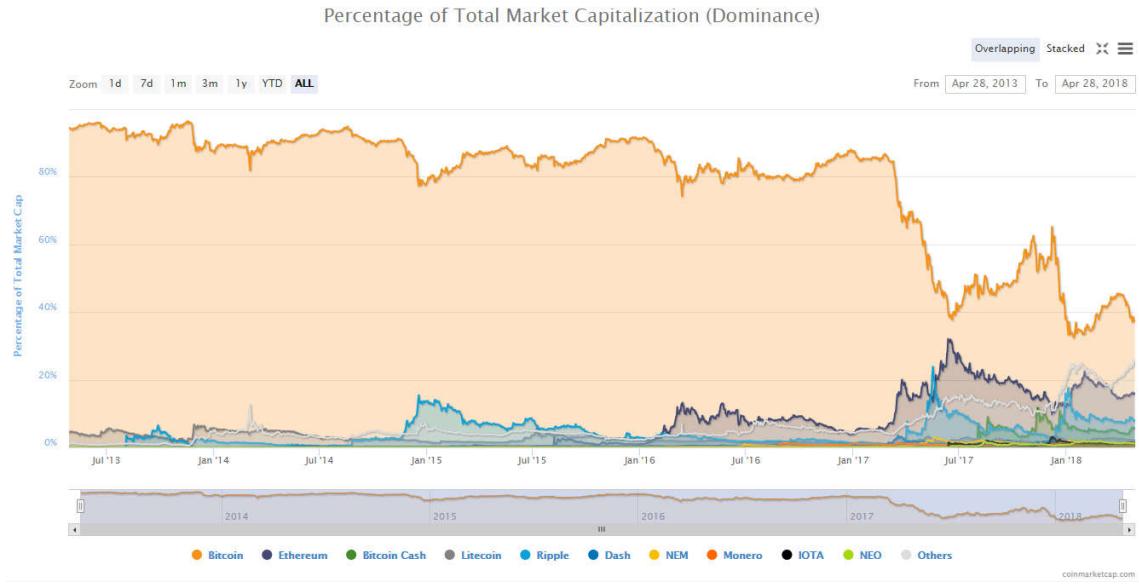


Figure 6.2: Cryptocurrency market dominance April 2018

### 6.2.3 Investing in Cryptocurrencies

- Supply and demand matters. The rate of increase of the supply of Bitcoin will decrease until the number of Bitcoin reaches 21 million, which is expected to take place in the year 2140 [34]. Similarly, the supply of Litecoin will be capped at 84 million units [38].
- Initial coin offerings are trending right now. This year, former Mozilla CEO Brendan Eich raised \$35 million from an ICO in less than 30 seconds [29], and Bancor Protocol raised \$153 million in under three hours [17].
- Blockchain-related projects have raised more than \$1.6 billion via ICOs [31] to date, while venture capitalists have provided only \$550 million [26] for cryptocurrency companies.

