

White paper

Terms and definitions

Blockchain is a secure database which contains the history of all transactions on the platform by forming a chain of blocks.

Node is a participant of the blockchain system that serves as a repository of information about previous transactions (a chain of blocks), examines the correctness of information about a new transaction and can enter new transactions (add new blocks). All nodes are connected to each other in the same network.

Public blockchain is a decentralized system where information about transactions is stored and verified in a large number of points. Such synchronization between millions of points consumes a large amount of electricity and thus it is considered as more expensive that private blockchain. The system also gets slower. However, in the industries where decentralization is valued public blockchain may be preferable.

Private blockchain is centralized, what makes him similar to traditional centralized systems. Nevertheless, it surpasses them in safety and effectiveness.

ICO (Initial Coin Offering) is a way of offering to participate in funding campaign/project. There are issued tokens/coins that give the right to receive a share/service/product now or in the future or get a cut of the profit in the future. After starting the bidding tokens can be to other investors. The bidding occurs on the blockchain.

Crypto currency is digital money that has no a physical analogue and is supported by the complexity of their development – mining.

Ethereum is one of the most popular platform for the release of tokens and smart contracts.

Smart contract is pre-programmed tasks that are automatically executed by the program due to some events. Therefore, they do not require the trust between the parties and do not need a mediator they would trust: the contracts have a strict logical structure, so the computer executes them automatically. Smart contracts let you describe of conditions and compare every combination with various outcomes.

Digital tokens are cryptographic assets produced with a help of specialized blockchain-platforms. The analogue is the record in the registry. A token has an address and can have a smart contract, which determines its functionality and also represents an independent executive mechanism.

Tokenization is the process of transforming rights into a digital token that is traded on the blockchain with low transaction costs. Tokenization is an analogue of securitization on the blockchain.

Blockchain-agnostic protocol is an application layer, which doesn't depend on the applied blockchain technology and can be realized on any of current open blockchain.

1. Description of the idea

In the world, the process of transition to distributed systems, based on blockchain technology, is developing at an extraordinary rate. Every day media write about multi-billion investments in blockchain development in a particular industry. In the nearest future the development of this technology will allow us to witness a dramatic change in many spheres of human life.

The most important modification will be in the financial industry. This is due to the fact that the use of blockchain technology will radically alter the approach to accounting, storage and exchange of various types of assets. Blockchain will allow interacting directly with any entities, registering rights to all types of assets with the help of smart contracts and also dealing

with a problem of mistrust among entities. That will greatly simplify the process of change of ownership and the procedure of asset management in general. In the future it will be possible to carry out any operations without involving banks, brokerage and investment companies, as well as various governmental bodies. It'll become much more convenient for a person to own currencies of any kind, shares of companies and rights to various tangible and intangible assets.

However, the greater opportunities a person has, the more challenges he comes across. The main one is to understand how to ensure a safe and at the same time simple access to digital assets. Equally important target is to create a convenient infrastructure for managing digital assets of all types. The response to these challenges should be the development of a brand-new approach to the asset management – a safe and convenient access to the world of digital assets. Usually, when it comes to storage of any valuables, it means a purse or a bank account. And basically all financial resources are stored right there. But now we need to keep safe, manage not only our money but a far greater variety of valuables easily and effectively. This is the main goal of XZEN - to create a new generation of a «smart» hardware wallet, the possibilities of which will be much wider than just storing crypto currency, a wallet, in which all valuables will be reliably protected and could be conveniently disposed (you could quickly and easily exchange currencies, invest, take loans and pay for goods and services in the real world).

The aim of XZEN is not only to produce something that isn't even out on the market yet, but it's also to reevaluate all what's already done and give completely new opportunities. We want to change peoples' perception of management and storage of financial assets with the help of safer and easier methods, while offering considerable investment opportunities.

XZEN cryptocurrency wallet will become the integrator that will give the users added benefits due to aggregation of proven technologies and already existing services such as PayPal, Visa, MasterCard and TenX payment systems. XZEN is the modern key to the economy of the future.

2. Description of Blockchain technology and Crypto currencies

2.1 The influence of the information revolution on our life and economy.

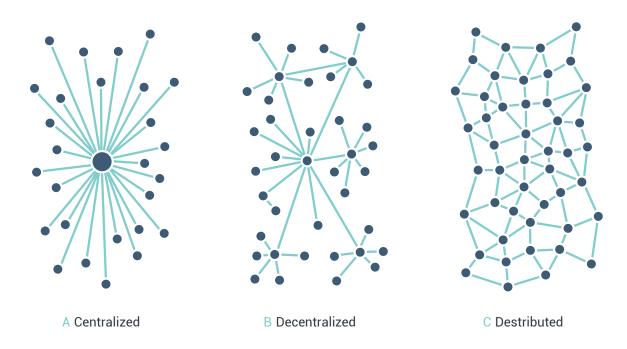
Along with the widespread development of the Internet, there was the fourth technological revolution - the transition from an industrial to a post-industrial or information economy. So it would be difficult to overestimate the enormous impact of this process. First of all, it has given the humanity access to the borderless World Wide Web of the information, which has fundamentally altered our life in many areas. Secondly, the appearance of the Internet has radically changed the structure of the world economy. Every year there are more and more technology companies on the TOP10 list of the world's largest corporations. Statistically, over the past 3 years, this list has been extended to include other two Internet giants - Amazon and Facebook. IT giants Apple, Alphabet and Microsoft occupy the first three places by a large margin. Since all these companies have appeared quite recently, the growth patterns look incredible. For comparison, Exxon Mobil – the largest industrial corporation from this list – is already 147 years old. And most importantly, the trend of IT companies' share in the global GDP is growing.

Rank in 2017	Rank in 2014	Company	Country	Capitalization, bn \$	Sector	
1	1	Apple inc.	USA	618	Computers, IT equipment	
2	4	Alphabet Inc.	USA	532	Computers, IT equipment	
3	3	Microsoft	USA	483	Computers, IT equipment	
4	5	Berkshire Hathaway Inc.	USA	402	Finance, Insurance	
5	-	Amazon Inc.	USA	356	Internet	
6	2	Exxon Mobil	USA	347	Extraction and processing of oil	
7	-	Facebook	USA	332	Internet	
8	6	Johnson & Johnson	USA	313	Pharmaceutical industry	
9	-	JPMorgan Chase	USA	309	Banking	
10	-	General Electric	USA	280	Production of equipment, mechanical engineering.	

