



MEMBRANA

TRUST MANAGEMENT OF DIGITAL ASSETS

BUSINESS OVERVIEW



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ABSTRACT

This document presents the analysis of trust management market for digital assets and the project business model of Membrana.io.

Project Idea of Membrana

Membrana.io is a blockchain platform to conclude mutually beneficial and secure contracts between investors and traders for the trust management of cryptocurrency assets.

The Membrana.io project is a solution to problems of trust management.

The main objective of Membrana.io platform is to directly connect an investor and a trader to conclude a mutually beneficial, secure, and reliable contract.

To avoid risks for an investor and a trader, and to make cooperation under trust management more profitable and safer, we have developed a unique algorithm to solve the following problems:

- The necessity for involvement of an intermediate party, guaranteeing the safety of funds and the fulfilment of contract terms
- Loss of control over invested fund (transfer of fund to a third party)
- Lack of trust between both parties
- Lack of opportunity to check the exact yield of a trader in the past
- Risk of violation of contractual terms
- Lack of a convenient tool for trading on different exchanges at the same time



Technical Implementation

The algorithm implemented on Membrana.io platform consists in providing access for a trader to an investor's exchange account, without the necessity to transfer assets anywhere.

Direct contracts between the investor and the trader allow both parties to eliminate all risks associated with the involvement of intermediaries, and enable the transaction participants to determine the terms of cooperation favorable to them. All conditions are described in a Smart Contract and cannot be changed later. When agreed terms are met, Smart Contract is performed without human input.

The safety of investor's fund is provided by the asset management mechanism. Financial assets never leave the investor's exchange wallet. The management process consists in providing access for the trader to trade from the investor's exchange account, through the internal trading terminal, which is linked to the exchange through an API key. Work-through of the terminal occurs only with the encrypted API key, where transfer functions are blocked. The private API key is not provided to the trader.

The security of original API keys is ensured through the backend system, which provides for the personal account and the trading terminal operation, does not have access to the server directly interacting with the exchange.

The trading system has an isolated environment. Access to operations through the trading system is possible only by signing an authorization session by the user using the ECDSA algorithm.

Read more about the principles of platform operation in [Membrana Whitepaper](#).



CRYPTOCURRENCY MARKET AND ITS DEVELOPMENT TRENDS

The origin of cryptocurrency market dates back to January 2009, when the first Bitcoin cryptocurrency appeared. Today, there are hundreds of cryptocurrencies traded around the world.

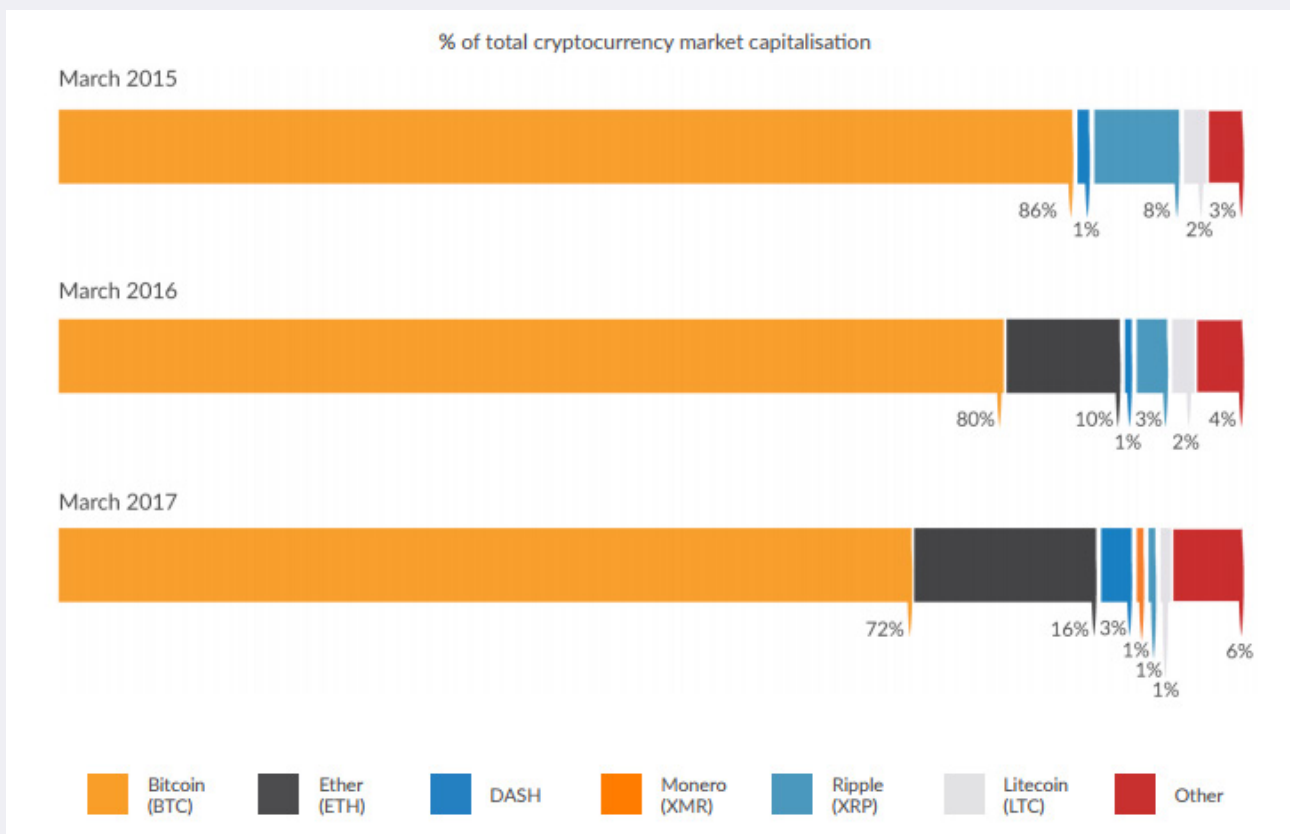
The growing interest in cryptocurrencies and blockchain technology leads to a very high market growth rate, which outstrips the growth of classical capital markets by several times. For the incomplete 2017, the market capitalization of all cryptocurrency assets has increased from \$18 billion to \$250 billion, which is more than 1300% growth.



The capitalisation of Bitcoin, the main currency, has increased from \$15 billion to over \$120 billion during this time period, with a price of about \$8,000 per Bitcoin.

It is also worth noting that the increase in the volume of market trading per day is up to 9 billion US dollars, which is 20 times more than it was in early 2017.

From the point of view for Bitcoin share in the cryptocurrency market, it still remains the dominant currency. However, it is worth noting that the shares of other coins are growing as well, indicating investors' interest in alternative cryptocurrencies.



At the time of writing, Bitcoin's capitalisation ratio in relation to the rest of cryptocurrencies is 56% as shown below:



Speaking about the cryptocurrency market as an industry, it consists of following elements:

Industry Element	Key Function
Exchange	Exchange, purchase and trade in cryptocurrencies
Wallet	Cryptocurrency saving
Payment system	Payment in cryptocurrencies
Mining	Blockchain protection and generation of new blocks

A very important characteristic of the cryptocurrency market is the number of users, and the corresponding infrastructure development. The data of various studies are shown below.

According to the PaySpace Magazine portal, the number of users in the world that have ever started Bitcoin wallets has reached 41 million.