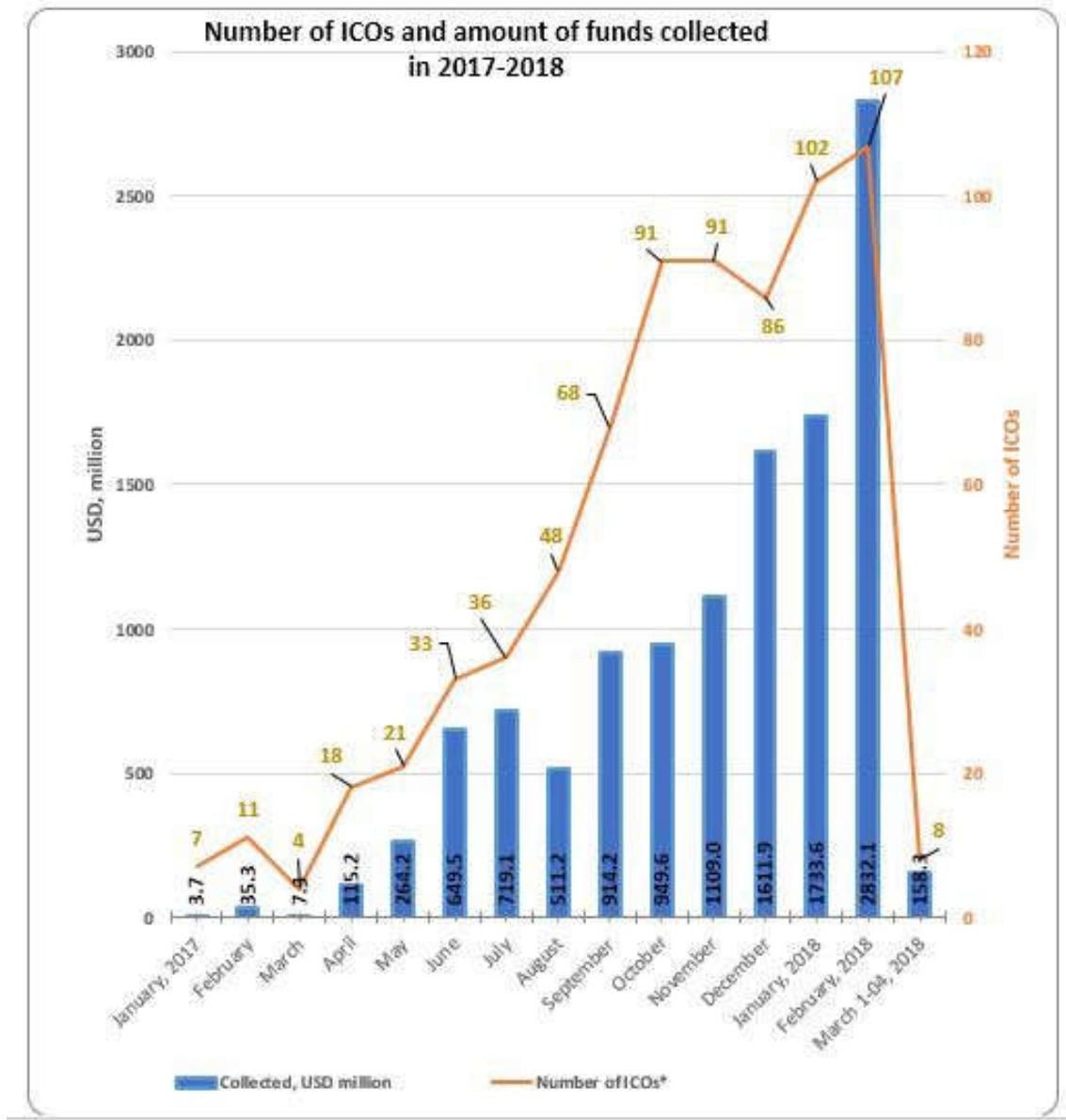


Figure 6.3: Funds collected in ICOs in 2017-2018

#### 6.2.4 Outstanding Issues

- **Accounting.** While the US has been cracking down on unregulated activities, in countries such as Germany [11] and the UK [3], cryptocurrencies are treated like “private money” and are not subject to tax outside of commercial use.
- **Regulation.** New York State created the BitLicense system [21], mandates for companies before conducting business with New York residents. As of mid-2017, only three BitLicenses have been issued, and a far greater number withdrawn or denied. In Asia, where cryptocurrency demand has been soaring, the Chinese [1] and South Korean [30] governments have taken hard stances on cryptocurrency regulation.
- **Security.** The FTC recorded [14] an increase in identity fraud complaints of more than 100% between 2013 and 2016, and Coinbase, the largest US-based exchange, saw account hacking double just between November and December 2016.

## 6.3 Local Market Analysis and 5 Years Projection

Ripa Exchange on its opening at the beginning of next year and for all the year 2019 is to be expected to have the following operating numbers:

- Registered Users: 5,000
- 24/hours Volume: 25 BTC
- Monthly Volume: 750 BTC

Given a transaction fee of 0.20% the revenue for the first year of operation are expected to be in the order of 180 BTC the outcome for the years 2 to 5 is expected to be in the rage described in figure 6.4

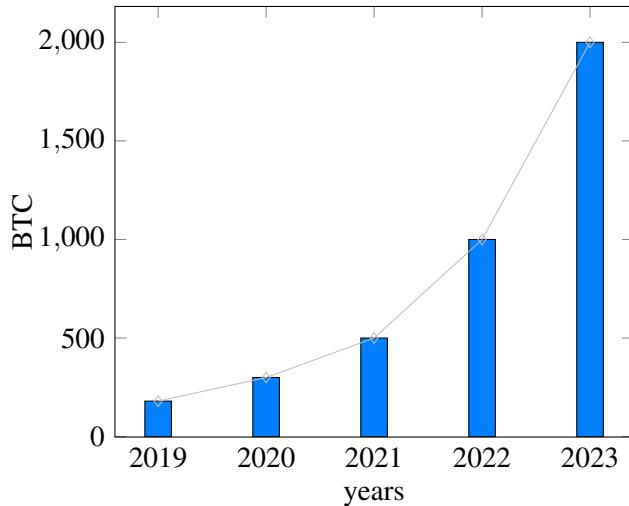


Figure 6.4: 5 years revenue projection

Depending on the closing value of the RipaEx ICO, the project is to be expected to open N.1 to N.9 others Ripa Exchange in the biennium 2019-2020 spreading the use of the Ripa Exchange codebase and the usage of the XPX token associated with the Ripa Blockchain making the figure above into account for each single Ripa Exchange installation.

## 6.4 XPX Token Economics

As explained in section 4 the Ripa Blockchain will have its own XPX token (₱ symbol) that will serve the following purposes:

1. to list new cryptocurrencies on Ripa Exchanges
2. to advertise new projects
3. to buy RipaEx gadget on RipaEx Store
4. to pay for the sell of goods & services on authorized resellers with our RipaEx POS (Point of Sale)
5. to share liquidity between Ripa Exchanges in the same network

It is our main purpose that the economy of the XPX token will stay healthy for all the duration of the RipaEx project for this reason we will apply economic strategies<sup>1</sup> to the token economy to make the price of the token rise constantly during all the duration of the project and beyond.