2.2 Properties and benefits of distributed networks.

Right now, humanity is witnessing the 5th Industrial Revolution. Its essence lies in the transition to decentralized distributed systems. If the Internet is a World Wide Web of information storage, the blockchain is a worldwide reliably distributed «log» of registering and storing records of all rights and operations. Blockchain technology has the potential to become an organic economic shell of the Internet, which would deal with online payments, decentralized exchange, earning and spending of tokens, receipts and transfers of digital assets, as well as setting up of smart contracts. As a means of decentralization, these technologies are likely to become the next fundamental breakthrough in information technology, after personal computers, the Internet, mobile and social networks. They can radically

change all human activity, as the Internet once did. Currently, the most common types of networks are centralized and decentralized ones. The centralized network (Figure A) is the oldest one that is characterized by the presence of a one-stop shop (a single center) managing the rest of the network members. For the users, that means total subordination to the center. As a result, there is always a risk that the center won't act in the interest of the participants, which actually happens in many cases. The simplest example from the real life is a monopoly. When the market is monopolized, the monopolies frequently start getting windfall revenues from other market participants, taking advantage of their position. In addition, in centralized networks, there is a huge problem of the center occasionally being out of service (for example, due to cyber attacks), which leads to shutdown of the whole network. Such problem can cause multi-billion dollar losses.



The second version of the network is a decentralized one (Figure B). This is already a more advanced network, which has several control centers. Primarily, it is safer, because in case of problems in one of the centers, the others will continue to work. But this network isn't the most effective, because there are always imbalances between a lack of capacity of some participants and its overabundance of such capacity of others.

Besides, there is still a risk of several centers not working in the interest of the majority of the participants. The banking industry can be cited as an example of such a network. Suppose you want to transfer money to your relative in another country. On the one hand, you aren't limited only to one bank, but on the other hand, you will in any case need one of the Stateregistered banks and you simply can't send money directly. You become a hostage of the situation and can face some difficulties as bank's refusal to send money, a huge commission for the transfer or the transfer that takes too much time. This problem can be solved by a new type of network a distributed network (Figure C). This is the most advanced network, which is based on blockchain technology. In such a network there is a multitude of equal participants who can interact directly with each other under the automated rules of the network. This kind of interaction is the most effective and the safest one; and no less importantly, the absence of a one-stop shop (or several centers) avoids the risk of the network working exclusively in the interest of one or a small number of participants.

2.3 Industries that will be primarily affected by the changes

The problems outlined above (as a concentration of a large part of the added value in the control centers of the network) are confirmed by statistics from the real economy. A list of the industries characterized by the highest marginality is presented below. Obviously, these are the very industries which have the maximum commissions in providing various types of services and which are most likely to be enormously influenced by the development and introduction of blockchain technology. As shown in the table, the highest marginality is true for the medical industry, investment, banking and IT industries ¹.

Also, according to a study carried out by McKinsey & Co, the financial industry is experiencing one of the most difficult times, and perhaps in the future, it won't be able to compete with FinTech companies. For example, in the global banking sector, the increasing regulation of the financial system

causes a significant increase of costs in risk management, compliance, and it also creates additional legal and accounting costs. Clearly, those industries which have high costs along with high transaction commissions might become a subject to considerable changes of all business processes; otherwise they will have to leave the market.

Industry	Net Margin in 2016
Pharma: Generic	30%
Investment Managers	29.1%
Tobacco	27.2%
Pharma: major	25-5%
Internet Software/Services	25%
Biotechnology	24.6%
Savings Banks	24%
IT Services	23%
Regional Banks	23%

3. Crypto currencies. Present situation and development prospects.

Nowadays crypto currencies occupy a substantial part of blockchain development. Their capitalization is rapidly growing and every day they are drawing more and more attention. Just five years ago, only a handful of people knew about crypto currencies, but now even some world leaders declare their interest in the creation of national crypto currencies. There are many scenarios of what is going to happen to crypto currencies; maybe they will soon replace traditional fiat money. In this section, we will try to outline our position on this issue, namely to analyze development prospects of the Crypto currency.

3.1 Macroeconomic prerequisites for the development of crypto currency

An effective system for the exchange of values. The emergence of blockchain can be named a fundamental and major breakthrough, which is the result of 20 years of research in the field of digital currencies and 40 years of research in the field of cryptography - the fruits of labour of thousands of brilliant scientists from around the world. All of them tried to find a way that would allow transferring values within a network among the people who do not trust each other. Previously, any digital asset could be copied, so there was a need for special mediators to keep records and confirm that this or that amount of money wasn't already spent. The trusted third party performed as a mediator: a bank or a payment system kept and maintained the records guaranteeing that each unit of digital money was spent only once, which prevented double-spending. The revolutionary nature of the development of blockchain technology is that it solves the problem of double-spending, and therefore the problem of mistrust. A change of ownership is recorded in the current log of records and confirmed by the cryptographic protocols and the community of miners. Consequently, the client doesn't need to trust an intermediary or a third party each time a transaction is concluded. Ultimately, all intermediaries are not needed, and due to the full automation and decentralization, the system of exchange of values based on blockchain is considered to be the safest, fastest and cheapest.

A tool for preserving the value. Another important point is the ability of the currency to retain value. There is such a term in economics as «currency wars». It became particularly popular when Currency Wars: The Making of the Next Global Crisis, a book by James Rickards, had been published. The essence of this process consists in the fact that many countries are trying to depreciate their national currencies. Firstly, it makes domestic products more competitive at the world market, and secondly, it allows increasing the budget revenues due to the receipt of more «expensive» foreign exchange earnings. Therefore, none of national banks aim to keep up the value of the

currency. In order to reaffirm this, we can compare changes in price for gold (as one of the main instruments of preservation of value) in the middle of the 20th century and now. In the United States, after the abolition of the gold standard (1933), gold prices were about \$ 35 per troy ounce until 1967. However, later they started growing and today they are about 1300 dollars. So, it is clear that it is impossible to call any fiat currency (considering that the US dollar remains in rather stable position relative to other currencies) a tool for preserving value. Crypto currencies function quite differently. Limited emission makes them an attractive tool for preserving value compared to national fiat currency.

3.2 Growth points of crypto currencies.

Researches show that the main growth points of crypto currencies have been so far formed. These are the following fundamental processes, the change of which would have a great impact on the growth of the cryptocurrency market as a whole:

Trust in crypto currencies. The core topic and necessary feature of any currency is its reliability and the trust in it. It takes a long time to build the necessary confidence. Thus, the trust in crypto currencies will be constantly growing from year to year, thereby involving new people. The maximum distribution of crypto currency will be ensured only after 5-10 years of its intensive use.

Availability. Crypto currencies must have several characteristics for general dissemination; one of those qualities is availability. Any person who has no special skills or knowledge should be able to buy a crypto currency. Crypto currencies will become widespread if they could be purchased at any bank branch. Only 1-3% of the world's population know about crypto currencies.

