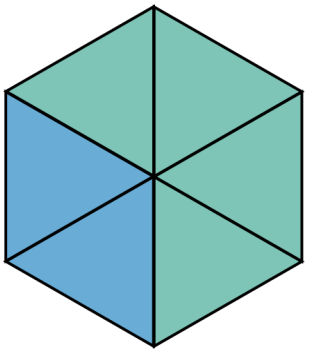

Asure Foundation

First full risk decentralized autonomous insurance organisation

www.asure.io

WHITEPAPER

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Introduction

The latest worldwide achievements in technology including Artificial Intelligence, Blockchain and Machine Learning make it possible to create transparent, resilient, tamper-proof, robust and smart systems that answer the challenges of scalability, single point of failure, trust and privacy in a consistent way.

The value proposition we offer comes through decentralization and automation via AI. Satoshi Nakamoto, the founder of Bitcoin cryptocurrency, wrote the following about the benefits of a pure P2P based organization:

"Governments are good at cutting off the heads of a centrally controlled networks like Napster, but pure P2P networks like Gnutella and Tor seem to be holding their own. " [1]

A smart contracts based platform provides transparency as anybody can check the source code of an insurance contract written in Solidity, a contract-oriented programming language. Blockchain guarantees consistency among data and transactions.
We are planning to make our platform to be fair by design and to use the decentralized nature of it as a medium.

Artificial Intelligence and automation in general will serve as a benefit for the whole mankind. It will make the life of its users more comfortable, as it will be available 24/7 and can perform much more efficient than any human labour would be capable of. People will finally be able to focus themselves on their self-fulfilment instead of doing tasks which aren't intended to be done by people.

AI is advancing faster than experts imagined, faster than any human could ever do and tends to make much less mistakes as it acts solely rational. We consider AI technologies as crucial for fraud detection, smart robotic product advisor, claims management and also for the members support.

The technologies behind AI will proceed much further in the next few years. According to Accenture, 74% of consumers would be happy to get an insurance advice from a computer.[2]

Our Vision:

At Asure, we are planning to use these tools in order to dramatically disrupt the insurance market and to build the first full risk decentralized autonomous insurance organization (DAIO) with AI support that provides reduced costs, immediate answers and an easy interface – for everyone, everywhere.

We see the actual state of the insurance industry and have a strong vision about how to move it forward - A vision born from our authentic insurance experiences. A conviction that future insurance is going to be a modern and a next-generation insurance platform for customers who can enjoy their daily lives and won't have to worry about any risks or losses.

Our Mission:

Asure is a DAIO – fully automated insurance for different kinds of risks and a platform for insurance innovations built around openness, trust and fairness.

Our Motto:

We make our customers lives easier with what we offer.

Executive Summary

Robotic Process Automation (RPA)/Artificial Intelligence (AI), Machine Learning (ML), Blockchain and IoT, automation and personalization will be keys for the future landscape of a digital insurance.

The potential for blockchain technology to overturn the insurance industry has become more apparent than ever. Blockchain's decentralized and distributed ledger technology has already become a huge transforming factor in the financial services industry as a result of the efficiency savings it delivers. Given the establishment of new financial services infrastructure and business models, this technology is rapidly gaining momentum. Beyond increased scalability and decentralization, Blockchain enables entirely new business models, such as P2P insurance. Thus making it possible to get rid of unnecessary intermediaries.

After a thorough review of the current Asure's competitors among the InsurTechs and classic insurance industry, as further explained in the following chapters "Market" and "Competitors", we have drawn the conclusion, that the InsurTechs don't represent disruptive innovations required to become independent players on the market, because most of them either have a narrow scope business models or decided to automate only a few business processes within the existing business model. Other than that, with the proliferation of blockchain-based InsurTech platforms, it is inevitable that many will become just a short-lived splashes on the cryptomarkets, and insurers are understandably concerned about committing resources to such initially thought prospective solutions.

Asure decentralized autonomous insurance organisation (DAIO) is determined to become the first coming to stay independent insurance platform provider working on a non-profit base as its core principle. Our goal is to become a viable competitor to the rigid and outdated insurance corporations by being the only both experienced in insurance market and having strong AI/ML and Predictive Analytics skills needed for a complete automation on many levels thus making possible to massively reduced coverage costs by removing manual labor almost completely.

Our team has worked for some of the biggest insurance companies in the past, developed and deployed inhouse AI/ML projects for several insurers in the industry. Thanks to the contacts we've built over those years, we can rely on our collaborating industry partners whenever we need support from fellow developers for specific skills or knowledge.

Digital disruption already rocks the insurance industry, by embracing blockchain as a positive disruptive force, we will make decentralized, transparent, and fairly priced insurance a reality.