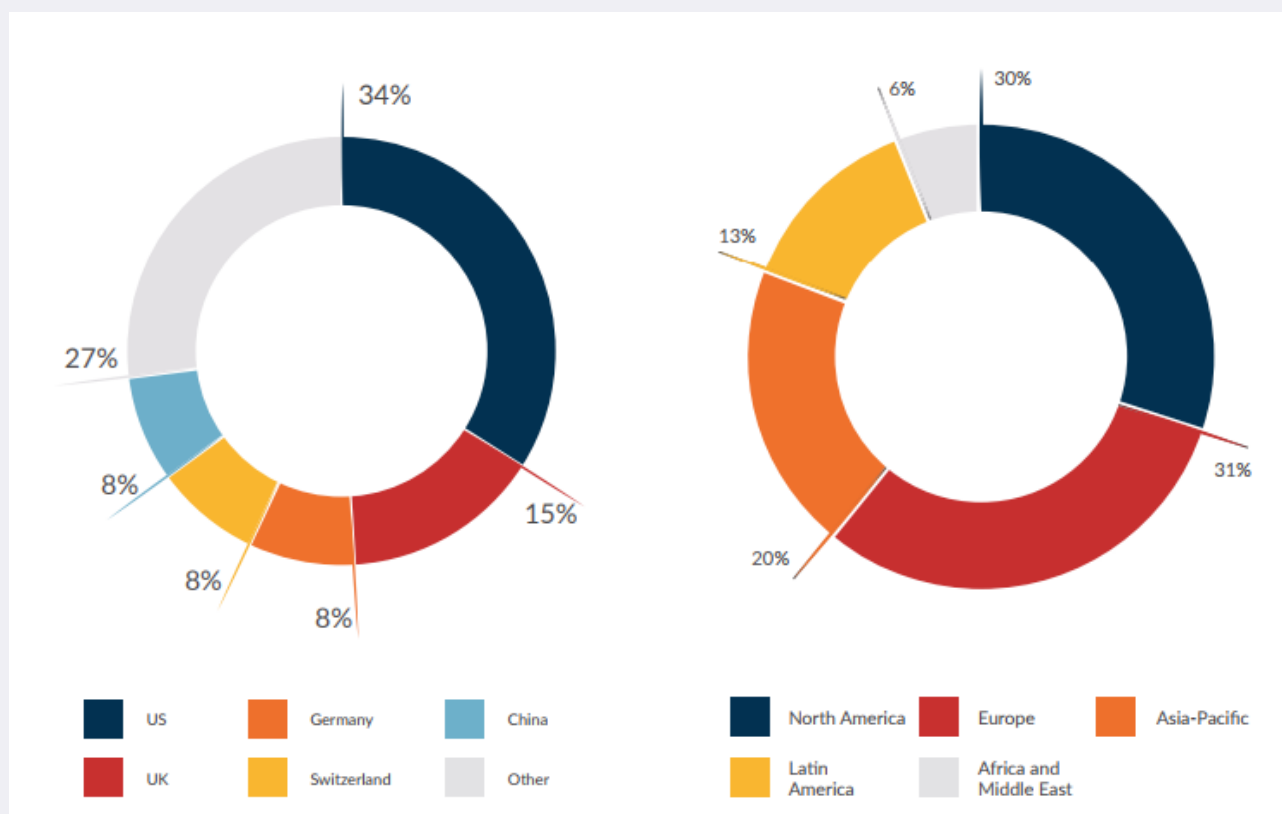
An independent study by Coinbase and ARK Invest Research in early 2017 showed that more than 10 million people worldwide are Bitcoin owners. In this case, during only the one-month period in June 2017, the customer base of Coinbase has increased by more than 25%.



According to the Cambridge Center for Alternative Finance (CCAF), in the second quarter of 2017, the number of people actively using cryptocurrency has grown significantly, as evidenced by the collected data on the number of active wallets.

The number of active cryptocurrency wallets has increased from about 0.6-2.6 million in 2013 up to 5.8-11.5 million in 2017 (twenty-six operators of cryptocurrency wallets, including Airbitz, Armory, Bitgo, Blockchain, Coinbase, Greenaddress, Ledger, Jaxx, Mycelium, Samourai, and Xapo — which participated in the survey);

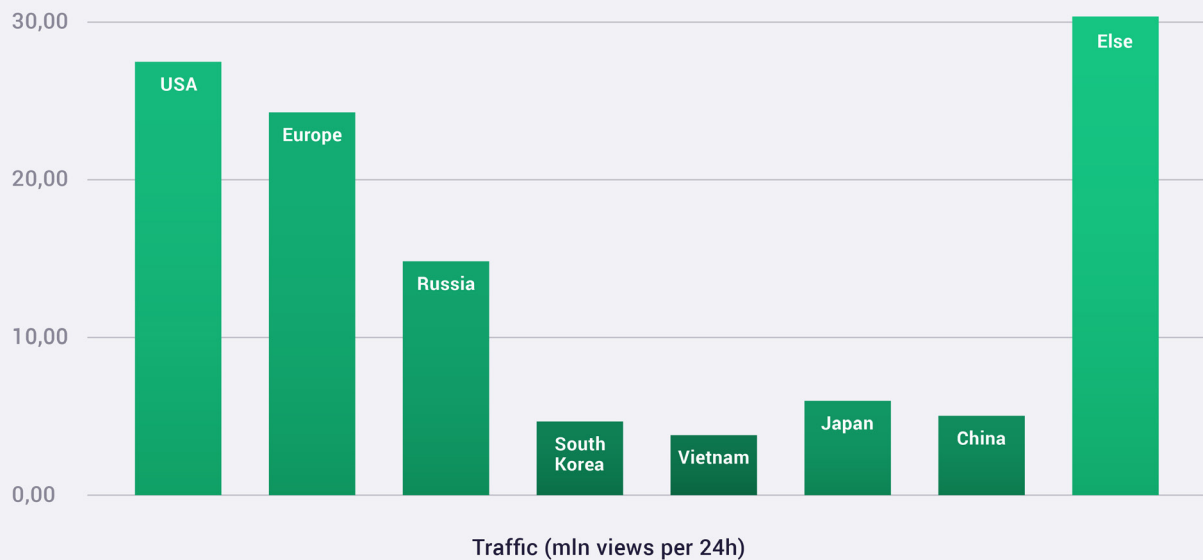
The geography of users is illustrated in following graphs:



Graph1: Providers

Graph 2: Users

81% of wallet providers are based in North America and Europe, but these regions account for only 61% of users (31% in Europe, and 30% in North America). 20% of users live in the Asia-Pacific region and another 13% of them are in Latin America.



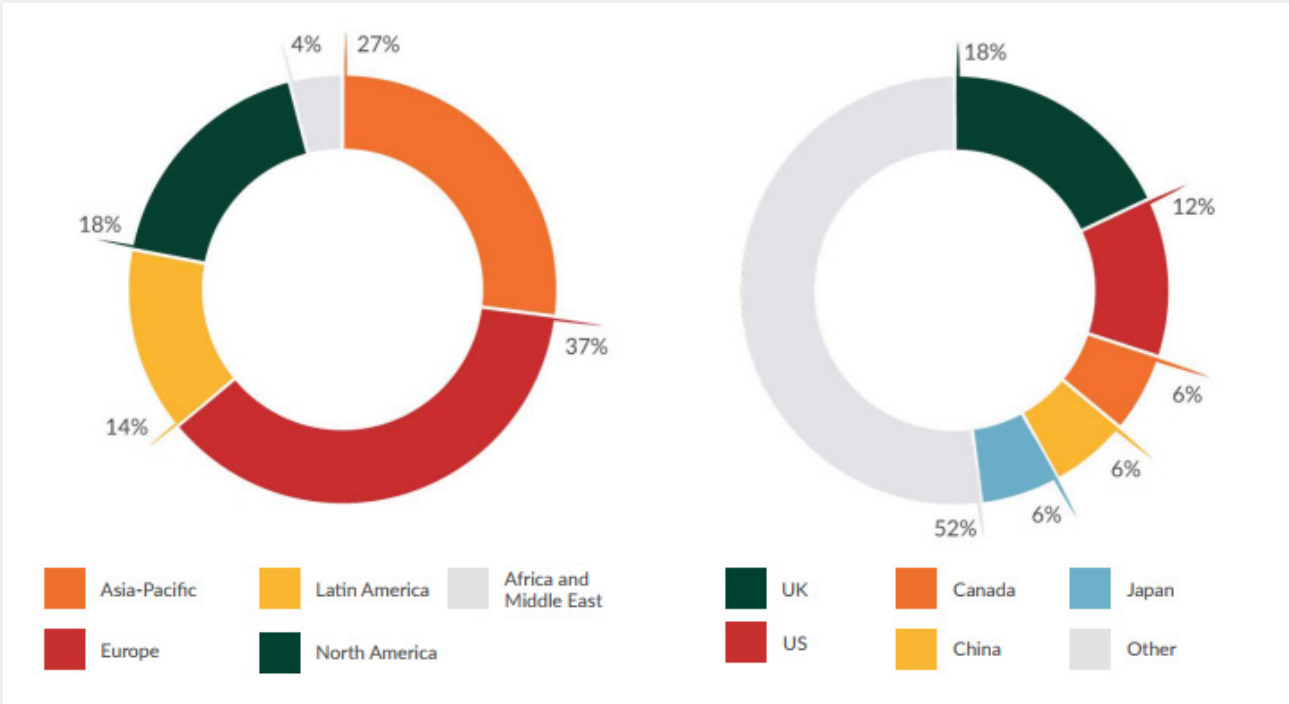
In addition, the following information on the people working in the industry related to cryptocurrencies, is provided in the study of Cambridge Center for Alternative Finance as follows:

At least 1,876 people work on a permanent basis in the cryptocurrency industry, and the exact figure is likely to be significantly larger than 3,000 people — given that, workers of large mining pools and other companies did not provide data on their employees for the study.

By the middle of 2017, there were already more than 80 exchange sites around the world dealing with trades in cryptocurrencies.



Graph: The geography of exchanges and trading volume

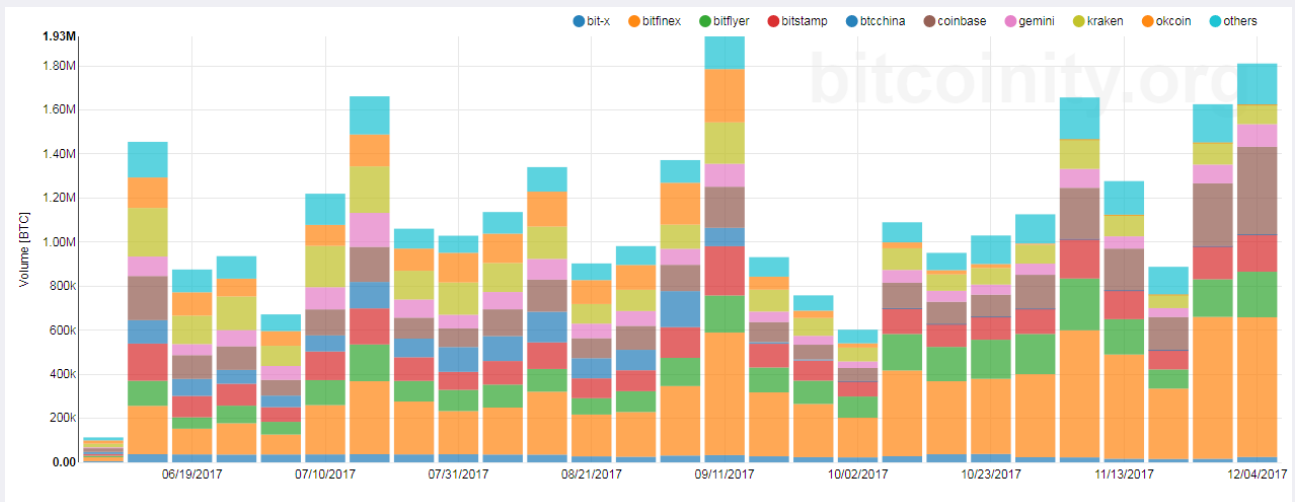


Graph: Trade volume charts by countries



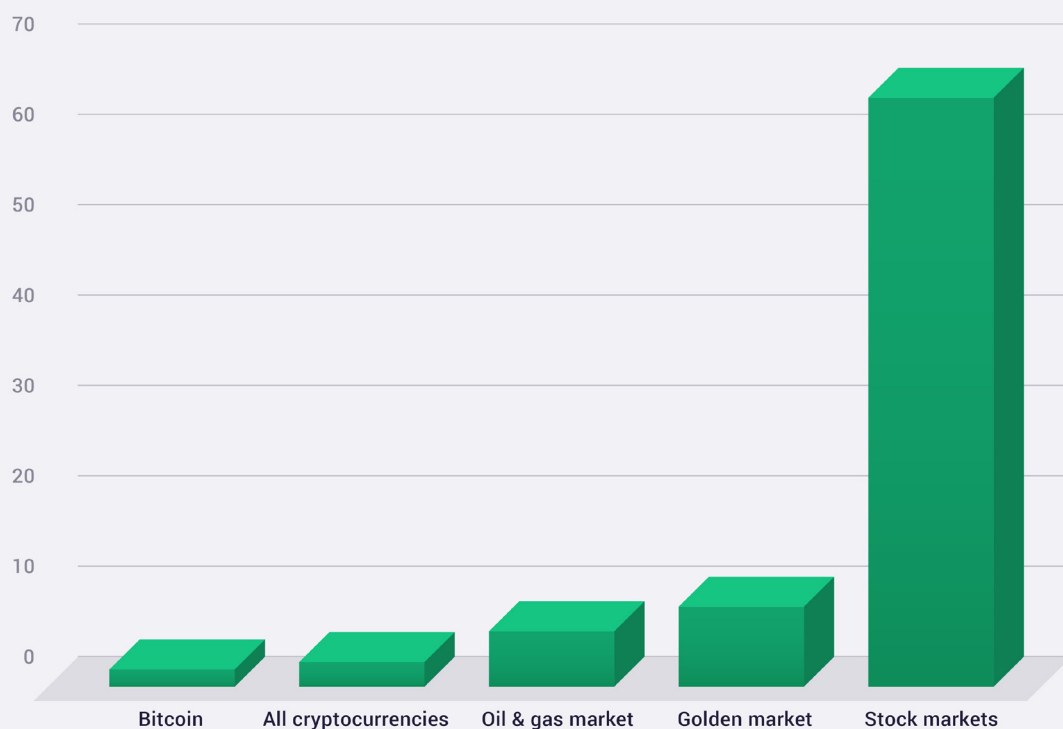


Graph: Trade volume by exchanges. Information for the second half of 2017



Thus, we can easily talk about the global development of the cryptocurrency market. However, compared to other markets, the cryptocurrency and Bitcoin market capitalisation is insignificant. This determines a huge growth potential.