Incorporation into daily life. Nowadays crypto currencies are mainly used as an instrument for investing. However, if they could also be used as a means of payment, that would significantly increase their relevance and demand

for them. There is already such an opportunity in a number of advanced countries, and the number of these countries is likely to grow. Moreover, in some countries, introduction of a national crypto currency is debated at the legislative level. Therefore, it is likely that after a while it will be possible to pay easily with crypto currencies almost everywhere.

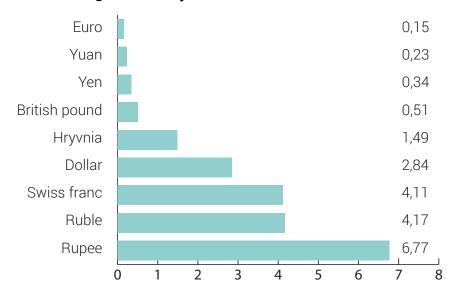
Reduction of regulatory risks. The existence of risks is associated with the lack of a regulatory framework and, consequently, with the legitimacy of the crypto currencies, which poses a serious obstacle to market entry of big players, e.g. various investment funds, public and private financial institutions. The cryptocurrency market will tremendously grow only if and when the "legal" risks are eliminated.

At the same time, there are also disadvantages attributed to crypto currencies:

Insecurity. In the history of money, there have been many different standards of monetary circulation, and new standards replaced old ones with a certain regularity. And each time this process was extremely painful, because most people got used to one type of money and were skeptical about new money. First, there was a final rejection of the metal standard – a monetary system, where the money was fully secured and minted from precious metals (mostly silver or gold). Subsequently, they had to give up the gold standard (when paper notes or coins could be exchanged for gold). That happened in July 1944 at the Bretton Woods Conference, which changed the course of the history of money development, as it marked the end of the era of secured money. Since then, there has been a gold exchange standard (when money isn't exchanged for gold, but only partially secured). The table below shows the actual situation of major currencies secured with gold. The main currencies of the world, the Euro and the dollar, have gold backing of 0.15% and 2.84% respectively; that's why we can say that they are practically not secured. It turns out that, for more than 70 years, we have been living in an era when money is secured only by demand 2.

¹²/

Gold backing of currency



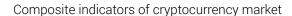
Anonymity. This problem, namely the assistance to the shadow world economy, does exist, but it is connected primarily not with the problem in blockchain technology, but with the fact that the technology and the ecosystem of crypto currencies are constantly changing and the state regulators have not yet developed optimal regulatory mechanisms of the turnover and the use of crypto currencies. It takes a while for the regulation to adapt to the technology. So, after several years, if the State authorities function smoothly, this problem will be probably solved just like other challenges faced by the world financial system in the whole history of existence.

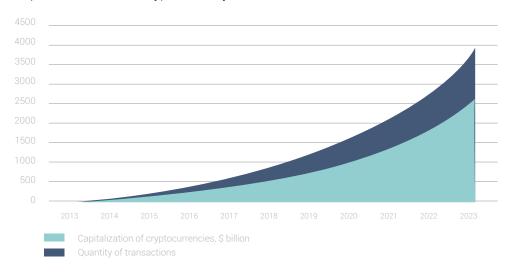
3.3 Cryptocurrency market status and dynamics.

At present, the cryptocurrency market is booming from year to year. The graphs of the main indicators (total market capitalization and the number of transactions) are shown below. By analyzing all indicators at once, we can get the idea of the market processes.

According to the analysis of McKinsey & Co, by 2023, the capitalization of all crypto currencies will be about 3 trillion dollars, which will exceed the current situation at double-digit rates. As shown in the graph, the total capitalization

was about \$ 20 billion in 2015 and today it is \$ 165 billion. In less than 2 years, the growth amounted to 412.5% per year on the average. With this in mind by 2020 it will exceed \$ 1 trillion.





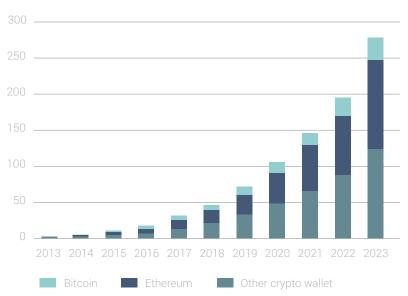
As the total capitalization grows, the number of cryptocurrency transactions is also growing significantly. This indicator shows an annual multiple growth and is considered to be the determining factor for the growth of the rate of all crypto currencies in general. For example, the number of transactions has increased from 8.45 billion in 2015 to 63.43 billion at the present, at the average of 393% per year. Thus, it can be concluded that the use of crypto currencies also grows significantly in volume, which could be roughly comparable to the capitalization growth.

The growth of the number of cryptocurrency transactions is essential to the project XZEN, because it is directly linked to the growth of the market of cryptocurrency wallets and, consequently, to the potential increase in the number of our clients. The annual increase in the number of transactions of 4 times also means a corresponding increase in commission payments, what is a significant fundamental basis and indicator of market prospects for XZEN products.

3.4 Cryptocurrency wallets: the potential availability and development prospects.

A prerequisite, or so-called «entry point» for the implementation of crypto currencies, is the availability of digital cryptocurrency wallet. Recently, in 2014, the number of cryptocurrency wallets was about 2 million pieces, and today there are 22.4 million of them, which corresponds to an average annual growth of about 2.5 times. As mentioned above, the capitalization growth, as well as the increase in the number of transactions, leads to an increase in the number of digital cryptocurrency wallets.





To date, Myetherwallet has already registered more than 15 million wallets, which store approximately USD 62 bln. This sum of the balances is much higher than similar indicators of many traditional financial institutions. By 2023, the potential size of the cryptocurrency market will be about 500 million wallets, which will store approximately USD 4 trn. Compare to 2017, the market can grow 20 times, which makes it extremely attractive and promising. Any financial institutions are interested in offering their services to such a number of clients.

We, the XZEN Project Team, believe that a cryptocurrency wallet will become an integral part of our life in the nearest future, and also expect to occupy approximately 10% of the whole market of cryptocurrency wallets with the number of active users totaling 10 million accounts. We, XZEN creators and developers, believe in the evolution of crypto currencies and their ubiquity.

4. XZEN Product

4.1 General description



XZEN is the world's first secure crypto wallet, which supports the use of highly liquid crypto currencies (for example, Bitcoin, Ethereum, Litecoin), smart assets (ERC20 standard), and which is also capable of storing any kind of fiat currencies in one device. Such an approach will allow owners of crypto currencies to obtain a variety of options for using and spending funds, and at the same time to deal with the cryptocurrency world and the world of fiat money. Due to the wide range of functionalities, users will be able to invest money in tokens of the companies through the major exchanges and the ICO, they will get an access to credit services and a possibility to make transfers within the system without commissions. In addition, with the help of NFC chip built in the devices XZEN Wallet and XZEN Band, users can make contactless payments for goods and services in many countries.