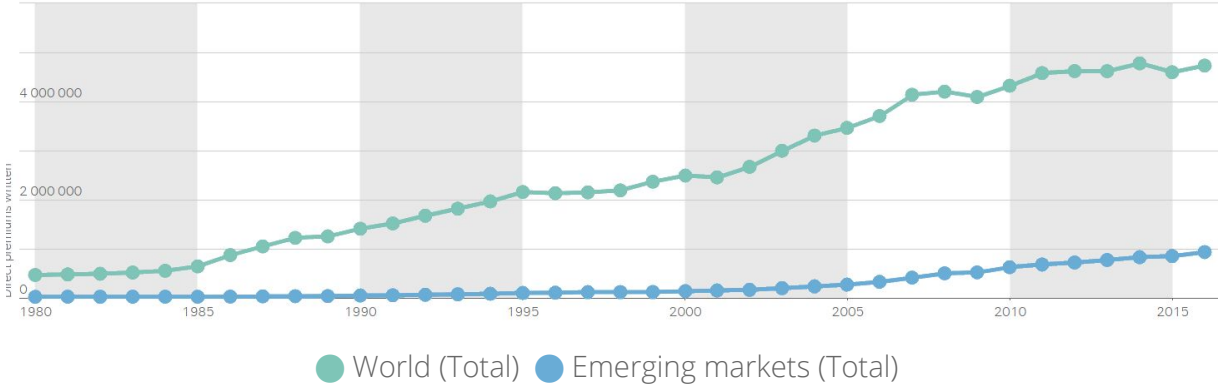
One must not forget, that the complexities of the current regulatory environment make insurance policies as complex they are. Regulators make their demands pressing for compliance, oversight and risk management. By building an independent insurance platform we can simplify insurance products during the design phase and show the prospective customers, businesses and governments how client-centric insurance looks like.

We have already demonstrated with our proof of concept of insurance applications with a successful DApp. With your support, we can now build out our platform and help make one of the globe's biggest industries finally work the way it should work – for people all over the world.

Asure Foundation is a non-profit organization and is based on three main pillars: Innovation, collaboration and a customer focused organization with a community of engaged members. By leveraging our innovative spirit and an agile approach we will grow to become fearsome competitors, despite the widely held misconception that significant breakthroughs require technology and business community resources.

Market

For 2016 the global market capitalization of the insurance industry totals approximately 4.7 trillion USD with a global annual growth rate of 3.7% and a growth rate of 13.5% in the emerging markets, therin 20% alone in China.



Comparison of written premiums of the global and emerging insurance market in billion USD since 1980.

More than 50% of premiums paid around the world belong to the six big markets USA, Japan, UK, China, France and Germany which shows the great growth potential of insurance in completely new markets. According to studies the chinese market will grow from about 348 billion USD in 2015 to the second largest market with an estimated market capitalization of about 1,090 billion USD in 2025.

Property-casualty insurance in the emerging markets is closely linked to the future development of these countries, which can be expected with good prospects like the overall market outlook shows.[3]

		2005
1	USA	846
2	Japan	323
3	UK	285
4	France	179
5	Germany	158
6	Italy	110
7	South Korea	68
8	Canada	63
9	Spain	49
10	China	48
11	Netherlands	48
12	Australia	41
13	Thaiwan	39
14	Belgium	34
15	Switzerland	34

		2015
1	USA	1.152
2	Japan	413
3	China	348
4	UK	299
5	France	208
6	Germany	194
7	South Korea	151
8	Italy	147
9	Canada	102
10	Thaiwan	85
11	Australia	79
12	Netherlands	75
13	India	67
14	Brazil	59
15	Spain	57

		2025*
1	USA	1.579
2	China	1.090
3	Japan	526
4	UK	411
5	France	284
6	Germany	224
7	Italy	217
8	South Korea	215
9	Brazil	173
10	India	149
11	Canada	128
12	Thaiwan	120
13	Australia	112
14	Netherlands	98
15	Spain	81

*historical data influenced by exchange-rate effects

Local markets recent capitalization in 2005, 2015 and appreciated capitalization in 2025.

In 2017 natural disasters like hurricanes, earthquakes and wildfires caused total economic losses of 306 billion USD, which are almost double 2016's losses of 188 billion USD, resulting in higher needs for coverage in our society. That could be satisfied by a global decentralized autonomous insurance organisation backed up by AI. [4]

The same goes for the actual political situation resulting in higher amounts of damage caused by political disputes like war, protests or terrorism which indicates a global need for coverage of those cases too. According to the Institute For Economics & Peace the economic impact of violence was 14.3 trillion USD or about 13% on the global economy in 2016.[5]

Our society is in need of better coverage that costs less and is independent of where you are on the globe. By creating a global working insurance mechanism based on modern technologies we are in a perfect position to reduce these expenses and serve a fair coverage to everybody. Modern technologies are on the breakthrough and we are in reachable distance to this goal.

Actual raising interest rates in the advanced[6] and in most emerging markets[7] indicate a positive trend for life and annuity insurance as proven in the past.[8]

The main difficulties from a participant point of view of the present insurance industry are the centralized organisations juggernaut which tend people to mistrust these organisations and the high amount of fraudulent actions which altogether lead to a lack of technological innovations, a lack of new business products and especially very high administrative expenses.