<sup>1</sup>Like burning tokens not covered from ICO funds



## 7. Team & Conclusion

### 7.1 Team

#### Giovanni Silvestri @ BitNow

FOUNDER AND CEO

10+ years experience in IT field,  
4+ years in cryptocurrencies consultancy and exchanging,  
2+ years experience in finance,  
Location: Treviso (TV), Italy



#### Antonello Arena @Darkital

FOUNDER AND CFO

10+ years experience in economics and finance,  
4+ years in cryptocurrencies consultancy and exchanging,  
Location: Potenza (PO), Italy



#### Giorgio Isola @isolagio

FOUNDER AND CDO

10+ years experience in design,  
4+ years in cryptocurrencies consultancy and exchanging,  
Location: Milan (MI), Italy



#### Propose your NAME here

CSO

3+ years experience in IT networking,  
1+ years in network security,  
1+ years experience in finance and or cryptocurrencies,  
Location:



#### Luca Dordolo @gavrilobtc

ADVISOR

5+ years in cryptocurrencies consultancy and exchanging,  
Location: Udine (UD), Italy



#### Adriatic Crypto Hub

ADVISOR

5+ years experience in advising  
5+ years in cryptocurrencies consultancy and exchanging,

Location: Pescara (PE), Italy



#### Warren Rogers @wazzy

ADVISOR

2+ years experience in community management,  
5+ years experience in cryptocurrencies,  
5+ years experience in IT,  
Location: Czech Republic



#### Timothy @timo3

ADVISOR

2+ years experience in community management,  
5+ years experience in cryptocurrencies,  
5+ years experience in IT,  
Location: United Kingdom



#### Hui Li @linbinqiting

ADVISOR

2+ years experience in community management,  
5+ years experience in cryptocurrencies,  
5+ years experience in IT,  
Location: China



#### Propose your NAME here

ADVISOR

2+ years experience in community management,  
5+ years experience in cryptocurrencies,  
5+ years experience in IT,  
Location:



#### JanEmil

COMMUNITY MANAGER AMERICA

2+ years experience in community management,  
5+ years experience in cryptocurrencies,  
Location: Denmark



#### OnlyTrifiz

COMMUNITY MANAGER EMEA 1/2

2+ years experience in community management,  
5+ years experience in cryptocurrencies,  
Location: Italy



<p><b>Bitmyst</b> COMMUNITY MANAGER EMEA 2/2 2+ years experience in community management, 5+ years experience in cryptocurrencies, Location: Italy</p> 	<p><b>Erika</b> FINANCIAL ADVISOR 2+ years experience in community management, 5+ years experience in finance, 5+ years experience in cryptocurrencies, Location: Italy</p> 
<p><b>Goose</b> DEVELOPER - DELEGATE 1+ years experience in DPOS delegation, 8+ years experience in finance and or cryptocurrencies, Location: United States</p> 	<p><b>Pimoussefrnl</b> DELEGATE 4+ years experience in DPOS delegation,</p> 
<p><b>Bluedragon</b> DELEGATE 2+ years experience in DPOS delegation, 5+ years experience in marketing, Location: United Kingdom</p> 	<p><b>Toons</b> DEVELOPER - DELEGATE 10 years of experience in python development, 3 years of experience in structure design, 2+ years experience in DPOS delegation and cryptocurrencies</p> 
<p><b>BitSnapp</b> DELEGATE 5+ years experience in software development, 2+ years experience in DPOS delegation Location: Italy</p> 	<p><b>Amol</b> DEVELOPER - DELEGATE 1+ years experience Computer Engineering, 1+ years experience in DPOS delegation and cryptocurrencies Location: Ahmedabad, India</p> 
<p><b>Gandalf</b> DEVELOPER - DELEGATE 5+ years experience in software development, 1+ years experience in DPOS delegation Location: United States</p> 	<p><b>Nick_Bold</b> DEVELOPER - DELEGATE 10+ years experience in software development, 1+ years experience in DPOS delegation Location: Italy</p> 
<p><b>gobled</b> DEVELOPER - DELEGATE 10+ years experience in software development, 1+ years experience in DPOS delegation Location: Italy</p> 	<p><b>Propose your NAME here</b> DEVELOPER - DELEGATE 1+ years experience in DPOS delegation, 1+ years experience in cryptocurrencies Location:</p> 

## 7.2 Recommendations

If you are planning to start your own crypto asset marketplace you are invited to follow the following procedure to make your start-up plan a success in the Ripa ecosystem:

1. Submit your proposal to Ripa Community Fund by its official website<sup>1</sup> or by contacting us on our official social channels
2. Get the funds you need from RCF, Venture Capital or ICO
3. Decide the functional specifications of your exchange
4. Implement the exchange
5. Open to public

Following the procedure above you are likely to start a successful exchange for which you own the source code and which will generate revenues for your business action in the next 5 years.

It can't be stressed enough that if your intent is to open a FIAT ⇔ CRYPTO exchange you should focus first on law compliance by studying the AML/KYC laws of the country of incorporation and finding banking partners to work with. Local financial Authority can help to comply with rules &

<sup>1</sup> Available after March 2019

regulations and local cryptocurrencies foundations can help you to tune your exchanges operations to perform targeted operations based on the customers interests in the country of incorporation promoting cryptocurrency-friendly users in the area of interest.

Remember that **RUNNING AN EXCHANGE IS HARD** but we'll give you all the tools to start your entrepreneurship venture with all you need: source code, liquidity and financing will be available to you from day 1 of your trading operations so you can focus on giving platinum customer support, law compliance and partnering with financial institutions for the success of your entrepreneurship action.

**YOUR SUCCESS IS THE SUCCESS OF THE RIPA EXCHANGE NETWORK** and we want to achieve that with hard work and the most advanced technology in the industry for **YOU** and for the satisfaction of the Ripa network clients.

## 7.3 Social

Please join our Telegram to give us feedback on the whitepaper.