XZEN crypto wallet consists of two main components:

- Mobile Applications and or web applications, which are considered to be wallet's responsibility centre, providing access to all services.
- A secure hardware device in the form of XZEN Walllet or XZEN Band, providing safe cold storage of Private Keys and being the security center of the wallet.

Also, XZEN hardware wallet will be the world's first «cold» wallet, which would implement the ability of paying for goods and services.

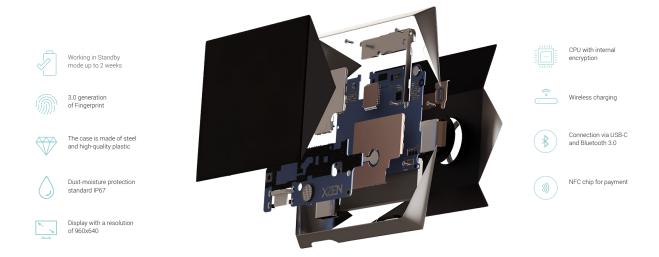
The concept of XZEN is to produce a mass product that would meet most of the needs of almost all users. Besides the development of its own new technological solutions, XZEN plans to integrate the most advanced modern services into its wallet, thereby creating a universal and convenient platform for personal financial management for the user. The development of a high-quality mass product will accelerate the dissemination and implementation of blockchain technologies in the traditional fiat financial system.

The main tasks of XZEN in the product development:

- 1. Providing a high level of security for the users with various levels of knowledge
- 2. Providing a wide range of financial services within the wallet for effective management of the user's personal finances
- 3. Intuitive, consistent and simple user interface
- 4. Bright modern design and high-quality materials
- 5. Maintaining minimum commissions for operations

The Cyber Security XZEN system, developed by our specialists, based on the best world safety standards, will be responsible for the safeguarding of assets in the wallet. In Cyber Security XZEN there will be used the most advanced methods of user identification as well as encryption algorithms when transmitting data.

4.2 The technical features



4.3 The functionality



Multicurrency

Storage of various types of crypto and fiat currencies

Fast and minimal profitable exchange

Exchange of any cryptocurency at the market exchange rate inside the wallet

NFC payment

The possibility of NFC payment for goods and services in fiat and crypto currency

Buying tokens

Access to exchange transactions for the purchase and sale of crypto assets inside the wallet

Loans

Receiving and providing loans for additional income

24/7 Support

Technical experts help to solve financial issues

4.3.1 Multicurrency

The emergence of various crypto currencies and tokens makes it problematic for the user to organize the storage and management of different assets. The main question is how to ensure easy access to a multitude of assets but not to affect safety. Especially if we take into account the fact that the blockchain networks have some features, which make this problem quite acute. In particular, the blockchain networks use a permanent address and are considered to be public; and the access to information is provided through a public key. In this regard, the records about assets, which correspond to a specific account, are not confidential. For the user, that means an additional risk, and the only way to reduce it is to register additional accounts. However, this option also has serious shortcomings, notably the complexity of managing multiple accounts and ensuring preservation of the access to them. The solution could be the use of a single, but at the same time the most secure key for access to any assets.

On the surface of XZEN wallet, there is used a single interface, enabling easy and convenient access to a variety of financial services and also ensuring the safety of interaction with them. However, inside the wallet, there is complex software architecture, combining different stacks of technologies, reconciling two different blockchains: Ethereum and Bitcoin. XZEN protocol is based on blockchain Graphen. In order ensure the implementation of transactions in the networks of Ethereum, Bitcoin and other existing crypto currencies, this protocol has specialized gateways that allow operations in various blockchain networks. Also, to work with third-party services (exchanges, exchange services, storage services for IDs), XZEN protocol includes an open API suitable for the individual needs of XZEN members. At the same time, all data transmitting is encrypted, whereas private keys are never transmitted and reliably protected inside the cold device.

Such architecture gives huge functional advantages to users. While using a single intuitive and simple interface and providing the necessary safety and security, it allows storing various crypto currencies, as well as ERC20 tokens.

4.3.2 Internal currency conversion.

One of the important problems associated with the management of crypto currencies and tokens is facilitating exchange, making it safe and rapid. There is not much attention paid to this question, however, there are those risks related to necessity to entrust financial assets and private information to a third party. XZEN wallet eliminates that problem by organizing an automatic decentralized exchange, which does not require the transfer of private data and which can be used directly by the client within inside wallet. It is planned to implement that decision through the integration of third-party reliable services, such as ShapeShift.

4.3.3 Investing in tokens. Participating in ICO.

In the process of developing XZEN wallet, special attention is paid to the support of smart assets, or tokens, based on the ERC 20 standard. Such tokens constitute more complex contracts than crypto currency. But at the same time, they are more flexible, what allows using them in many cases in order to digitize the rights to the asset. Thanks to that, tokens have already gained considerable popularity. They are used by companies to encourage funding through the ICO and subsequently traded on the largest exchanges on an equal footing with crypto currencies. Tokens can be of interest to users for both reasons: for investment purposes and for the use of their intrinsic value. XZEN wallet provides full support for ERC 20 tokens. Moreover, through the collaboration with exchanges, it is planned to implement the ability for the user to safely and quickly acquire these tokens inside the wallet.

The opportunity to purchase tokens during the ICO is not less interesting for users. The current system of publishing the address of smart contract on a website is highly vulnerable. Because there is no way to ascertain neither the reality of the website, nor the correctness of smart contract's address (a difficult for analyzing, remembering and comparing combination of numerical

and letter values), there are huge risks for both investors and companies launching their own ICO. In recent times, there have been cases of cyber attacks with phishing, when cyber crooks send users false addresses and pages. As a result, a huge amount of money (about 10% of all invested funds) was stolen by cybercriminals. To solve this problem, XZEN will implement the ability to purchase tokens inside the wallet. Furthermore, there will be a special system of comparison of smart contract's address with its official address, provided by the company conducting the ICO. If the addresses do not coincide, the system will warn about the unreliability of the address and the threat of fraud. This procedure will be fully automated and transparent, what will greatly simplify and secure interaction between users and companies launching their own ICO.

4.3.4 Lending

One of the services for XZEN wallet's users will be borrowing and lending. That's become real due to the fact that the development of blockchain technology enhanced the opportunity for a direct interaction between investors and creditors.

The functionality of obtaining loans can be extremely useful for everyone who keeps savings in crypto currencies. In case of a need for fiat money for a short period of time, it will be extremely expensive to convert into fiat currency and vice versa. In this situation, the possibility of obtaining a loan in a fiat currency secured by crypto currency at acceptable interest rates will allow a person to solve this problem in just a few minutes.