Considering the enormous potential of our society; at no other point in our history people as a collective were more powerful than today, we can finally become independent from old rigid structures and build a strong self-assured collective, without any boundaries to money-wasting corporations.

InsurTechs are already trying to solve these problems by developing more transparent, innovative models, but the majority of these undertakings aren't really disruptive as they're still backed up by classical insurance companies not taking the first step to independence.

By creating Asure we take into consideration all the aforementioned trends.

Competitors

Our competitive analysis at the conventional insurance market and a number of InsurTechs shows - there is currently none other company or product that solves major problems that insurance industry faces today or will face in the nearest future.
The aforementioned challenges include:

- lack of transparency
- conflict of interest between insurer and insured
- confusing legal terms[9]
- high agent fees
- high administrative expenses
- automation
- legal restrictions (national/ international)
- related relationship to local financial markets

We identified a high margin of inefficiency in the industry.

Below we list a comparison of the Asure platform to other insurance platforms and InsurTechs.

Topics / Industry	Traditional insurance and dependent InsurTechs	Blockchain InsurTechs	Asure platform
Centralization vs. Decentralization	Rigid and slow because of a centralized nature. No or only partially usage of the blockchain to improve certain products	Blockchain is a core, and in some cases an essential part of the platform, network and marketplace	Blockchain is placed at the core of the Asure platform
Transparency	Lack of transparency concerning financial information, terms and coverage	Transparency is guaranteed by blockchain technology itself	Transparency is guaranteed by blockchain technology itself and the open-source code that we develop
Economy	Highly coupled to local financial markets	Most lack an economy system completely, thus making them unreliable in a long term	Asure's independent economy system with deflation and compensation mechanisms provide for a stable and healthy ecosystem
Automation	Most processes are of manual and outdated nature,	Mostly limited to a Chatbot, and a semi-automation	Full automation is our main target. AI, being one of our major skills,

	whereas some are semi-automated	system. But the most of our competitors outsource technical hurdles to traditional insurance organisations becoming dependent on them	will be applied to address any kind of manual labor that can be automated
Payroll	Agents and intermediaries	Insurance companies and agents as essential part of insurance	No insurance companies, agents, intermediaries, agents or brokers required
Scalability	New markets can be hard to break into because of restrictions on foreign ownership and licenses	Limited scalability due to infrastructure location and dependence on third-party companies and actuary/underwriting staff	Global market coverage looks easily achievable thanks to digital nature of the insurance platform
Price	High price for services because of agent fees	As most InsurTechs indirectly work for insurance companies, price reduction is very limited	Low cost because of the unneeded agents or brokers
Rules	Insurers define all the rules	Rules are defined by InsurTechs and in some cases are written in smart contracts	Rules are encoded in smart contracts
Damage assessment	Damage evaluation is being done by insurers, which automatically makes them biased against clients	Many blockchain based InsurTechs ignore the complexity of damage assessments	No conflict of interest: damage assessment are lead by smart contract, ai and community voitings
Claims and payment	Participants confirm claims and payment requests	Payment requests are confirmed by the smart contract	Payment requests are confirmed by the smart contract
Reinsurance Model	Insurer makes a decision about reinsurance by himself without asking clients' opinion	Reinsurance of reserves are provided by third party insurance companies	Reinsurance is provided within the own economy system, where all participants can purchase product risks and get rewards accordingly
Premiums	After the expiration of a product	Participants redeem their shares and	Payback by the coverage expiration in case there

	coverage the whole amount of money paid stays with the insurer	percentage by the end of covered period if the reserves were not used	were no claims payments requested
Communications	Tons of paperwork for staff and customers	Tons of paperwork for staff and customers	Chat bot assistance in Telegram, Facebook, Slack and Skype. Mail and phone voice support automation services with AI

Table 2: Competitors Compare

This analysis shows business potential for blockchain based insurance products and in particular for the Asure platform. We will move quickly, learn as we go, attract a group of early-adopter insurance specialists interested in a completely new approach by an independent team skilled in developing AI/machine learning backed solutions.

Traditional insurance and dependent InsurTechs

Big players in the insurance arena are trying to use the latest technologies as part of their innovations program, so that they can get better than their competitors. However, most only try to improve existing profitable products and can not afford enough time, resources and especially the will to change the current status of the insurance market. As those corporations are slow to adapt, most innovative efforts will be left stunted. Such companies only think in terms of profits and losses, they fear disruptive innovations instead of embracing them.