Graph: Markets capitalization comparison





Currently:

- Bitcoin capitalisation: \$120 billion
- Capitalisation of all crypto-currencies: \$250 billion
- Capitalisation of the oil and gas market: \$4.43 trillion
- Capitalisation of the gold market: \$7.82 trillion
- Capitalisation of the world stock market: \$64.82 trillion



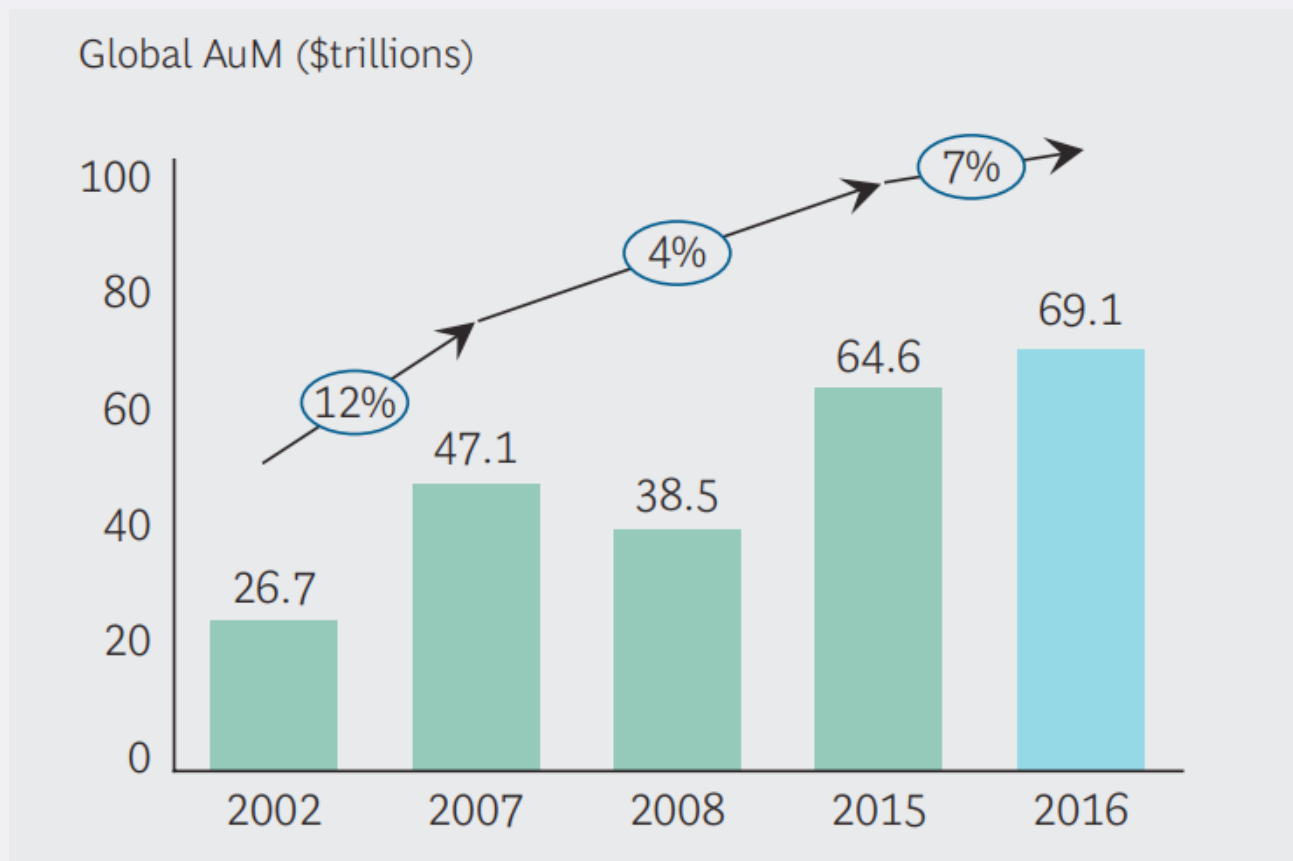
TRUST MANAGEMENT MARKET

Trust Management Market trends

Volume of Managed Assets

Trust asset management is an area that has always been in demand. Investors are ready to entrust their assets to successful traders in order to generate income.

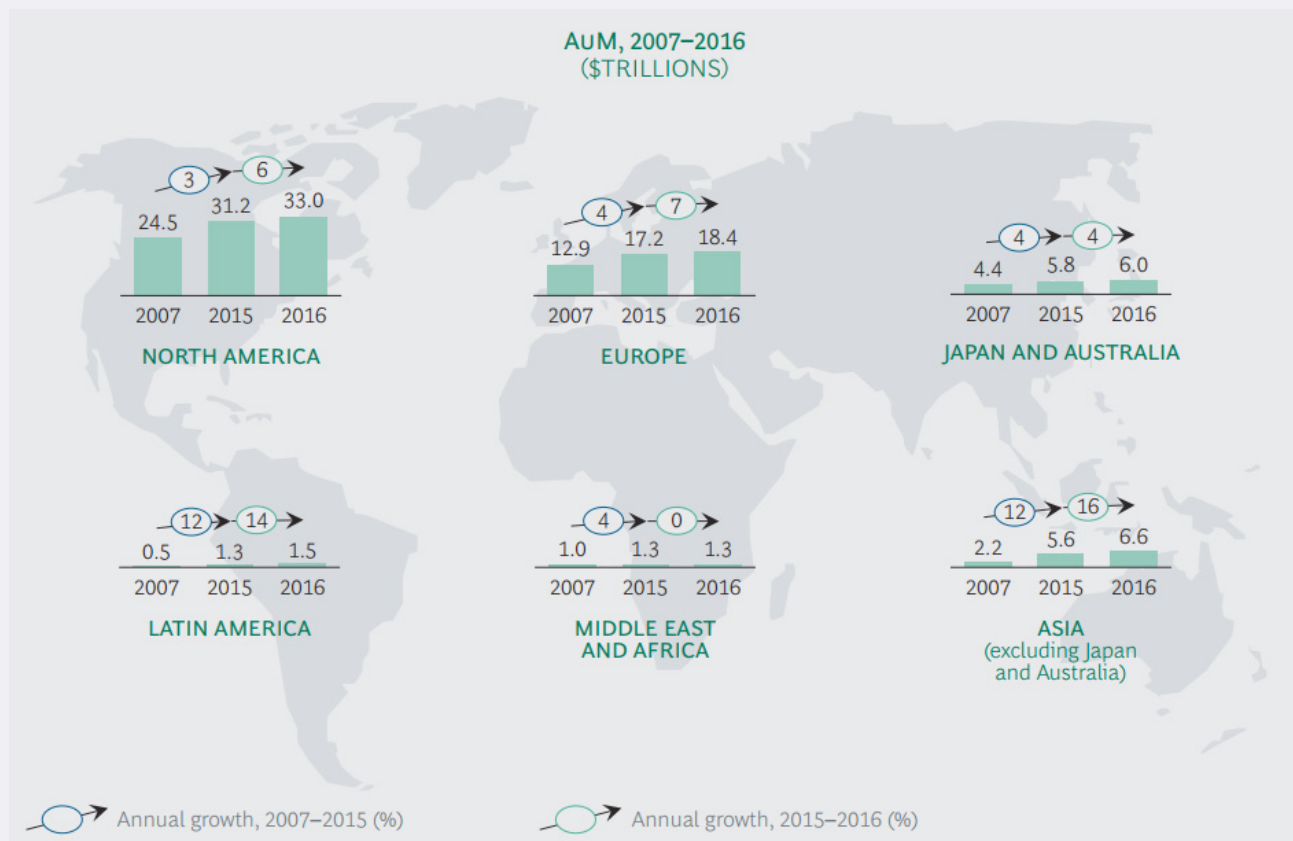
According to the Boston Consulting Group's Global Asset Management Report 2017, the amount of managed assets in 2016 was about 70 trillion US dollars.