The functionality of lending to the chosen companies will be of interest to those who want to obtain additional income or diversify their investments. Currently, most people are forced to keep savings in banks at low interest rates due to the lack of interesting alternatives. However, the development of blockchain technology helped to make a procedure for procuring and expending financial resources more transparent, simpler and more attractive for investors; and it also helped to connect investors and borrowers. With a

help of XZEN as a universal financial assistant, the user will be able to access the database of liable borrowers and provide a loan for them for various terms ³.

4.3.5 User support and interface

One of the main tasks of the project XZEN is not only to create a single user interface with broad functionality, but also to make it simple, intuitive and safe. On the market there are quite many projects in which one thing is realized: rich functionality and user-friendliness, but without the necessary safety level, or vice versa, high level of protection, but the product is focused only on experts. It might seem a minor problem; in reality, however, it is one of the most difficult and important tasks. Due to the fact that blockchain technology has made it possible to conduct financial transactions without the help of banks or other intermediaries, that imposes an additional responsibility on both the user and the creators of platform. The complexity of the problem lies in the fact that a compromise just can't be found by giving preference to any of the directions. It is necessary to provide maximum security while retaining the maximum convenience of the user. In this regard, XZEN proposes to use the safest technology of cold storage, but at first rethink it and make easier, more useful and more modern.

XZEN also focuses on the leading developments in the field of user support: automated call centers and chatbots. In the future, we are planning to introduce such products in our wallet. It is important for us that a person with any level of knowledge and experience could comfortably use XZEN wallet and obtain answers to their questions as soon as possible. The next stage will be the development of analytical services, which would help the user to manage his finances more effectively. For example, a possibility to subscribe to automatic notifications about any event occurring: appreciation or depreciation of the crypto currency (to a certain level), the beginning of token sale, etc. Ultimately, XZEN wallet should respond promptly to all instances of user need.

 $^{^3}$ That service is planned to be implemented with the assistance of our partner – peer to peer lending platform «Karma». $\underline{www.karma.red}$

4.3.6 Offline payment

The implementation of that function will allow owners of crypto currencies to obtain a variety of options for spending funds, and at the same time to deal with the cryptocurrency world and the world of fiat money. With the help of NFC chip built in the devices "XZEN keychain", "XZEN bracelet" and the Smartphone, users will have 36 million points available in 200 countries around the world for paying for goods or services. A full-fledged unified XZEN ecosystem allows paying with both fiat and cryptocurrency funds; converting crypto currencies into fiat currencies occurs in real-time at the exchange rate.

5. The security system XZEN Cyber Security

5.1 Introduction

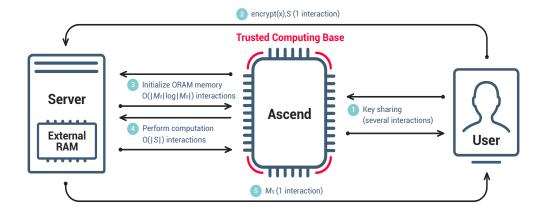
XZEN Cyber Security is designed with security as its core. We developed and incorporated novel features that tighten XZEN wallet security and protect, and provides a solution to recover lost passcodes by default within multiple authentication solutions. As a result, XZEN is a major leap forward in security for blockchain wallet devices.

Both XZEN devices combines: software, hardware, and services designed to work together for maximum security and a transparent user experience. XZEN Cyber Security protects not only the device and its data at rest - zero knowladge, but entire ecosystem, including everything users do locally, on networks and with Internet services.

XZEN Cyber Security and devices provide advanced security features, and are also easy to use. These features are enabled by default, so user don't need to perform extensive configuration. Key security features like device encryption,

and private key backup encryptuon aren't configurable, so that the user can not disable them by mistake. Other features, are Touch ID that enhance the user experience by making it simpler and more intuitive to secure the device.

Following document provides details about how security technology and features are implemented within the XZEN Cyber Security platform.



Here we discuss the following topic areas:

- System security: Secure software and hardware integration that are the platform for XZEN keychain wallet and bracelet band based on Android OS platform.
- Encryption and data protection: The design and architecture that protects user data if the device is lost or stole, or if an user lost his authorization code or if an authorized person attempts to use, steal or modify data.
- Application security: The system that enables by default application to run securely and without compromising platform integrity.
- Network security: Using through all communication an industry-standard networking protocols that provide secure authentication and encryption of data in transmission.
- Privacy controls: Capabilities of XZEN application that can be used to control access to Location Services and user data.
- Backup and restoring: Capabilities of XZEN private keys to be restored into new device in an event of lost or stolen.

5.2 System Security

System security is designed within security by design approach, so that both software and hardware are secure across all core components of every XZEN device.

XZEN provides these key security features:

- Robust security at the OS level through the Linux kernel
- Mandatory application sandbox for all applications
- Full disk encryption within triple encryption: AES/Twofish/Serpent.
- Secure interprocess communication
- Application signing
- Application-defined and user-granted permissions

At the OS level, XZEN provides the security of the Linux kernel, as well as enable security communication between different running blockchain platforms. These security features at the OS level ensure that native code is constrained by the Application Sandbox. Usage of Application Sandbox ensures that each blockchain crypto currency runs it as separate process. Moreover, full-disk encryption uses a single key - protected with the user device passcode/fingerprint to protect the whole of a device userdata partition. Upon boot, of the device users must provide their credentials before any part of the disk is accessible. Pairing XZEN devices with mobile or PC/laptop can be established via Bluetooth using Secure Simple Pairing (SSP), random and unique passkeys must be used for each pairing base on the Passkey Entry, as well as by default enable encryption for all broadcast transmissions; and using application-level authentication and encryption atop the Bluetooth stack for sensitive data communication.

5.3 Touch ID and passcodes

Touch ID is the fingerprint sensing system that makes secure access to the devices - faster and easier. It reads fingerprint data from any angle and learns more about a users fingerprint.

If the user in any case will not be able to identify by the fingerprint scan, he will be able to do it via passcode. To be able to use the Touch ID, users must set up a passcode which is required to unlock the device. Therefore, the user always has two options to use to unlock the device. The passcode can be use always instance of Touch ID under the follwoing actions:

- The device is turn on or restart.
- The device hasn't been unlocked for more then 24 hours.
- The passcode hasn't been used to unlock the device in last six days, and Touch ID has not unlocked the device in the last 6 hours.
- The device has received a remote lock command.
- After five unsuccessful attempts to match a fingerprint.
- When setting up or enrolling new fingers with Touch ID.

Moreover, the fingerprint sensor is active only when the capacitive steel ring that surrounds the fingerprint button detects the touch of a finger, and it triggers imaging array to scan the finger and send the scan to the Hardware and Framework component.