To be part of our active community or learn more about what we do:

- **Visit our website**  [www.ripaex.io](http://www.ripaex.io)
- **Join our Telegram**  [t.me/ripaex](https://t.me/ripaex)
- **Join our Slack**  [ripaex.slack.com](https://ripaex.slack.com)
- **Follow us on Twitter**  [twitter.com/ripaex](https://twitter.com/ripaex)
- **Follow us on Facebook**  [www.facebook.com/ripaex](https://www.facebook.com/ripaex)
- **Send Us an e-mail**  [info@ripaex.io](mailto:info@ripaex.io)





## 8. LEGAL

### 8.1 PREMISE

PLEASE READ THIS SECTION CAREFULLY; IF YOU HAVE ANY DOUBTS, PLEASE CONSULT WITH YOUR TRUSTED LEGAL ADVISOR.

### 8.2 STATUTE OF LIABILITY

THE RIPAEX WHITE PAPER WAS APPROVED BY THE MAJORITY OF RIPA FOUNDER TEAM. THE DIRECTORS AND MEMBERS OF THE TEC EXECUTIVE AND MANAGEMENT TEAM ACCEPT FULL RESPONSIBILITY DERIVING FROM THE STATEMENTS IN THE WHITE PAPER AND ENSURE, IN GOOD FAITH, THAT WHAT IS WRITTEN DOES NOT CONTAIN FALSE INFORMATION OR OMISSIONS THAT COULD COMPROMISE THE PROJECT'S SUCCESSFUL OUTCOME OR THE ACTUAL ADVANTAGE THAT INVESTORS MIGHT HAVE IN ANY WAY IF THEY DECIDE TO BE PART OF THE PROJECT.

### 8.3 IMPORTANT INFORMATION

1. THE RIPAEX AND ITS XPX COINS ARE NOT INTENDED TO CONSTITUTE A SECURITY IN ANY JURISDICTION. THIS WHITE PAPER REGARDING THE TEC DOES NOT CONSTITUTE AND IS NOT INTENDED AS A PROSPECT OR PROPOSES ITSELF AS A DOCUMENT OF ANY LEGAL VALUE IN ANY STATE, AND DOES NOT INTEND TO CONSTITUTE A SECURITIES OFFERING OR A SOLICITATION FOR INVESTMENT IN SECURITIES IN ANY JURISDICTION.
2. THIS WHITE PAPER IS NOT, AND SHOULD NOT BE INTERPRETED AS A RECOMMENDATION FROM THE CREATORS THEMSELVES FOR INVESTING IN THE PROJECT. THIS WHITEPAPER DOES NOT REPLACE, AND SHOULD NOT BE CONSIDERED AN INDEPENDENT ANALYSIS OR COMMERCIAL EVALUATION. EACH RECIPIENT OF THE WHITE PAPER ITSELF SHOULD HAVE CARRIED OUT MARKET SURVEYS AND EVALUATIONS AND HAVE CAREFULLY CONSIDERED THE INVESTMENT IN TERMS OF RISKS, PERSONAL POSSIBILITIES AND ANY COMPLICATIONS IN HIS OR HER ECONOMIC POTENTIAL AS A RESULT OF THE INVESTMENT ITSELF.
3. THE DISTRIBUTION OF DOCUMENTS RELATED TO THE WHITE PAPER, THE OVERVIEW AND ANY OTHER INFORMATION REGARDING THIS TEC MAY BE PROHIBITED BY THE LAWS OF YOUR STATE OR JURISDICTION. ANYONE WHO WISHES TO DISTRIBUTE DOCUMENTS RELATING TO THIS TEC MUST INDEPENDENTLY ASCERTAIN, THROUGH THEIR ADVISERS, THE LEGITIMACY OF SUCH DOCUMENTS' DISTRIBUTION IN THEIR COUNTRY OF RESIDENCE OR DOMICILE. RIPAEX DECLINES ANY RESPONSIBILITY FOR THE DISTRIBUTION OF ITS PRODUCED DOCUMENTS IN STATES WHERE SUCH DISTRIBUTION IS RESTRICTED OR PROHIBITED.
4. NO PERSON IS HELD, INVITED OR REQUIRED TO ENTER INTO ANY COMMERCIAL, LEGAL OR INVESTMENT CONTRACT WITH RESPECT TO THE RIPA TEC OR FUTURE INVESTMENTS IN THE PROJECT ITSELF.
5. WITH REGARD TO THE PURCHASE AND SALE OF COINS DERIVING FROM THE INVESTMENTS OBTAINED BY THE TEC, EACH USER WILL HAVE FULL MARKETING AND EXCHANGE FREEDOM OF THE SAME BY MEANS OF PRIVATE EXCHANGE OR BUYER WHO IS AVAILABLE FOR THE SAME AND HAS THE LEGAL ABILITY TO PURCHASE SUCH COINS IN HIS/HER STATE.
6. NO LEGAL AUTHORITY HAS EXAMINED OR APPROVED THESE DOCUMENTS, WHICH HAVE BEEN WRITTEN USING AS AN EXAMPLE THE LAWS GOVERNING THE PUBLICATION OF TEXTS AND DOCUMENTS IN EUROPE AT THE TIME OF PUBLICATION. SUCH DOCUMENTS MAY NOT BE APPROVED OR COMPLY WITH THE LAWS OF INVESTORS' STATES, IN WHICH CASE A LAWYER SHOULD BE CONSULTED FOR FURTHER INFORMATION REGARDING THE STRUCTURED RULES OF THIS TEC AND THE INTERNATIONAL LAWS TO WHICH IT WILL BE SUBMITTED ONCE IT IS LAUNCHED.
7. THE RISKS ASSOCIATED WITH INVESTMENTS, THE VALUE OF COINS AND THE FINALIZATION OF THE PROJECT WILL BE APPROPRIATELY CLARIFIED IN THE "Risks" SECTION OF THIS DOCUMENT.
8. REPRODUCTION, MODIFICATION OR DISSEMINATION OF THIS DOCUMENT FOR COMMERCIAL OR CRIMINAL PURPOSES IS STRICTLY FORBIDDEN.
9. ACCEPTING DELIVERY OF THIS WHITE PAPER (WHICH IS CONSIDERED AS ITS DOWNLOAD, ACCESS TO THE WEBSITE: [HTTPS://RIPAEX.IO](https://ripaex.io) OR IN ANY WAY ACCESSING THIS WHITE PAPER), EACH RECIPIENT ACCEPTS THE TERMS WITH WHICH THIS WHITE PAPER IS PROVIDED. THE RECIPIENT ALSO AGREES AND CONFIRMS THAT:
  - A) HE OR SHE WILL KEEP ALL THIS INFORMATION AND DATA CONFIDENTIAL;