Existing InsurTechs can be categorized in the following manner:[10]

Description	**What They Offer**
Comparison Portals	Enable online comparisons between various (insurance) product and provider types
Digital Brokers	Brokerage of insurance policies through web-based portals or mobile apps
Insurance Cross Sellers	Offer insurance as complements to products (typically at the point of sale or in an own app)
Peer-to-Peer Insurance	Bring together private parties for mutual insurance coverage
On-Demand Insurance	Offer coverage for selected periods of time
Digital Insurers	Offer fully digital insurance solutions that are only accessible via online channels
Big Data Analytics & Insurance Software	Provide software solutions

Internet of Things	Enable data collection via smart devices
Blockchain & Smart Contracts	Create solutions for a tamper-proof distributed database system for transactions

Table 3: Overview of InsurTech Categories

The closest competitors are the ones operating as a Peer-to-Peer Insurance, On-Demand Insurance or Digital Insurers. However, most of them are wired to classic insurers and therefore can not actually be called real independant insurance companies.

Traditional insurance:

AXA, Allianz, American International Group (AIG), Ping An of China (PNGAY), MetLife (MET)

Traditional reinsurance:

MunchRe, SwissRe, Hannover Rueckversicherung AG, Berkshire Hathaway Inc., Lloyd's

InsurTechs:

Lemonade, snapsure, Slice, Trov, Friendsurance, nest, wefox, one, snapsure, bigml

Blockchain InsurTechs

There are some InsurTechs that aim to offer networks or marketplaces, some are even independent from other insurance companies. For most of them though, market entry is only possible through the traditional insurers. We consider this a weakness, because it limits their scalability. They always have to look back at their insurance partners.
Some try to develop a DAO but without the usage of AI and Big Data and maybe a single product for a small group of clients. We deeply believe, that organizations that ignore the trend of AI will soon fall behind more flexible competitors.

Blockchain InsurTechs:

AiGang, Augur, Blocksure, Etherisc, FidentiaX, InsurePal, iXledger, Rainvow, Teambrella, Vernam

Asure platform: our key benefits

Here is an overview of Asures features and benefits in a short list:

Customer centric	★ Clear communications ★ Predictive analytics to anticipate and understand customers' needs ★ Relationships based on changing life events
Decentralization and Resiliency	★ Working on Blockchain ★ Resiliency through the use of smart contracts
Real-time	★ Real-time transactions
Transparency	★ Transparency of information (e.g. assets, transaction, actions) ★ Audit trail and full transaction history ★ The platform code will be open-sourced
Automation	★ Big Data and Predictive Analytics for product and risk management

	★ Artificial Intelligence and Machine Learning for automation ★ Automated validation, claims, communications ★ Autonomous agents, smart contracts and (later) increased levels of artificial intelligence and AI algorithms will provide self-sustainability in operations and value creation at the platform
Availability	★ 24/7 availability
Economy	★ Has its own economy system
Independency	★ We are not tied to any traditional insurance organization
Variety	★ Various products from a single source
Utility Token	★ Utility Token for own economy system
Security and confidentiality	★ Security and confidentiality by design ★ Data protection guidelines are observed
Efficiency	★ Through decentralization and automation ★ Flexible, cost-effective infrastructure for assets and operations management ★ Services-oriented architecture business model
Globalisation	★ Most of products will be designed for the global market ★ In cooperation with governments products will be function on a local market level ★ Internationalization through Artificial Intelligence
Price	★ Administration costs can be reduced up to 98% ★ Premiums will cost up to 40% less than in classic policies (depending on insurance product)

Table 4: Asure's features and benefits

This analysis shows business potential for blockchain based insurance organisations and particularly shows in what way Asure platform is different in comparison with competitors.

Why blockchain?

The disruptive potential of blockchain becomes increasingly apparent. Blockchain technologies enable decentralization of the platform allowing individuals to join and transact directly with the platform. Every node in the system has a copy of the blockchain, thus removing the single point of failure therein. After invention of blockchain the world was given the tools necessary to build a real DAO. In such system multiple authorities control different components and no single authority is fully trusted by all others.[11]

When built with blockchain, insurance products can be represented as smart contracts and be stored in transparent, distributed databases, protected from tampering, deletion or editing. Every transaction, every payment and every job inside the autonomous system will be digitally recorded and signed, which can can be validated by any party in the blockchain. With those possibilities many layers of intermediaries like lawyers, maklers and underwriters become redundant. By eliminating these intermediaries blockchain helps drastically reduce insurance costs for the end customer.

In order to analyze potential strategic value of the blockchain technology, note the elaborated SWOT analysis:[12]

	Positive	Negative
Internal	Strengths - Fast and low-cost money transfers - No need for intermediaries - Automation (by means of smart contracts) - Accessible worldwide - Transparency - Platform for data analytics - No data loss/modification/falsification - Non-repudiation	Weaknesses - Scalability - Low performance - Energy consumption - Reduced users' privacy - Autonomous code is "candy for hackers" - Need to rely on external oracles - No intermediary to contact in case of loss of users' credentials - Volatility of cryptocurrencies - Still in an early stage (no "winning" blockchain, need of programming skills to read code, blockchain concepts difficult to be mastered) - Same results achieved with well-mastered technologies
External	Opportunities - Competitive advantage (if efforts to reduce/hide the complexity behind blockchain are successful, or in case of diffusion of IoT) - Possibility to address new markets (e.g., supporting car and house sharing, disk storage rental, etc.) - Availability of a huge amount of heterogeneous data, pushed in the blockchain by different	Threats - Could be perceived as unsecure/unreliable - Low adoption from external actors means lack of information - Governments could consider blockchain and smart contracts "dangerous" - Medium-long term investment - Not suitable for all existing processes - Customers would still consider personal interaction important

	actors	

With time blockchain will guarantee a higher level of trust in comparison to traditional insurers. Capgemini's 2017 World Insurance Report states that both Microinsurance market and Peer-to-Peer Insurance have high capabilities required to implement new business models.[13]