Touch ID and passcode are enables by default on all XZEN devices. Therefore, this helps an user if he forget the passcode or if he is not able to unlock the device via fingerprint we will be able to do it via passcode. After the unlocking the device all data is accessible after using the triple full-disk decryption of following asymmetric cryptography AES/Twofish/Serpent.

5.4 Backup and Restoring Private Keys

One of the uniqueness key feature of XZEN Cyber Security is that provides to the users a backup and restoring feature of private keys for each blockchain multi currency and other functionalities. In an event of wallet lost or stollen, the device is automatically un-accessible until the user identifies via Touch ID or passcode, therefore no one can have access to the private keys into the wallet.

The main problem within blockchain technology nowadays is if the user losses his password for the private keys he will not be able to retrieve them, and subsequently not having access to his crypto currency. Which in the end can result of lost of earnings. We have solve this issue as each XZEN device is paired within Mobile or laptop/PC device via Bluetooth secure communication. This gives a user recommended feature to perform a backup of private keys to his mobile device and perform file-based encryption, AES/Twofish/Serpen. If the device is lost or stolen, user has ability to pair the device with the same mobile or laptop/pc device via Bluetooth and use the same passcode from the previous device to restore the data into the new XZEN device, either XZEN Wallet or XZEN Band.

5.5 Network and Application security

In addition to the build-in security mechanisms in XZEN to protect data stored on XZEN devices, there are many network security measures that keeps information secure as it is transmitted from an XZEN to paired device.

XZEN devices and its mobile application supports Transport Layer Security (TLS v1.0, TLS v1.1, and TLS v1.2, which supports both AES 128 and SHA-2) and DTLS.

Additionally, application transport security provides default connection requirements so that application adhere to best practices fro secure

connections when using NSURLConnection, CFURL, or NSURLSession APIs. By default, App Transport Security limits cipher selection to include only suites that provide forward secrecy, specifically ECDHE_ECDSA_AES and ECDHE_RSA_AES in GCM or CBC mode. Apps are able to disable the forward secrecy requirement per-domain, in which case RSA_AES is added to the set of available ciphers. Network connections that don't meet these requirements will fail.

5.6 Privacy Controls

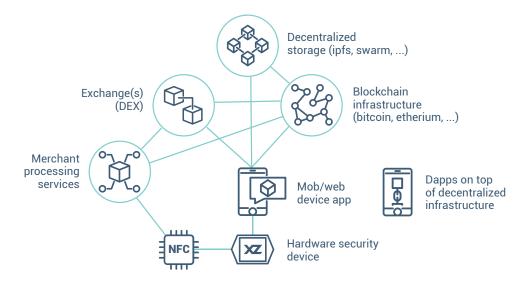
To ensure maximum security and privacy of our customers, the creators and developers of XZEN do not have access to the Cyber Security XZEN system — zero knowledge, so they can't access the client's wallets and receive their personal data or the Private key of XZEN Wallet.

Furthermore, location services are disabled by default, and access to personal data is restricted unless the user enables them via XZEN mobile application.

5.7 Important information

To ensure maximum security of our customers, the creators and developers of XZEN do not have access to the Cyber Security XZEN system, so they cannot access the client's wallets and receive their personal data or the Private key of XZEN wallet.

6. The architecture of the project XZEN



The diagram shows the architecture of XZEN working with a help of a mobile or web application. On a device connected to the Internet, the user can access blockchain infrastructure, exchanges, decentralized storage and dapps. NFC technology allows the use of merchant processing services when paying for goods and services. A mobile or web application works in tandem with hardware security device, in which transactions are signed by the corresponding private keys.

7. Problems solved by XZEN cryptocurrency wallet

7.1 Security concerns

One of the main deterrents to the development and application of crypto currency in the real world remains cybersecurity. Since 2014, hackers and cybercriminals have stolen more than \$ 1.8 billion. For example, \$ 32 million was stolen from Parity, 7.4 from Coindash in 2017, 72 from Bitfinex in 2016, 5.1 from Bitstamp in 2015, 65 from Mt. Gox in 2014.

Cryptocurrency thefts



Theft during the ICO in 2017



Bitfinex (USA)



CoinDash (Israel)



Veritaseum (USA)

From 2014 it is stolen cryptocurrency more than

1 800 000 000 \$

Separate major sector of embezzlement of crypto currency is a field of embezzlements during the crowdfunding process - ICO. During the ICO, only for 9 months of 2017, there was \$ 225 million stolen⁴, while the amount of funds raised was \$ 1.6 billion. So, criminals stole almost every 10th dollar, which had been invested by ordinary users. In this regard, the introduction of the mechanisms reducing risks during the ICO is extremely important. To address this problem, in XZEN wallet, there will be a possibility to purchase ICO tokens from a mobile application and also its own naming system will be implemented in order to verify the correctness of smart contract's address, which money is sent to. These measures will introduce considerable complexity into the possibility of theft by cybercriminals.

Ensuring preservation of the funds is one of the main issues occupying XZEN team. Our own security system XZEN Cyber Security will be responsible for the security in our products. Some of its features preventing embezzlement are multifactor user identification, cold storage of the keys inside XZEN devices and layered encryption for data transmission.

⁴ According to Chainalysis, that deals with the analysis of transactions and combats money-laundering https://blog.chainalysis.com/the-rise-of-cybercrime-on-ethereum/

7.2 Loss of access to the wallet

The risks of theft require enhanced security measures, which in many cases may themselves be a risk to users. To date, one or more ways of password recovery are primarily used in case of its loss, e.g. when registering a new user, the system generates 12 words that are stored on the user's side. But in that case the words might be simply lost or accidentally destroyed. The peculiarity of blockchain technology is that it is impossible to restore access to the wallet if you lose Private Key or those 12 words. It's pointless to contact the technical support, because you just can't verify your identity and ownership of that wallet. The fund balance in the account can be considered as wasted. According to Forbes analysis, the total amount of funds stored in the wallets, to which access is lost, can be up to \$21 billion3. This amount is approximately 13% of the total cryptocurrency capitalization. In our view, in the case of massive distribution of crypto currency among people, this problem will be extremely relevant. In order to solve it, XZEN has developed additional mechanisms and algorithms for restoring access to the wallet with a help of pairing device, as well as a fingerprint left during the first registration in the XZEN Cyber Security system. This will allow you to restore access to your wallet in the event of loss of the password or the device.

These measures will greatly reduce the risk of theft or loss of user's funds and will require enormous resources from cybercriminals trying to commit theft or to hack, what will make embezzlement impractical.