- B) HE OR SHE HAS RECEIVED THIS DOCUMENT AND/OR PURCHASED THE XPX COINS LEGITIMATELY IN ALL JURISDICTIONS TO WHICH THE RECIPIENT IS SUBJECT;
- C) HE OR SHE COMPLIES WITH ALL THE APPLICABLE LAWS IN RELATION TO THE RESPECT OF THIS WHITE PAPER AND THE PURCHASE OF THE XPX COINS THEMSELVES.;
- D) EXECUTORS AND THEIR RESPECTIVE DIRECTORS, OFFICIALS, EMPLOYEES AND PROFESSIONAL ADVISERS ARE NOT AND WILL NOT BE IN BREACH OF THE LAWS OF A JURISDICTION TO WHICH THE RECIPIENT IS SUBJECT FOLLOWING THE DELIVERY OF THE WHITE PAPER AND/OR THE PURCHASE OF XPX AND WILL NOT HAVE ANY LIABILITY IN THE EVENT THAT SUCH DELIVERY OF THE WHITE PAPER OR THE PURCHASE OF XPX IS OR BECOMES ILLEGAL, INAPPLICABLE, VOIDABLE OR CANCELLED;
- E) IS AWARE THAT THE XPX COINS WILL BE OFFERED, SOLD, TRANSFERRED OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY IN ACCORDANCE WITH RELATIVE SALES RESTRICTIONS AND ALL APPLICABLE LAWS;
- F) HAS SUFFICIENT KNOWLEDGE AND EXPERIENCE IN FINANCIAL AND COMMERCIAL MATTERS TO BE ABLE TO ASSESS THE MERITS AND RISKS OF PURCHASING XPX COINS AND IS ABLE AND WILLING TO WITHSTAND THE ECONOMIC AND FINANCIAL RISKS OF PURCHASING AND/OR HOLDING THE XPX COINS THEMSELVES.
- G) ACQUIRES XPX ON HIS OR HER OWN ACCOUNT AND NOT FOR THIRD PARTIES;
- H) ACCEPTS AND ACKNOWLEDGES THAT COINS ISSUED BY RIPAX MUST NOT BE INTERPRETED, CLASSIFIED OR TREATED AS: (I) ANY TYPE OF CURRENCY OTHER THAN CURRENT CRYPTOCURRENCIES; (II) BONDS, SHARES OR SHARES ISSUED BY ANY PERSON OR ENTITY; (III) RIGHTS, OPTIONS OR DERIVATIVE INSTRUMENTS RELATING TO SUCH BONDS OR SHARES; (IV) THE RIGHTS TO SECURE A PROFIT OR TO AVOID A LOSS; (V) UNITS IN ANY TYPE OF INVESTMENT SCHEME; (VI) UNITS IN ANY TYPE OF TRUST; (VII) ANY FORM OF DERIVATIVE; (VIII) ANY OTHER GUARANTEE OR CLASS OF SECURITIES.
- I) IS AWARE THAT THE INFORMATION CONTAINED IN THIS WHITE PAPER MAY NOT BE COMPLETE OR MAY BE MODIFIED LATER.
- J) IS FULLY INFORMED AND AWARE OF ALL MATTERS RELATING TO THE PURCHASE, SALE AND HOLDING OF XPX IN ANY FORM WHATSOEVER WHICH CANNOT BE SPECIFICALLY INDICATED IN THIS OVERVIEW OR WHITE PAPER DOCUMENT, BUT WHICH MAY BE DISCLOSED TO A PERSON WHO CAN REASONABLY BE INFERRED TO HAVE THE KNOWLEDGE AND FAMILIARITY WITH THE PROBLEMS AND COMPLICATIONS OF CRYPTOCURRENCIES SUCH AS BITCOINS, ETHEREUM AND/OR OTHER TYPES OF CRYPTOKENS AND CONFIRMS IN AN IRREVOCABLE AND UNCONDITIONAL MANNER THAT HE OR SHE HAS AN UNDERSTANDING OF THE OPERATION, FUNCTIONALITY, USAGE, STORAGE, TRANSMISSION MECHANISMS AND OTHER MATERIAL FEATURES OF CRYPTOCURRENCIES, BLOCKCHAIN-BASED SOFTWARE SYSTEMS, CRYPTOCURRENCY WALLETS AND SMART CONTRACT TECHNOLOGY.
10. THIS DOCUMENT MAY INCLUDE CERTAIN HISTORICAL INFORMATION, ESTIMATES OR REPORTS ARISING FROM SOURCES CITED IN THIS DOCUMENT OR OTHERS RELATED TO THE TEC, MATERIAL ACTIVITIES CARRIED OUT BY THE PROGRAM'S EXECUTORS AND OTHER ISSUES. NO STATEMENT OR GUARANTEE IS PROVIDED REGARDING THE ACCURACY OR COMPLETENESS OF ANY INFORMATION, ESTIMATE AND/ OR REPORTING OF ANY SUCH INFORMATION OR OTHER THIRD PARTY SOURCES.