The market of low-income consumers ready for microinsurance is about as huge as it is unnoticed by the classical insurance companies. The biggest challenge for the insurance corporations is the processing cost, it is often way too high for them to be interested in such a market. Fraud, high level of claims and inability to operate microinsurance on a profitable basis are also listed among market challenges. At the same time microinsurances have a substantial impact on the low-income customers. Research has shown, that children in Pakistani families that hold microinsurance policies, have a higher school attendance rate and a lower child labor rate.[14]

By utilizing smart contracts based on blockchain customers will be provided with a platform that manages claims in a transparent, irrefutable and responsive way. In short, we are within reach of the near-complete automation of the insurance process. Smart contracts can be used to automate processes in various ways:

- Distribution management
- Underwriting and policy administration
- Claims management
- Reinsurance

A DAO is a type of organization that is governed by the rules written in a computer program. Once built, it makes business decisions and conducts transactions without the need for human involvement, making it a tremendously efficient business entity. Asure is going to start in 2018 and we propose that Asure is constructing a decentralized autonomous insurance organisation, a DAIO, which operates as an insurance platform.

The DAIO structure also lets us use tokens as an incentive mechanism in a new insurance economy platform and to reward the customers and investors for their loyalty thus becoming a competitive advantage of the Asure insurance platform.

Asure platform

The Asure platform consists of a variety of advanced and rapidly evolving decentralized technologies, enabling it to provide an efficient basis for new DAIO creation. Thanks to these technologies, it is possible to create a fully decentralized version of an organization, which is able to function in a secure and convenient mode without centralizing control and having rely on trust, thus leading to better and faster decision making, implementation of the decision results and lower costs of doing business.

How AI is being adopted in the Asure platform

Ninety-eight percent of insurance executives believe that cognitive computing will play a disruptive role in the insurance industry[15]. Forward-thinking insurers are already using AI to some degree, partly because they fear disruption from digital competitors. However, most of them focusing on creating AI solutions that complement the work of current employees.

Let's review how Artificial Intelligence can help us achieve our goals.

Artificial Intelligence (AI)

Repetitive, labor-intensive tasks that do not need a lot of decision making — such as data entry, customer communications, compliance tracking and claims processing — will all be entirely replaced by AI.

Machine Learning

One of the most important fields of AI is Natural Language Processing (NLP), because it is used as a base for chatbots. AI has finally reached the stage where science fiction is becoming reality, the spoken language can be easily recognized and even translated to most other languages on the fly. We are going to use the latest achievements of AI and machine learning in order to automate the communication with customers all over the world - no matter what language they might speak.

Big data analytics

The insurance industry is deeply data-dependent. Customer data analysis allows us to gain new insights into how to better serve the participants of our platform and help acquiring customers in a natural, but automated way. We must point out, that Big data by itself is just a huge amount of numbers. What makes it so powerful is the so called Predictive Analytics (also known as Data Mining or Data Science) - the ability to make predictions of future events, make data-driven decisions and assess the attractiveness of various options in a much more precise and faster way than humans do.

As the volume of structured and unstructured data continues to grow exponentially, our experience in Big data and predictive analytics will help us to analyze data and make better decisions related to pricing, risk management, and new, customized insurance products.

Chatbots

We are planning to use chatbots in order to communicate with the platform participants and resolve claims, as well as sell products, address leads, or make sure customers are properly covered by their insurance. Smart chatbots also enable predictive consulting to provide more qualitative and 24/7 customer service. Such robotic intelligent conversational partners provide real-time feedback and insurance consulting to improve the business' bottom line.

Claims processing

We are going to use automation in our products claims processing - including mobile and remote capabilities that expedite the process of closing claims. AI can help us triage claims in much more efficient way, identify and prioritize complicated claims early.

"Touchless" claims

"Touchless" claims make any human intervention obsolete. This new process takes advantage of AI to report the claim, capture damage details, audit the system, and communicate with the platform participants.

Combating fraud

AI-powered claims can also be used to combat one of the most expensive elements of the insurance industry: fraudulent claims, which cost the industry more than $40 billion a year in the US and €4 billion a year in Germany.[16]

See-what-I-see

See-what-I-see uses the front and rear-facing cameras on any device, screen sharing and co-browsing, as well as live video transmission built into a web or mobile application. We will utilize the technology for inspections, claims and customer support.