Graph: The growth of Trust Management Market



The geography of trust management market is as follows:



Graph: The Geography of Trust Management Market

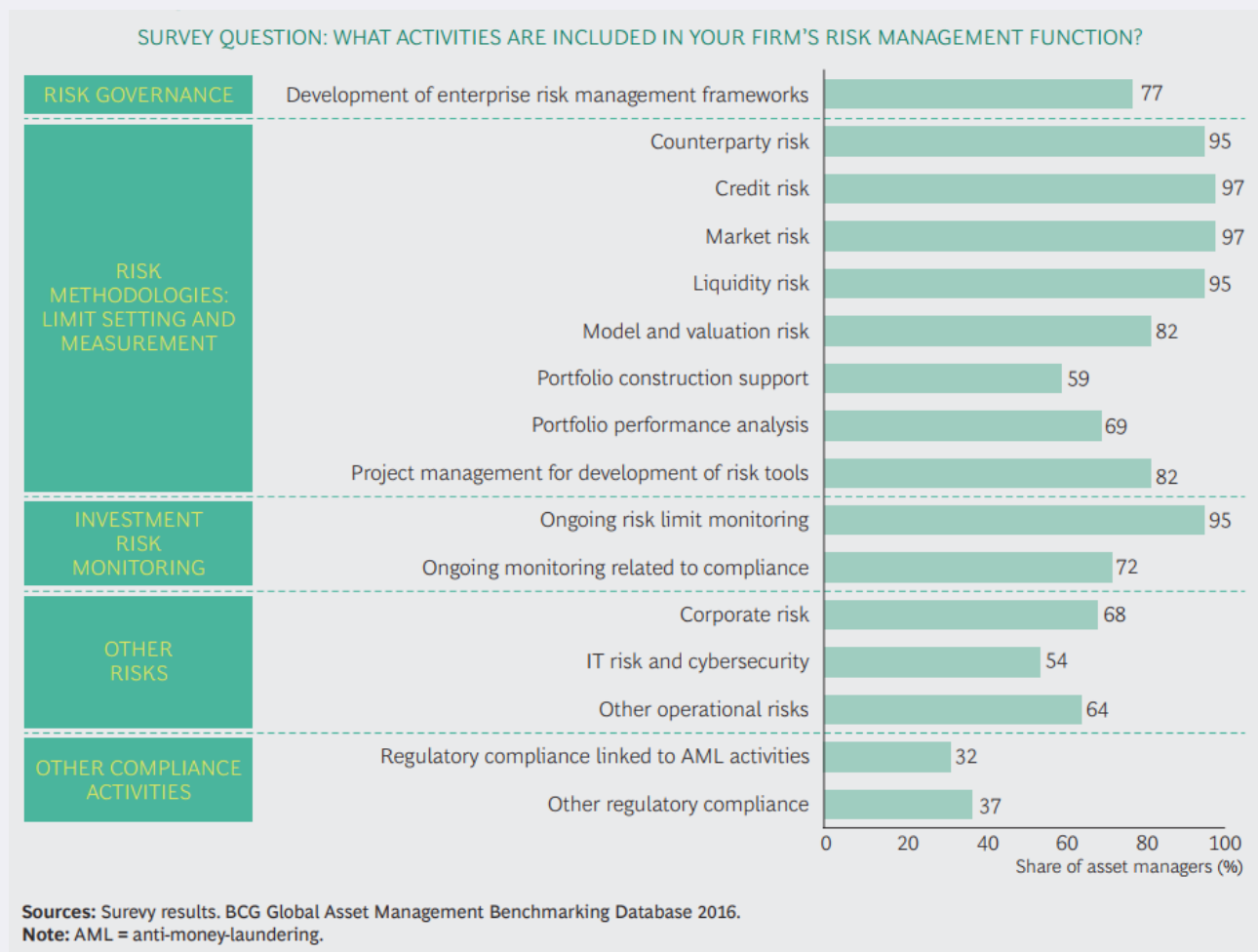
A slowdown in the growth of trust management market is noticeable. This is due to existing problems of this market, the fact that the process of transferring money for investors involves a lot of risks, and the lack of information about how their money will be used.



Problems of Trust Management Market

Key problems:

- Necessity for involvement of an intermediate party
- Loss of control over invested fund (transfer of fund to a third party)
- Lack of trust between both parties
- Lack of opportunity to check the exact yield of a trader in the past
- Risk of violation of contractual terms





Problems revealed by the survey

From a technological perspective, traditional trust management systems contain the risks for investors, because their operation principle is not always clear. In most situations, investors use some softwares to transfer funds to traders, and then expect a profit. However, investors do not have the ability to control their own funds.

In addition, the management system itself does not give investors any technical capabilities to ensure the return of their funds, and does not provide an understanding of how their funds are used.

The development of this market is also affected by the lack of trust between investors and traders. Investors receive statistics on the use of their assets and traders' efficiency, but are unable to verify this information in any way. There is also a risk for investors that traders may simply disappear with investors' assets.

This situation leads to the need to involve intermediaries in these relationships. In most situations, such an intermediary is a fund or a company guaranteeing the performance of obligations.

However, this does not solve existing problems with information transparency.

Traders or funds are still technically able to provide incorrect information about the trading results. Investors do not have an opportunity to check the real profitability of traders. Some funds use this to attract customers, by demonstrating high rates, which in fact, are not true.

All these factors lead to serious limitations to the market potential development, lack of confidence between the participants in the process, and serious risks for investors to lose their own capital.

Despite the obviousness of existing problems in the industry, for the past 10 years, the mechanisms of interaction between market participants have not undergone significant changes.



Cryptocurrency Assets Trust Management Market

Thanks to blockchain technology, a large number of new types of assets — cryptocurrency — have appeared on the market: Bitcoin, Litecoin, Ether, Ethereum token, etc. These assets are decentralized digital currencies, each of which allows their owners to carry out transactions between wallets.

There are cryptocurrency exchanges based on market economy principles for the exchange of various cryptocurrencies. Many exchanges, such as Bittrex, Kraken, Bitfinex, and Hitbtc, offer their users the ability to trade a large number of cryptocurrency pairs, which enables traders to use different trading strategies and generate profit from rate changes. More and more traders have done it successfully, showing a stable and high yield that reaches hundreds or even thousands of percent per year. For example, the Alternative Money Fund in 2017 has achieved a gain of more than 3,000%, and the Blue Magic Capital Fund with more than 10,000%.

Modern market of cryptocurrencies is highly volatile. On one hand, it enables successful traders to display extremely high yield. On the other hand, it brings great risks to all market participants, but first of all to beginners. Unlike traditional exchanges such as Forex, in cryptocurrency trading ones can easily lose a significant portion of their assets in one day, even without a leverage.

Due to its high yield, trust management of cryptocurrencies is of increasing interest, since this is a mutually beneficial cooperation for both investors and traders. By transferring their assets to experienced traders, investors retain the possibility of obtaining super-high income in the cryptocurrency market and, at the same time, minimize risks of significant loss common to the inexperienced players.

In the context of new technologies, introduction of blockchain allows the trust management market to achieve transparency and efficiency at the technological level. This contributes to an increased confidence in the market and the transaction security, which in turn attracts private entrepreneurs and companies to be involved in investing.



Trust Management Tools for Cryptocurrency Assets

The trust management market for cryptocurrency assets is also characterized by the lack of trust between investors and traders. Most often, this is solved by creating funds to represent traders' interests. The source of information that shows the increasing demand for trust management of cryptocurrency assets can be Google Trends.