11. THE DOCUMENT INCLUDES "FORWARD-LOOKING STATEMENTS". THESE STATEMENTS INCLUDE, AMONG OTHER THINGS, THE DISCUSSIONS OF EACH OF RIPAX'S BUSINESS STRATEGIES AND EXPECTATIONS REGARDING ITS POSITION IN THE ECONOMY, FUTURE OPERATIONS, PROFITABILITY, LIQUIDITY, ASSETS AND FINANCIAL POSITION. ALL OF THESE STATEMENTS ARE BASED ON ESTIMATES AND ASSUMPTIONS MADE BY THE PROGRAM'S EXECUTORS WHO, ALTHOUGH CONSIDERED REASONABLE, ARE SUBJECT TO RISKS AND UNCERTAINTIES THAT MAY CAUSE REAL EVENTS AND THAT THE RESULTS OF THE PROGRAMS' EXECUTORS ARE MATERIALLY DIFFERENT FROM THOSE ANTICIPATED OR INDICATED BY SUCH DECLARATIONS AND ESTIMATES AND NO GUARANTEES MAY BE GIVEN THAT ANY SUCH STATEMENTS OR ESTIMATES WILL BE MADE. IN THE LIGHT OF THESE AND OTHER UNCERTAINTIES, THE INCLUSION OF A FORWARDLOOKING STATEMENT IN THIS DOCUMENT OR THE WHITE PAPER ITSELF SHOULD NOT BE CONSIDERED AS A REPRESENTATION OR A GUARANTEE BY THE TEC IN ANY CASE.
12. THIS DOCUMENT AND ITS CONTENTS ARE STRICTLY CONFIDENTIAL AND THE INFORMATION CONTAINED HEREIN IS PROVIDED TO THE RECIPIENT STRICTLY BASED ON THE FACT THAT THE RECIPIENT ENSURES THAT SUCH INFORMATION IS CONFIDENTIAL. CONSEQUENTLY, THIS DOCUMENT AND ITS CONTENTS OR ANY INFORMATION MADE AVAILABLE TO THE RECIPIENT IN CONNECTION WITH FURTHER INVESTIGATIONS MUST BE SECURELY KEPT. IN THE EVENT OF A BREACH OF THIS CONFIDENTIALITY GUARANTEE OR IF IT IS REASONABLY LIKELY THAT SUCH CONFIDENTIALITY MAY BE INFRINGED ON, THE PROGRAM AUTHORS MAY, AT THEIR DISCRETION, REQUEST ANY REMEDY AVAILABLE TO THE PROGRAM EXECUTORS, WHETHER UNDER THE LAW OR BASED ON NET EQUITY FOR DAMAGES. THE EXECUTOR PROGRAMS' HAVE THE RIGHT TO COMPLETELY RECOVER ALL THE COSTS, EXPENSES AND LOSSES INCURRED AND/OR SUFFERED IN THIS REGARD FROM THE CRIMINAL SUBJECT. TO ELIMINATE ANY DOUBT, THIS CONFIDENTIALITY IS HELD AS ATTRIBUTABLE TO THE RECIPIENT, PROFESSIONAL ADVISERS, ADMINISTRATORS, EMPLOYEES AND OTHER PERSONS Affected BY THE PROGRAM, AS WELL AS EXECUTORS OR ANY OTHER PERSON TO WHICH THE PLANS AND GOALS OF THE PROGRAM EXECUTORS WILL REACH.
13. RIPAX DOES NOT GUARANTEE AND DOES NOT UNDERTAKE TO PROVIDE ANY RETURNS TO ITS PARTICIPANTS. ALL THAT IS WRITTEN IN THE WHITE PAPER IS BASED ON INDUSTRY STUDIES AND ANALYSES CARRIED OUT BY PROFESSIONALS AND TECHNICIANS, WHICH COULD BE INACCURATE OR CONCLUDE WITH A NEGATIVE OUTCOME. THE VALUE OF XPX COINS IS ABSOLUTELY UNCERTAIN AND NOT GUARANTEED. THE BUYBACK COMMITMENT WILL BE RESPECTED WITHIN THE TERMS DEFINED IN THIS DOCUMENT.
14. RIPAX GUARANTEES ALL ITS COMMITMENT AND PHYSICAL AND MENTAL EFFORT TO COMPLETE THE PROJECT IN THE TIMES DESCRIBED AND APPROPRIATELY DETAILED IN THIS DOCUMENT, HOWEVER, IT DOES NOT ASSUME RESPONSIBILITY FOR PROJECT DELAYS OR DELAYS DUE TO THIRD PARTY EVENTS, LEGAL, ADMINISTRATIVE OR CATASTROPHIC EVENTS THAT COULD LEAD TO AN INTERRUPTION IN THE PROJECT ITSELF.
15. THE RISKS SECTION IS ORGANIZED TO INCORPORATE, ALONG WITH THESE LEGAL DISCLAIMERS, A TYPE OF WARNING TO INVESTORS ABOUT THE POSSIBLE LOSSES OF AN INVESTMENT ON A TYPE OF INVESTMENT SUCH AS AN TEC.