Marketing and data

AI provides an appropriate tool that will help marketers more efficiently plan and execute campaigns in most crucial fields: segmentation, tracking, and keyword tagging. AI will aid in content creation leaving only the creative part to humans.

Underwriting

By utilizing AI techniques we will automate the entire underwriting process. After information on the participants is gathered and analyzed to find patterns, the data will be used to estimate everyone's risks and provide customers with cheaper and customized products.

Fundamentals of insurance

By definition insurance is a promise made by an insurance company to the insured to hedge against any significant potential losses, in exchange of a periodic payment the insured makes to the insurer.

Insurance represents a noble industry, it is there to help in case bad things happen. All care for one and one cares for all. It is a way to manage risk, to safeguard you and / or your property against the risk of loss, damage or theft (such as flooding, burglary or an accident). There is more than enough risks in our everyday life, there's always a chance that you'll be involved in a traffic accident, slide and injure your leg, or that your home will burn down. Despite the fact that risks of such occurrences is small, if one of them were to happen, the effects could be catastrophic. Without having an insurance, you'd be solely responsible for anything that happened in that traffic accident and had to take care of your broken leg all on your own.

Clearly these kind of events do not happen to everyone. Using Big Data Analytics and Predictive Analytics in combination with AI/Machine Learning it is possible to estimate the probability of certain events to happen in different areas and to various age groups, also the approximate recovery costs. By utilizing the generated data one can effectively distribute the risks among all insured participants.

Without functioning and innovative insurance industry, people, especially in poor communities, face extraordinary material deprivation simply because you'd have to set aside considerable funds in order to get protected against every possible bad thing that might happen. Apart from that insurance provides people with a great tool for helping people to assess, manage and reduce their risks.

Insurance Pools

Insurance pooling is a straightforward concept wherein groups of insurers come together in order to increase overall number of insured people to spread the risks incurred by the few over the entire group and hence to lessen the risk to any one entity. This practice is primarily used for securing the insurer's stability, increase depth and width of coverage and provide a larger array of services.

Premiums Calculation

It pays to understand how insurance rates will be calculated so that you can choose the fairest and the most efficient insurer on the market. The calculation of the insurance premium lies at the heart of any insurance.

Insurance premiums are calculated according to the risk posed by the individual. Insurers assign that individual certain level of risk.

The insurance premium (Pa) represents the sum of money that the insured will pay to the insurer, in the exchange of the insurer taking the risks from the insurer. Premiums can be calculated in the following way:

$$P_a = (Amount\ of\ Loss \times Chance\ of\ Loss) + expenses + profit + safety\ margin$$

There are two mechanisms of premiums collection: mutuality and solidarity.

- Mutuality is the principle of private, commercial insurance. Individuals enter the pool for sharing losses, and pay according to the best estimate in respect of their individual risk.
- Solidarity is the principle of social insurance, the total of premiums is spread equally over individuals concerned with payment related to income or some other scheme.

Most insurance contracts incur especially high losses in the first year because of large first year expenses, such as:

- Agents' commission
- Developing new contracts and policies
- Administrative expenses

Reinsurance

The fundamental principle of insurance is to spread risk from an individual to a pooled group of risks. As people need insurance to take care of their risks, insurers need reinsurer in order to do the same but on a higher level. Reinsurance allows an efficient reduction of the insurer's required capital.

Reinsurance companies as well as insurers take serious risks, but on both microeconomic and macroeconomic levels they are highly relevant. Insurance companies transfer some of their risks to reinsurance companies thus leading to increasing diversification of risks within the economy itself.

Asure algorithms and economy

The equation of exchange is an economic equation that showcases the relationship between money supply, velocity of money, the price level and an index of expenditures. [17]

$$M \times V = P \times T$$

Where:

- M = money supply
- V = velocity of money
- P = average price level of goods
- T = total number of economic transactions

To determine token value, one must calculate P, Token burning M affects the token price P development in a positive way, which is shown in the following formula:

$$P = \frac{M \times V}{T}$$

Vitalik Buterin has his alternate modification of the equation of exchange for medium of exchange tokens, which we basically extend and use as a basis in the Asure platform:[18]

$$M \times C = T \times H$$

Where:

- M = money supply
- C = price of the currency (or 1/P, with P being price level)
- T = transaction volume (the economic value of transactions per time)
- H = 1/V (the time that a user holds a token before using it to make a transaction)

To determine token value, one must solve for C in this case.

We have shown, that the token velocity has an inverse relationship with the token value. In other words, the longer participants hold onto their tokens is one of many influence factors to the price of the currency C. The more transactions are performed on the platform, the more tokens active participants get.

The difference between proof-of-stake and proof-of-activity is that the active users, meaning the ones that buy risks and products and otherwise interact with the platform (proof-of-activity) get higher rewards than passive participants that simply hold their tokens (proof-of-stake).