Below are the dynamics of user requests on relevant topics around the world:

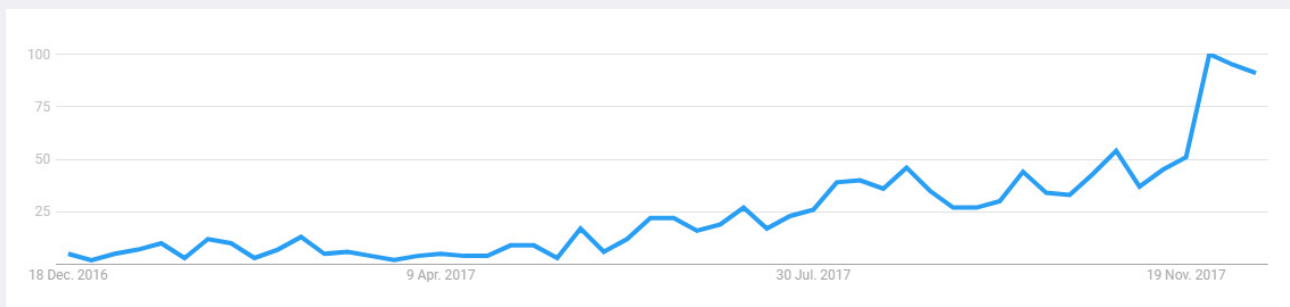


Figure "Crypto Fund" Request Dynamic

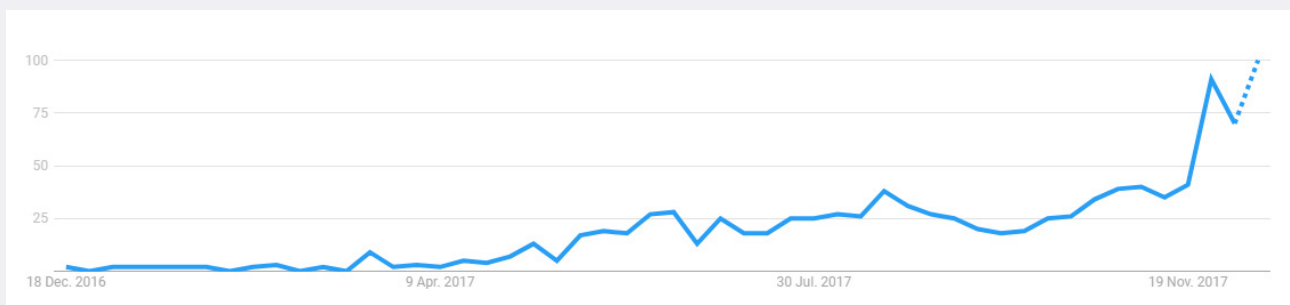


Figure "Cryptocurrency Fund" Request Dynamic

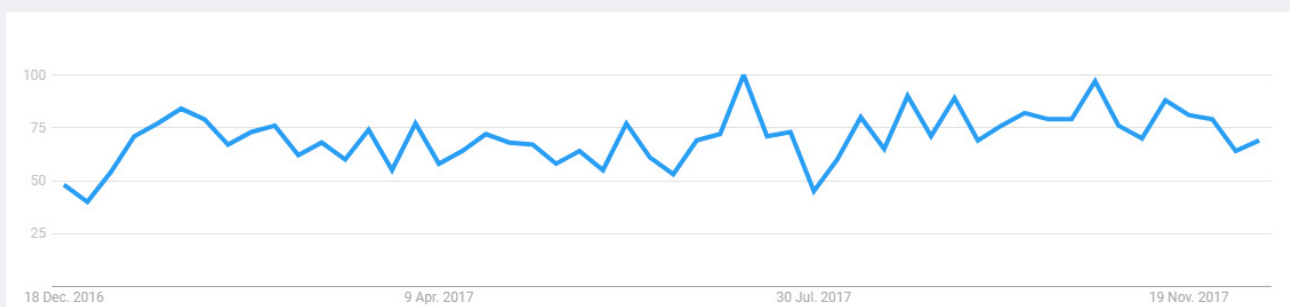


Figure "Digital Asset Management" Request Dynamic



Let's consider which tools exist now in the trust management market of digital assets, providing an opportunity to transfer money for management.

There are various types of fund offering services of digital asset management for investors.

Investment Funds

Most of the investment funds work without the use of blockchain technology and Smart Contracts, entirely on the trust of their users. This tool is the most unreliable for investors, since their capitals are not protected by anything at all, except for payment arrangements with the funds themselves. The history knows situations when such funds change the payment conditions and even when they are closed, disappearing with the investors' capitals.

Tokenized Funds

A separate segment is tokenized funds. In these funds, blockchain technology and Smart Contracts are used. The principle of their functions is based on the fact that investors, acquire the fund share, and receive tokens as the confirmation of ownership of this share. In this case, investors have the guarantee of getting back their assets, which is confirmed by a Smart Contract. However, it does not know and does not have the ability to control how the fund manages its capital, so there are risks that its capital can be stolen through fake currencies.

Membrana.io Platform

The main objective of Membrana.io platform is to directly connect investors and traders to conclude mutually beneficial, secure, and reliable contracts. Thanks to blockchain technology and the use of a unique algorithm for assets transfer in management, the problems related to financial risks of investors, and the lack of trust between investors and traders are solved — thereby, excluding the involvement of an intermediate party or a fund as a guarantor of the performance of obligations.

Membrana.io provides investors and traders with a transparent, decentralized,



and secure system that controls the process of concluding and executing a contract up to the point of revenue gained by both parties.

All terms and conditions of the transaction are set in a Smart Contract and cannot be changed after its closeout. When agreed terms are met, Smart Contract is closed out automatically according to terms and conditions specified.

All results of traders' commercial operations are stored in blockchain to ensure the result reliability.

Investors' financial assets are always safe and in their full control, since assets never leave their exchange wallets, and traders get them into management through providing access to trade with API keys. Capitals in this case cannot be withdrawn, and investors themselves choose cryptocurrency pairs allowed for trading.

User Advantages of Membrana platform

For Traders

- Possibility to attract investments in trust management
- Customizable trading terminal inside the platform
- Support of all major cryptocurrency exchanges in one terminal
- Rating system based on auction bidding results
- Transaction conditions are set in Smart Contract and are unchangeable
- Trader's commission fee is set for transaction at the moment of contracting
- Possibility to configure trading strategies (to be developed)

For Investors

- Safety and transparency of all transactions
- Funds are always on the investors' accounts
- Possibility to select the most successful trader for investment
- Guaranteed result accuracy of traders
- All conditions of transaction are set in Smart Contract and are unchangeable
- Currency selection to calculate profit: BTC, ETH, and USD
- Convenient interface to work with several contracts with traders



For Cryptocurrency Trading Ecosystem

- Additional possibilities for investments
- Inflow of assets on the market from new investors
- Increased number and volume of transactions on cryptocurrency exchanges
- Relaxation in requirements for entering cryptocurrency trading, it is sufficient to just select traders and transfer assets to them
- Increase in trader's income, their number and, as a result, the improvement of trade solutions quality

Comparison of Investment Tools

	<u>Membrana.io</u> contract system	Tokenized funds (<u>Iconomi</u> , <u>Melonport</u> , <u>Tokenbox</u>)
Platform for users	Operating through web interface, using ECDSA secure procedures and MetaMask plugin	No platform available
Asset Control	Assets are always in investors' exchange wallets	Assets are transferred to funds or traders
Transfer of Assets under Management	Conclusion of a smart contract and trading with the API key	Purchase of tokens to confirm fund share ownership
Restrictions of Trader's Freedom	Investor can select trading pairs available for trader to operate	There is no way to limit the trading operations of traders
Fees for Services of a Trader and the Platform	Stored on the address of Smart Contract before its completion	Payment required for each action (input and output)
Rating System	History of trading is confirmed by blockchain	There is no way to confirm the exact profitability of traders
ICO Marketplace	Will be implemented with a special ICO Smart Contract	Possible, since capitals are kept by traders
Support of Different Exchanges	Unified trading terminal inside the platform	Traders independently transfer assets between exchanges and wallets



MARKETING AND FINANCIAL PLAN

Marketing Strategy

Membrana Platform

Product: A platform for trust management contracts between investors and traders

Implementation: Through a free web-interface available on Membrana.io website

Target Audience: Investors, traders, and funds

Key advantages of the technology used on Membrana.io platform are attributed to the higher trust management security and contractual performance assurance. These functions are implemented with the use of blockchain technology, Ethereum Smart Contracts, and a unique algorithm of asset transfer in management, taking into account interests of both parties. All this makes Membrana.io platform attractive for users, as it offers a brand new solution.