## References

- [1] Bloomberg. *This Is How China Is Stifling Bitcoin and Cryptocurrencies*. URL: <http://fortune.com/2018/01/17/china-bitcoin-cryptocurrency-crackdown/>. (accessed: 01.17.2018) (cited on page 34).
- [2] CBInsights. *Banking Is Only The Beginning: 36 Big Industries Blockchain Could Transform*. URL: <https://www.cbinsights.com/research/industries-disrupted-blockchain/>. (accessed: 02.01.2018) (cited on page 31).
- [3] Alistar Charlton. *HMRC to Reclassify Bitcoin as Private Money*. URL: <https://www.ibtimes.co.uk/hmrc-re-classify-bitcoin-private-money-1432718>. (accessed: 01.17.2014) (cited on page 34).
- [4] Coinmarketcap. *All cryptocurrencies*. URL: <https://coinmarketcap.com/all/views/all/>. (accessed: 05.01.2018) (cited on page 32).
- [5] Coinmarketcap. *Coinmarketcap bitcoin historical price*. URL: <https://coinmarketcap.com/currencies/bitcoin/historical-data/>. (accessed: 05.01.2018) (cited on page 31).
- [6] European Commission. *Directive (EU) 2015/849 of the European Parliament and of the Council of 20 May 2015*. URL: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32015L0849>. (started: 20.05.2015) (cited on page 12).
- [7] European Commission. *European Commission launches the EU Blockchain Observatory and Forum*. URL: [http://europa.eu/rapid/press-release\\_IP-18-521\\_en.pdf](http://europa.eu/rapid/press-release_IP-18-521_en.pdf). (started: 01.02.2018) (cited on page 10).
- [8] European Commission. *Payment Services Directive: frequently asked questions*. URL: [http://europa.eu/rapid/press-release\\_MEMO-15-5793\\_en.htm](http://europa.eu/rapid/press-release_MEMO-15-5793_en.htm). (started: 12.01.2018) (cited on page 12).
- [9] ACES Crew. *ARK Contract Execution Services: a blockchain interoperability platform for a new world*. URL: <https://arkaces.com/>. (accessed: 01.01.2018) (cited on page 8).
- [10] ARK Crew. *A Platform for Consumer Adoption*. URL: <https://www.ark.io>. (accessed: 01.04.2017) (cited on page 8).
- [11] Romain Dillet. *Germany Recognizes Bitcoin As “Private Money”, Sales Tax Coming Soon*. URL: <https://techcrunch.com/2013/08/19/germany-recognizes-bitcoin-as-private-money-sales-tax-coming-soon/>. (accessed: 08.19.2013) (cited on page 34).
- [12] Tyler Durden. *Ethereum Forecast To Surpass Bitcoin By 2018*. URL: <https://www.zerohedge.com/news/2017-05-31/ethereum-forecast-surpass-bitcoin-2018>. (accessed: 05.31.2017) (cited on page 32).