Asure economy basics

The fundamental operations in Asure platform can be described with the following equation, that demonstrates “proof-of-activity”:

$$A_r = A_i \times \left(1 + \frac{pd}{100}\right)^n \times \left(1 - \frac{pi}{100}\right)^n$$

Where:

- Ar = return investment,
- Ai = initial investment,
- pd = fee and burn filter 1/T*p (%)
- pi = is the compensation within a product (%)

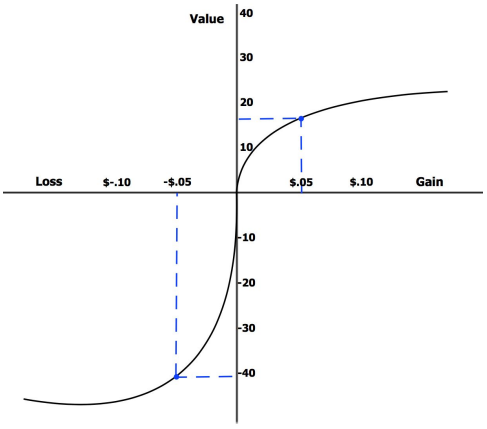
- n = years

The proof-of-activity algorithm rewards participants that interact with and sustain the platform, rather than punish passive stakeholders. In other words if you spend the tokens you will be getting even more of them.

While considering a new product for Asure platform we will bear in mind the effect of the loss aversion, that basically says that it is psychologically easier for a person not to lose five dollars than to get the same amount.[19]

$$V(x) = \begin{cases} x^{a} & if\ x \geq 0 \\ -\lambda(-x^{a}) & if\ x < 0 \end{cases}$$

The curve below shows that loss aversion is disproportional to gain satisfaction.



Token economy system

Thanks to the economic system based on deflation (token burning) as well as inflation as compensation, ASR tokens can run up to 1% economy rate over 6.000 years and 0,1% = 64.504 years and longer, dependent on the dynamic economy rate.

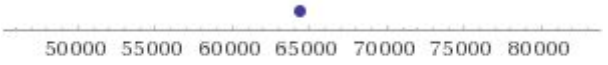
Economy rate:

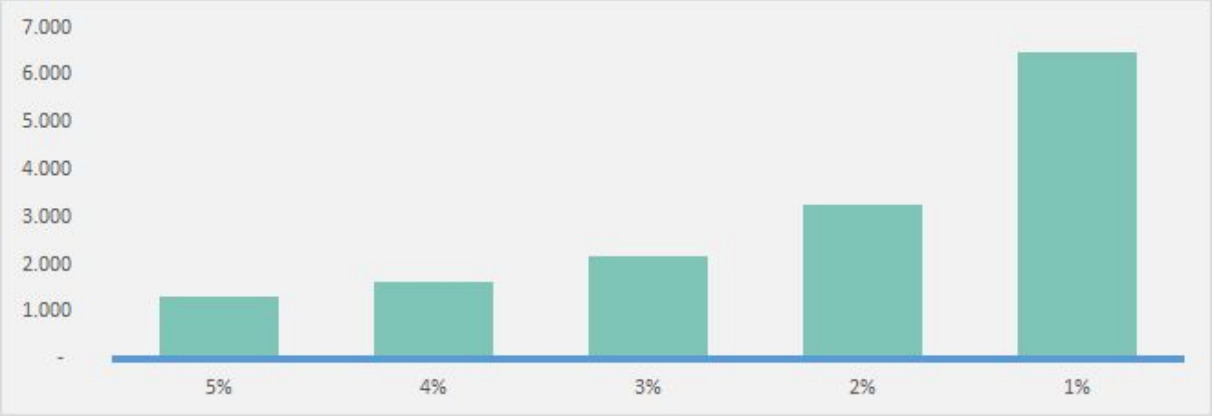
$$Economy\ rate = burn\ rate - compensation\ rate$$

where: burn rate > compensation rate

Example 0,1% economy rate:

$$\frac{log(10 \times 10^{9} \times 10^{18})}{log(1 + 0.1\%)} = 64.504\ years$$





y=years; x= economy rate = burn rate - compensation rate

With the introduction of a dynamic deflation mechanism we make sure that the ecosystem is designed to function more than 60000 years. The deflation mechanism has a relationship with the transaction volume in the platform.

Compensation rate can be thought of as redistribution of a part of burnt token.

Token payments

Asure token - with the short name "ASR" is needed for our DAIO economic system as a local currency. The tokens are going to be used to purchase various insurance products. All payments on the platform are going to be executed in ASR tokens without the need to use money at all.

Invite a friend program

Users can earn ASR tokens by inviting other people to the ecosystem. The insured people get their coverage from the Asure ecosystem in form of tokens as well.

From another side the Asure platform needs the tokens so that deflation can be introduced autonomously in order to guarantee, that the insured token holders will get financial benefits as the time passes.

Proof of Activity Rewards

Asure offers different types of rewards in form of ASR tokens which are disbursed to users for contributing to the ecosystem.