Main disadvantages may be related to the possible lack of user confidence in the system, and the lack of understanding of its operating principles. These may be eliminated by the thorough explanation of operating principles and aspects. As far as multiple tasks require higher confidence from future users, the marketing strategy will be based on the increase of social project capital, and the enhancement of audience awareness of system functions. The main marketing strategy objective is to attract investors and traders to use Membrana.io interface.

Below are the actions required to increase the number of platform users:

1. Ambassador groups in various countries to assist in attracting new users, and communicate the platform capabilities to new users
2. Opinion leaders among successful traders to attract players
3. Topic-specific messages on information portals and mass media, to ensure wide coverage, and attract investors
4. 24-hour multilingual customer support to expand the market coverage and solve current tasks promptly, providing maximum service capacity for users.



Financial Model of Membrana

When operating on platform Membrana.io, for services rendered, platform will charge a commission fee.

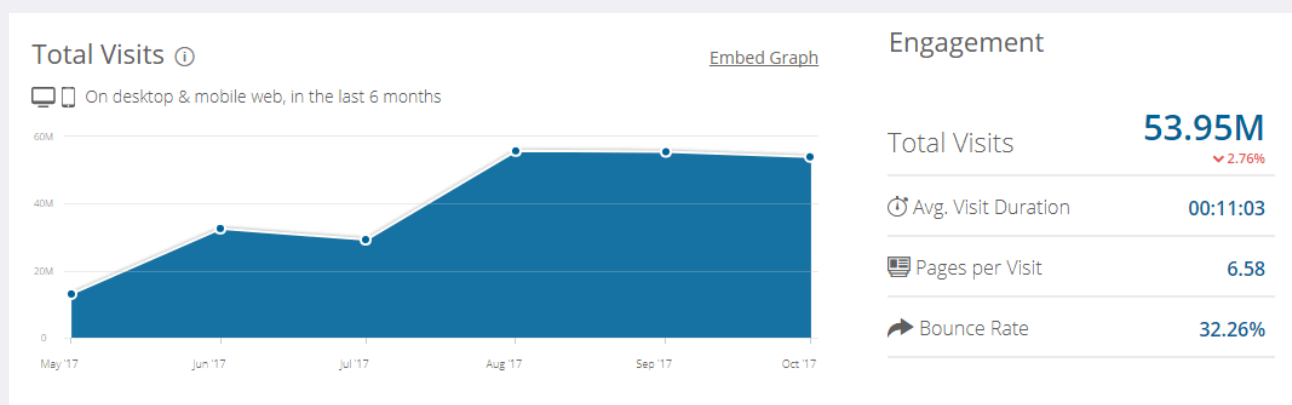
Let's calculate potential profit of Membrana.io platform:

According to SimilarWeb service worldwide, visitor traffic is 53 million people per day. Trade volume on Bittrex exchange is equivalent to 90 thousand Bitcoins per day. The price of one Bitcoin is \$10 000 on the day of document creation.

Let's calculate the income at Membrana.io platform, based on different daily contract volume.

For the sake of calculation simplicity, operation costs won't be included. Also, the commission fee will be counted as 0.5% for all contracts.

The calculation is in the table below.





Share from the trading volume	0.03%	0.05	0.1%	0.25%	0.5%
Contract volume in BTC	9	45	90	225	450
Daily profit in BTC	0.045	0.225	0.45	1.125	2.25
Monthly profit in BTC	1.35	6.75	13.5	33.75	67.5
Monthly profit in USD	13,000	67,500	135,000	337,500	675,000

This example illustrates the potential of Membrana.io platform for one Bittrex exchange

Let's examine the income growth of Membrana.io platform when implemented on following exchanges:

Bitfinex - daily trading volume 250,000 BTC

Poloniex - daily trading volume 80,000 BTC

For the calculation, we will use contract share equal to 0.05% from the exchange volume.

Exchange	Bitfinex	Poloniex
Contract volume in BTC	125	40
Daily profit in BTC	0.625	0.2
Monthly profit in BTC	18.75	6
Monthly profit in USD	187,500	60,000

Consolidated monthly income is based on a contract share of 0.05% from the trading volume of 3 exchanges - Bittrex, Bitfinex, and Poloniex. It will be 315,000 USD.

In the near future, Membrana.io platform is planning to implement API keys to support trading on all exchanges.



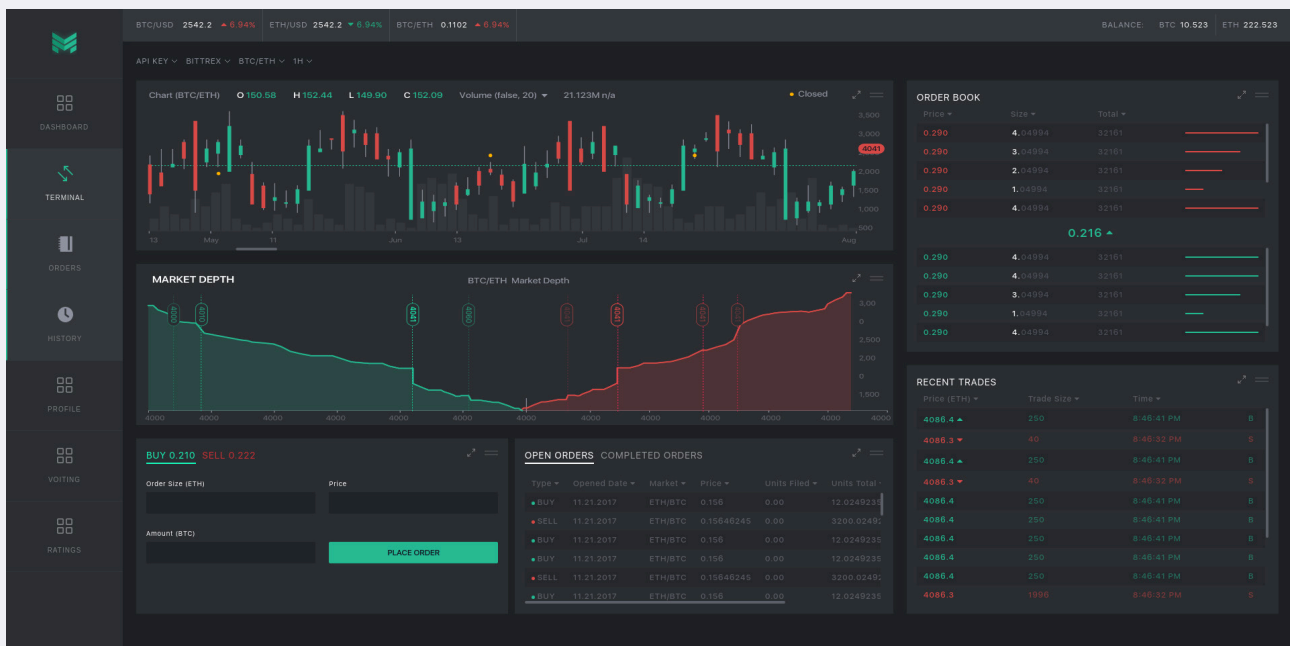
MVP

Below there are some pictures of Membrana.io Platform Interface (Alpha Version)