- [13] Flippening. *Flipping Watch*. URL: <https://www.flippening.watch/>. (accessed: 01.01.2017) (cited on page 32).
- [14] Forbes. *Hackers Have Stolen Millions Of Dollars In Bitcoin – Using Only Phone Numbers*. URL: <https://www.forbes.com/sites/laurashin/2016/12/20/hackers-have-stolen-millions-of-dollars-in-bitcoin-using-only-phone-numbers/#7ebd8cc438ba>. (accessed: 12.20.2016) (cited on page 34).
- [15] EDCAB - European Digital Currency & Blockchain Technology Forum. *European Union virtual currency legislation published*. URL: <http://edcab.eu/blog/european-union-virtual-currency-legislation-published>. (started: 05.07.2016) (cited on page 10).
- [16] World Economic Forum. *Deep Shift Technology Tipping Points and Societal Impact*. URL: [http://www3.weforum.org/docs/WEF\\_GAC15\\_Technological\\_Tipping\\_Points\\_Report\\_2015.pdf](http://www3.weforum.org/docs/WEF_GAC15_Technological_Tipping_Points_Report_2015.pdf). (accessed: 09.01.2015) (cited on page 32).
- [17] Google. *Bancor Protocol*. URL: [https://www.google.com/search?ei=GFboWu2hDoHJsgHz25ygBQ&q=Bancor+Protocol+ico&oq=Bancor+Protocol+ico&gs\\_l=psy-ab..0.23654.23654.0.23902.1.1.0.0.0.80.80.1.1.0....0...1.1.64.psy-ab..0.1.80....0.ZWrLNUTNfg8](https://www.google.com/search?ei=GFboWu2hDoHJsgHz25ygBQ&q=Bancor+Protocol+ico&oq=Bancor+Protocol+ico&gs_l=psy-ab..0.23654.23654.0.23902.1.1.0.0.0.80.80.1.1.0....0...1.1.64.psy-ab..0.1.80....0.ZWrLNUTNfg8). (accessed: 05.02.2018) (cited on page 33).
- [18] Mises Institute. *Austrian economics, freedom and peace*. URL: <https://mises.org/>. (accessed: 12.01.2018) (cited on page 13).
- [19] Mises Italia. *Bitcoin: Moneta del futuro o cara vecchia bolla?* URL: <http://vonmises.it/2013/05/31/bitcoin-moneta-del-futuro-o-una-cara-vecchia-bolla/>. (accessed: 05.31.2013) (cited on page 13).
- [20] Arjun Kharpal. *Over \$60 billion wiped off value of cryptocurrencies as bitcoin drops below \$8,000 again*. URL: <https://www.cnbc.com/2018/02/05/bitcoin-price-drops-below-8000-over-60-billion-wiped-off-cryptocurrencies.html>. (accessed: 02.05.2018) (cited on page 32).
- [21] Robert McMillan. *New York's New Bitcoin Rules Are Going to Kill Its Startups*. URL: [https://www.wired.com/2014/07/ny\\_bitcoin/](https://www.wired.com/2014/07/ny_bitcoin/). (accessed: 07.17.2014) (cited on page 34).
- [22] Financial Action Task Force on Money Laundering. *Topic: FATF Recommendations*. URL: [http://www.fatf-gafi.org/publications/fatfrecommendations/?hf=10&b=0&s=desc\(fatf\\_releasedate\)](http://www.fatf-gafi.org/publications/fatfrecommendations/?hf=10&b=0&s=desc(fatf_releasedate)). (accessed: 12.01.2018) (cited on page 12).
- [23] Satoshi Nakamoto. *Bitcoin: A Peer-to-Peer Electronic Cash System*. URL: <https://bitcoin.org>. (accessed: 01.01.2009) (cited on page 10).
- [24] CNBC News. *One stock analyst's \$ 10 trillion bull case for cryptocurrencies*. URL: <https://www.cnbc.com/2018/01/03/one-stock-analysts-10-trillion-bull-case-for-cryptocurrencies.html>. (started: 01.03.2018) (cited on page 10).
- [25] Mike Novogratz. *Cryptocurrency Market Cap to Reach \$2 Trillion in 2018: Mike Novogratz*. URL: <https://www.ccn.com/cryptocurrency-market-cap-to-reach-2-trillion-in-2018-mike-novogratz/>. (accessed: 11.28.2017) (cited on page 31).
- [26] PitchBook. *Venture Capital cryptocurrency industry*. URL: <http://my.pitchbook.com/?pbr=14763750>. (accessed: 05.01.2018) (cited on page 33).
- [27] U.S. Securities and Exchange Commission. *Statement on Cryptocurrencies and Initial Coin Offerings*. URL: <https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11>. (started: 11.12.2017) (cited on page 10).

- [28] Peatio Team. *Peatio, an Open-Source Assets Exchange*. URL: <https://www.peatio.com>. (accessed: 01.09.2016) (cited on page 8).
- [29] TechCrunch. *Former Mozilla CEO raises \$35M in under 30 seconds for his browser startup Brave*. URL: <https://techcrunch.com/2017/06/01/brave-ico-35-million-30-seconds-brendan-eich/>. (accessed: 06.01.2017) (cited on page 33).
- [30] Bloomberg Technology. *South Korea Seeks Measures to Curb Bitcoin Frenzy*. URL: <https://www.bloomberg.com/news/articles/2017-12-13/south-korea-seeks-measures-to-curb-frenzied-bitcoin-speculation>. (accessed: 12.13.2017) (cited on page 34).
- [31] Chuan Tian. *\$1.6 Billion: All-Time ICO Funding Climbs as Record \$500 Million Invested in July*. URL: <https://www.coindesk.com/1-6-billion-all-time-ico-funding-climbs-as-record-500-million-invested-in-july/>. (accessed: 08.04.2017) (cited on page 33).
- [32] Financial Times. *Crypto exchange Binance faced ‘large scale’ theft attempt*. URL: <https://www.ft.com/content/58a32050-22aa-11e8-add1-0e8958b189ea>. (accessed: 01.02.2018) (cited on page 32).
- [33] L.A. Times. *Bitcoin dives after SEC says cryptocurrency platforms must be registered*. URL: <http://www.latimes.com/business/la-fi-bitcoin-sec-registration-20180307-story.html>. (accessed: 03.07.2018) (cited on page 32).
- [34] Alice Truong. *Top 10 Bitcoin myths debunked*. URL: <https://www.coindesk.com/top-10-bitcoin-myths-debunked/>. (accessed: 06.04.2013) (cited on page 33).
- [35] Jordan Tuwiner. *Bitcoin Mining China*. URL: <https://www.buybitcoinworldwide.com/mining/china/>. (accessed: 06.13.2017) (cited on page 32).
- [36] Government of Venezuela. *Petro (PTR) has its origin in the idea of president Hugo Chavez of a strong currency backed by raw materials*. URL: <http://elpetro.gob.ve/>. (started: 01.02.2018) (cited on page 11).
- [37] Wikipedia. *Legality of bitcoin by country or territory*. URL: [https://en.wikipedia.org/wiki/Legality\\_of\\_bitcoin\\_by\\_country\\_or\\_territory](https://en.wikipedia.org/wiki/Legality_of_bitcoin_by_country_or_territory). (accessed: 12.01.2018) (cited on page 13).
- [38] xBTCe. *About Litecoin*. URL: <https://support.xbtce.info/Knowledgebase/Article/View/152/59/about-litecoin>. (accessed: 03.22.2018) (cited on page 33).





## Todo list

TODO: Add RipaEx partners here . . . . .	9
TODO: more details here . . . . .	16
TODO: more details here . . . . .	16