7.3 The limited use of crypto currency in everyday life

Nowadays crypto currencies are used mainly as an investment instrument for income generation rather than as a means of payment. However, namely the high speed and low transaction costs are the main advantages of blockchain technology. Due to this, we are confident that in the nearest

future we are awaiting the active development of crypto currency exactly as a means of payment. Such functionality is already available in Europe and a number of other countries. In this regard, developing XZEN products, we pay special attention to the possibility of paying for goods and services. XZEN hardware wallets will be the first "cold" wallets in the world, with the possibility of contactless payment for goods and services (using NFC technology). A similar opportunity will be realized also in the mobile application for smartphones.

8. Competitor analysis. Main advantages of XZEN.

8.1 Comparing with cold wallets

At the moment, on the market there are only 3 cold wallets, the leaders of which are Trezor and Ledger Nano. It is worth mentioning in particular that Ledger Nano is in TOP10 on sales on Amazon.



All these products basically function as cold storage and in terms of technology they use the principle of smart card. In this regard, XZEN wallet can be called the world's first multifunctional smart wallet, which supports both the storage of various types of assets and the possibility of contactless payment. Furthermore, XZEN will introduce state-of-the-art technology solutions such as: decentralized data storage, fingerprint scanner and wireless data transmission through Bluetooth 3.0, what far exceeds all existing analogues in the market; stylish design and user-friendly interface make the wallet more attractive for prospective buyers.

8.2 Comparison of functionality with the competitors

In a comparative analysis of functionality, it should be noted that multiple crypto wallets are presented so far on the market, but they offer a fairly limited set of functions and services. The concept of XZEN seeks to develop much wider functionality than those products already have.

	XZEN	Trezor	Ledger nano	Myetherwallet	Mist	Jaxx	TenX	Харо
Cold storage	•	•	•					•
Multi-currency	•	•	•		•	•		
Currency exchange	•				•	•	•	
Investment	•							
Loans	•							
Tokens ERC20	•	•	•	•	•	•	•	
Contactless payment	•						•	•
Support (consultant) 24/7	•							
Mobile app	•		•			•	•	•

Clearly, some of the products offered will remain in demand in the market. But in general, speaking of the mass market, users need a single multifunctional crypto wallet, which would meet the following requirements: maximum security, simplicity and comfort in use, rich functionality in

a single device. That is one of the main prerequisites in the design and implementation of XZEN wallet.

8.3 The main advantages of XZEN wallet

- 1. Universal safe storage of various assets in a cold wallet
- 2. Enhanced functionality of the application: currency conversion at the exchange rate, access to services in the fields of finance and credit
- The world's first fully-fledged cold wallet, with a help of which it will be possible to pay for goods and services with crypto and fiat currencies
- 4. Intuitive user interface and user support
- 5. Modern bright design and user-friendliness thanks to the fingerprint scanner and wireless data transmission.

9. Road map. Past, Present, Future.



We have set up a road map of the project's development for realization of the project XZEN:

9.1 The activities undertaken so far

- The development of concept for the product. The analysis of the market and the analysis of product's perception by the target audience
- The exploratory talks between manufacturers and suppliers of the components concerning prices and deadlines
- The development of the architecture of the system and cybersecurity
- The conclusion of preliminary agreements with the partners concerning the integration of various functional services within the product

9.2 The planned activities

- 13.11.2017r. 30.11.2017r. holding PreICO to raise funds for the development of a prototype and mobile application, for the preparing and holding ICO
- Q4 2017 a release of the model of cold wallet (keychain)
- Q4 2017 a release of XZEN wallet based on Ethereum platform in the form of a mobile and web application
- January February 2018 (the exact start date will be determined later) holding ICO to raise funds for releasing the hardware XZEN wallet and a mobile application
- Q2 2018 г. launching of full-fledged mobile and web version of XZEN wallet; integration of additional functionalities
- Q3 2018 Q4 2018 a release of XZEN hardware wallet (6 9 months after ICO)
- Q4 2018 organization of the international distribution network of XZEN hardware wallet
- O1 2019 introduction of XZEN automatic financial adviser

- 2019 implementation of XZEN Blockchain Identity Service (storage of personal data on the blockchain)
- 2019 start of our own decentralized processing
- 2020 possible merger with a major player of the market (M&A)

10. Economics of the project

To collect funds during pre-Sale and token sale, there will be created a smart contract based on Ethereum, which will be made publicly available. The total emission of tokens:

To collect funds during pre-Sale and token sale, a smart contract for Ethereum will be created, which will be publicly available: Total issue of tokens: 786,000,000 pieces

10.1 The terms of Pre-ICO (presale)

The duration: November 13, 2017 - November 30, 2017.

Hard cap: 500 000 USD **Soft Cap:** 200 000 USD

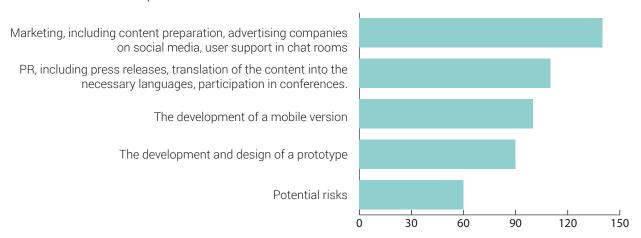
The amount of tokens for sale: 50 000 000 pieces (6 % of the total amount)

Token price: 0.01 USD

The limitation: not more 20% of the total number of tokens can be sold in one hand. It's done in the interest of the community, in which all participants should have the same impact on the ecosystem. Moreover, the more participants are in the system, the faster its development is.

All reporting on the use of funds of the pre-Sale will automatically appear on Ethereum blockchain. In addition, XZEN team will publish monthly reports on the fund's expenditures, explaining the purpose of their use.

Areas of expenditure of funds raised:



10.2 The terms of ICO (token sale)

The start: January – February 2018.

Soft Cap: 3 000 000 USD. **Hard Cap:** 16 750 000 USD.

Token price: 0.05 USD.

The total amount of tokens for sale: 390 000 000 pieces (50% of the total

emission)

Discounts on tokens for the first participants:

	The discount	30%	20%	10%	5%	
_	The amount of fund raised	<3M USD	<6M USD	<10M USD	<15M USD	_

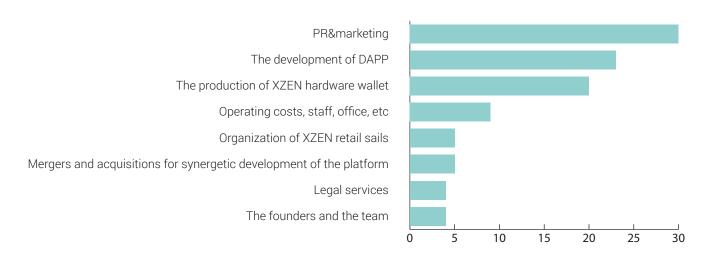
10.3 Algorithm for holding:

- 60 days earlier the registration in white list starts on the official site http://xzen.io/
- When buying tokens with fiat, you need to pass KYC
- Organizers of token sale имеют have the right to exclude a user from the white list if there is any inconsistency with AML or CTF requirements.
- Buyers of tokens with a total value of more than \$ 200,000, who have signed LOI (Letter of Intent), will receive priority access to purchase

tokens in accordance with their position in the white list.