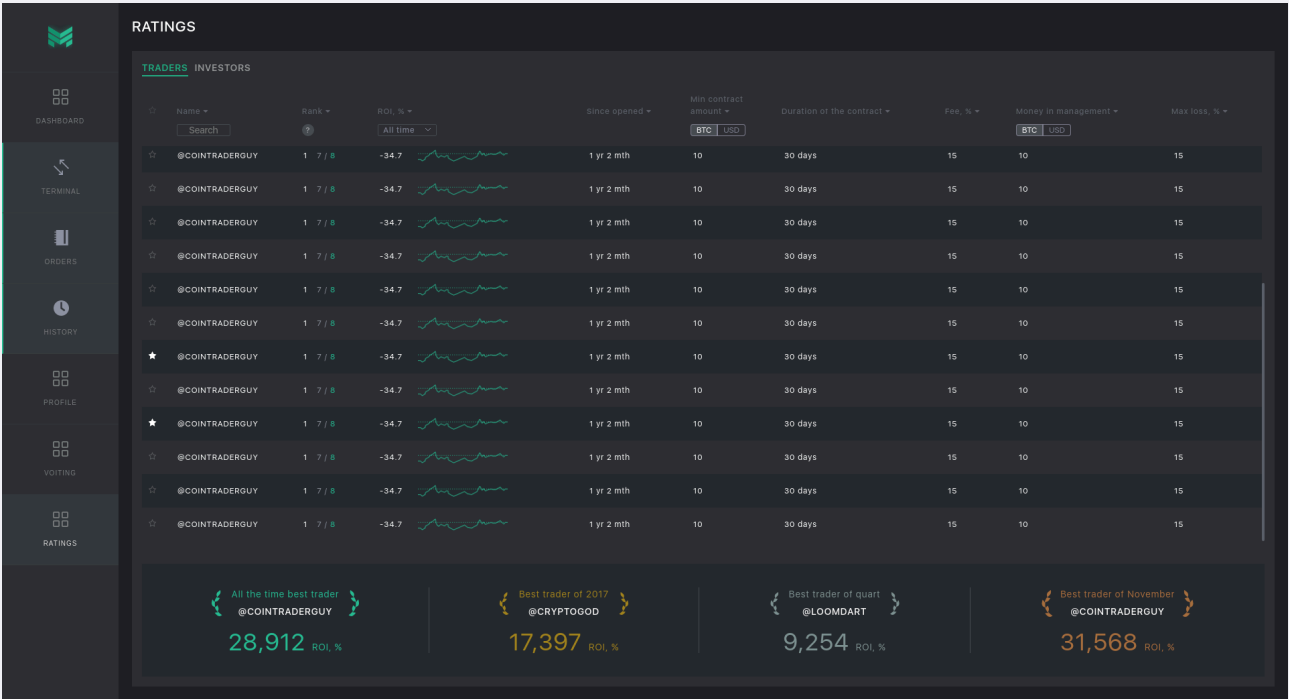
Please refer to following websites to try it in work: alpha.membrana.io,
demo.membrana.io.

For full technical information and for the principles of operation please read [Membrana Whitepaper](#).

Single trading terminal for traders



Trader's rating





Investor's personal account

DASHBOARD

PROFILE

TERMINAL

ORDERS

HISTORY

RATINGS

API KEYS

API KEYS

Key name	Exchange	Balance, BTC
Some key 365	BITTREX	7633.17
Some key 326	BITTREX	6576.02
Some key 5e4	BITTREX	6912.98
Some key 588	BITTREX	6517.87
Some key 331	BITTREX	6767.53
Some key 108	BITTREX	7435.09
Some key 45	BITTREX	6395.64

CURRENCIES

Currency	Status	Balance
USD	OK	18.53
BTC	OK	95.27
ETH	OK	21.61
NEO	OK	69.52
BCC	OK	92.20
LGD	OK	0
OMG	OK	51.23

REQUEST LIST

From	Time	Sum
@TRADER3DD	16 h 48 m	89 BTC
@TRADER32B	19 h 55 m	99 USD
@TRADER3DB	21 h 18 m	87 BTC

CONTRACTS

Contractor	Expire date	Current profit, %	Max loss, %	Start balance, %	Current balance, %	Left	Fee, %	TX	Status
@TRADER51F	42 h 44 m	-14.29	28	28 BTC	24 BTC	7 BTC	27	OK	OK
@TRADER705	446 h 8 m	12.82	28	39 BTC	44 BTC	2 BTC	25	OK	OK
@TRADER92	298 h 53 m	18.48	25	92 BTC	109 BTC	9 BTC	12	OK	OK
@TRADER61C	269 h 36 m	10.19	22	108 BTC	119 BTC	19 BTC	10	OK	OK
@ME	131 h 3 m	-12.79	11	86 BTC	75 BTC	21 BTC	13	OK	OK
@ME	156 h 17 m	-2.08	17	48 USD	47 USD	14 USD	13	OK	OK
@ME	207 h 10 m	7.14	15	56 USD	60 USD	2 USD	18	OK	OK

TIME LEFT TO COMPLETE:

11 : 5 : 58

DAYS HOURS MIN

PROFIT LEFT TO COMPLETE:

19 BTC

PROFIT AS TRADER

TOTAL: 80 BTC

JS chart by amCharts

7.50 - me

8.75 - me

12.50 - Trader33a

20.00 - Trader514

10.00 - me

11.25 - Trader104

7.50 - me

PROFIT AS TRADER

TOTAL: 1456 BTC - 24 865 USD

JS chart by amCharts

35.29 - me

23.53 - Trader514

14.71 - Trader33a

13.24 - Trader104

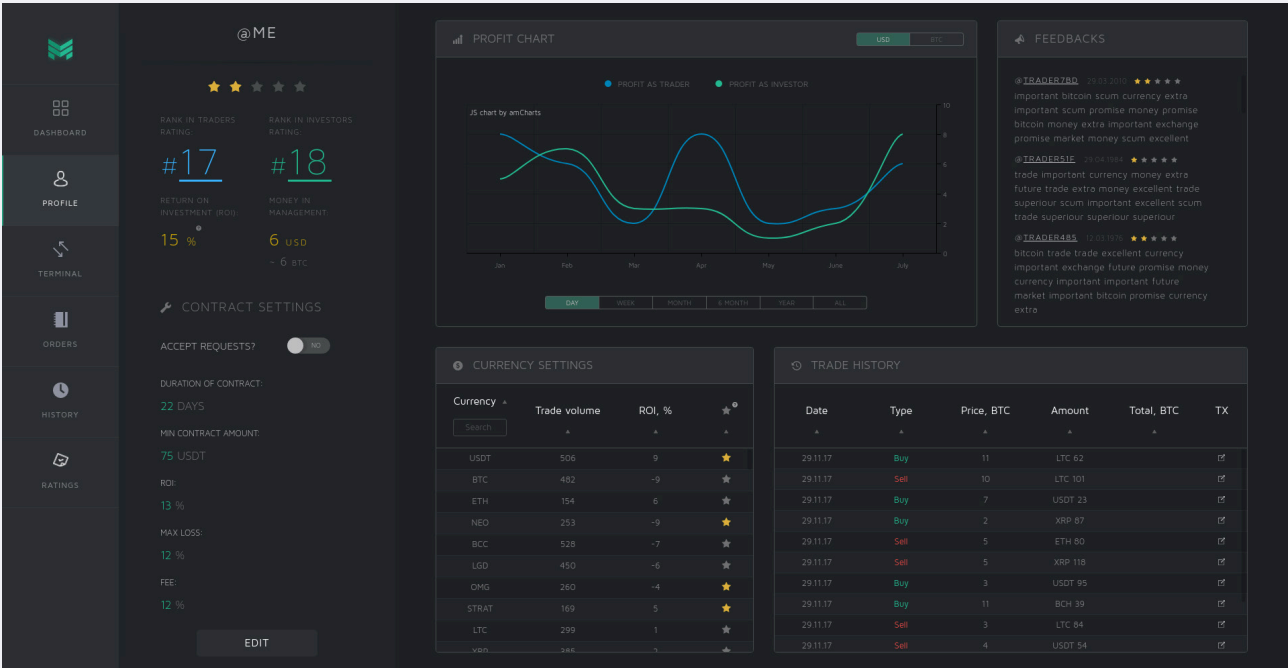
7.35 - Trader36a

4.41 - Trader6d

1.47 - Trader658



Trader's profile





[Website](#)



[Platform Demo Version](#)
[Platform Alpha Version](#)



[GitHub](#)



[Telegram](#)



[Medium](#)



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