- If the soft cap is not reached, token holders decide by vote:
- Strengthen marketing and continue token sale;
- Agree on a plan for finalizing the product with a help of the resources raised and hold the third round of token sale later.
- Buyers will be able to sell their tokens through the exchange only after the full completion of token sale.
- Involvement of exchanges is planned within a month after token sale.
- Detailed instructions on participation in token sale will be published in advance, consultations on participation are available on the official channel of the project in Telegramm: https://t.me/ XZEN_official_Rus.
- The limitation: not more 20% of the total number of tokens can be sold in one hand. It's done in the interest of the community, in which all participants should have the same impact on the ecosystem. Moreover, the more participants are in the system, the faster its development is.

10.4 Areas of expenditure of funds raised:



10.5 Distribution of tokens after ICO:

The distribution of tokens



10.6 Assurance regarding the safeguarding of funds raised

As a part of ensuring the security of investors' interests, there will be independent escrow agents and international auditors involved in XZEN project. Their function is to monitor the use of the funds raised in accordance with the objects and purposes described in this document. Independent escrow agents will be able to veto any transactions not related to XZEN project. Also, in order to ensure transparency in the expenditure of funds and to verify the records for the investors of XZEN project, there will be invited an independent accounting firm from BIG4, selected through a tender.

- International escrow;
- The responsibility of the legal entity for the targeted use of funds;
- Transaction on the expenses through blockchain;
- · Monthly public reporting of income and expenditure;
- Independent international audit.

10.7 What is the purpose of freezing tokens?

- Development of the project's program code is one of the most important issues, that's why, in the course of time, it may be necessary to attract new people to the team;
- The most effective way to motivate people is to reward them with tokens;
- Testing of the code and legal structure for vulnerabilities;
- Hackathon for the expansion of the developer community;
- Development of local communities in different countries;
- Involvement of people in the ecosystem in order to raise more funds.

10.8 The advantages of XZEN token holders:

- FREE XZEN hardware wallet (if the amount of investments is more than \$ 1000)
- 100 major investors of XZEN will receive name hardware wallet from expensive materials (limited edition)
- Discounts on commissions on intra-platform operations (up to 50% on commission within the platform, depending on the amount of tokens, which the user owns)
- · Possibility to pay for transaction commissions with tokens

10.9 The key drivers of the increase in token price:

- Token holders will also receive discounts on commissions within the system in such a way that it won't be profitable for them to sell XZEN tokens.
- As the number of system users increases, the demand for tokens will grow as well as their price. That will be another important driver for not

- selling the tokens by users.
- Also, as the number of platform users increases, the amount of commissions received from them will increase.
- Some of the commissions received from system users will be automatically converted into XZEN tokens by purchase on the exchange.
- The greater the number of users and operations in the ecosystem is, the larger the amount of commissions is and the higher the demand for XZEN tokens is.
- Some of XZEN tokens will be regularly automatically destroyed via a smart contract.
- If the total number of tokens reduces and the demand increases, the token will grow in price.
- If the rate grows, the number of people willing to buy them will grow as well, what will create an additional supply deficit.
- Unlike BTC or ETH, the absolute size of the commission won't grow in proportion to token price. If XZEN token rate has doubled, people pay 2 times less tokens for the same volume of transactions.

Therefore, a constant influx of new users into the system will stimulate a new demand, while it will be such a waste for token holders to get rid of them. Moreover, the periodic destruction of tokens will even lead to a greater supply deficit, thereby stimulating a constant increase in token price.

Projection of economic development:	2018	2020	2025	
The number of XZEN wallet users	0,1 mln.	10 mln.	50 mln.	
Demand for tokens (dependent on the	500k	50M	250M	
number of users), USD		30101		

11. The legal aspects

This document or any other documentation/information provided with it can't be considered as an offer or a proposal for buying /selling of shares and other securities. Nor does any of the information provided constitute grounds for any investment decision.

XZEN doesn't render advice on investments, legal representation and doesn't request to invest in any security, so its activity shouldn't be interpreted in such a way. This document isn't an offer to purchase securities or other financial instruments, that's why it shouldn't be treated in this way.

The legal status of token:

- Token buyers aren't investors and token isn't an investment or a security.
- The user acknowledges and agrees that the ownership of XZEN tokens doesn't give him the right to receive profit or other payments
- XZEN token is an application (utility) token.
- The purchase of token is the purchase of the license to access the software and data. The more tokens the user has, the greater his privileges of accessing are.
- The sale of tokens will be based on an offer.
- Token holders won't have limitations in selling tokens to other users.
- To meet AML (Anti-money laundering) requirements, there will KYC (know your client) procedure.
- Token is not a security or investment in accordance with Howey Test:
- Token can be purchased with money or its analogue.
- Organizers of Token Sale are a group of persons united in the enterprise.
- Token doesn't satisfy the third paragraph of Howey Test (With a reasonable expectation of profits derived solely or predominantly from the efforts of others), because: token holders don't and won't receive any dividends.
- Token isn't a bond, the issuer doesn't pay regular % on the loan to token

holders.

- You should make an effort in order to profit from the ownership of tokens: you should make use of the software, make a deal within the platform.
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possible to purchase XZN tokens only if you assure and confirm that none of the owners of the company in which you are an official is a citizen/resident of Singapore, a citizen/resident of China or a citizen/resident of the United States, and id you also guarantee that principal residence or legal address of company's owners is not in the United States, including Puerto Rico, The United States Virgin Islands and other areas belonging to the United States of America. The creator of XZN tokens reserves the right to exclude anyone from the sale of XZN tokens due to discrepancies in the criteria for buying XZN tokens in accordance with current regulations and applicable law. In particular, the creator of XZN tokens has the right to refuse the sale of XZN tokens to citizens and residents of Singapore and/or the United States, as well as to those users who do not meet the requirements set by the creator of XZN tokens in its sole discretion. The content of this website is aimed only for general information purposes; it is neither an invitation to purchase nor an offer to sell securities. Consequently, the information provided on this website has not been prepared in accordance with the existing rules and regulations for publishing in different jurisdictions. ZEN documentation (white paper, website and other related documents) are available in multiple languages. If the version in any foreign language doesn't match the version in Russian, the latter (the Russian version) will carry greater weight and priority.