ReInsurance rewards

Asure will serve a reinsurance reward functionality for investors.

Investors can act as reinsurers by distributing tokens to the reinsurance reserve which will be rewarded by payouts through the compensation mechanism. The reinsurance reserve is important in case a higher rate of claims occur for a period of time.

Payout as a reward

After a policy ends and the overall amount of claims for this product underscore the safety margin, the remaining tokens will be proportional returned to the policyholders.

Promotional rewards

For promoting Asure to family and friends the promoters will be rewarded by a part of the tokens redirected by the compensation mechanism. This reward will be paid out one time per newly promoted user.

Premium calculations

The insurance premium (Pa) on Asure platform is calculated using the general premiums calculation formula:

$$P_a = (Amount\ of\ Loss \times Chance\ of\ Loss) + expenses + profit + safety\ margin$$

Expenses are estimated to be 2%:

$$expenses = (Amount\ of\ Loss \times Chance\ of\ Loss) \times 2\%$$

The expenses that we foresee include:

- Platform development and bugfixes
- Data centre costs
- Personnel costs
- Marketing
- Taxes
- Legal support

$$profit = 0$$

We state, that our profit is 0 (zero), that is because the aim of Asure foundation is to use our technical skills in order to bring modern, digital and fair insurance platform to the market so that people from all over the world can benefit from it. Profit can be made when one acts as a reinsurer and buys insurance coverage on the platform.

$$safety\ margin = (Amount\ of\ Loss \times Chance\ of\ Loss) \times 3\%$$

Essentially a safety margin is a number of sales or amount of gains that we must reach to be "safe" for a particular risk. If we reach this margin for that risk, only then can we be sure that we will have the sum required to fund all of its expenses. If money is made in excess of the safety margin, then it turns into profit. This is unless expenses end up being higher than they were planned to be.

In the end the insurance premiums calculation looks as follows:

$$P_a = (AofL \times CofL) + (AofL \times CofL) \times 2\% + 0 + (AofL \times CofL) \times 3\%$$

$$P_a = (Amount\ of\ Loss \times Chance\ of\ Loss) \times 5\%$$

Variables Amount of Loss and Chance of Loss will differ depending on the insurance product.

Products

Smart insurance products include a wide range of solutions. Common insurance products include home, auto, life, health, dental, mortgage and asset protection. Products can also be customized for various purposes. Cryptosurance, Common insurance and Social security services can be designed in a new way. All products are designed for any kind of risk of normal customers(B2C), companies(B2B) and governments(B2G).

Asure Product overview

Name	Type	Description
Life Insurance	B2C	Life and critical illness insurance that protects the ones you love.
Auto Insurance	B2C	Auto Insurance is a protection of your automobile against physical damages from fire, theft, explosion, accidents, etc. This is also compulsory, especially because while driving, there is always a possibility of damaging third-parties, and hence you need the insurance to settle the liabilities arising.
Liability insurance	B2C	Liability insurance is a part of the general insurance system of risk financing to protect the insured from the risks of liabilities imposed by lawsuits and similar claims.
Pet insurance	B2C	Cover that won't leave you chasing your tail.
Travel Insurance	B2C	It becomes all the more important to consider your safety and wellbeing when you are traveling. Travel insurance protects one from travel related medical emergencies, delays or loss in baggage, loss of passport in foreign countries, etc.
Property Insurance, IoT Insurances	B2C	Having Property Insurance will protect your dream home, office, factory, shop, valuables, domestic or electronic items, etc from fire, burglary, theft and any other untoward incident.
Weather Insurance	B2C B2B	Crop insurance Flood insurance
Legal insurance	B2C B2B	Is a class of insurance which facilitates access to law and justice by providing legal advice and covering legal costs of a dispute, regardless of whether the case is brought by or against the policyholder.
Crypto Insurance	B2C B2B	ICO Insurance Exchange assets insurance
Commercial Insurance	B2B	Commercial insurance encompasses solutions for all sectors of the industry arising out of business operations.
Medical Insurance	B2B B2G	Medical Insurance protects you from costly medical bills in case of any emergency. It covers you and your family against expensive healthcare costs.
Pension fund	B2B B2G	Pension plans are also known as retirement plans for your future financial stability during your old age.

The Asure Improvement Proposal repository

We will establish a continuous, community driven platform improvement process similar to the EIP process for the Ethereum Platform.

The Asure Improvement Proposal repository
github: github.com/AsureFoundation/AIPs

Product vision: Single multi-policy product

In the future, we expect the automation via artificial intelligence, among other factors, leading to high unemployment and countries will introduce unconditional basic income. in this context, insurance companies will face new challenges. Our answer to these challenges is to create an unconditional insurance policy based on our experience to provide insurance cover for the population.

The questions that arise, what does it cost and who should pay for it? With the help of technologies such as AI, Big Data, BI and predictive analytics, the risks and times can be predicted individually so that costs can be kept to a minimum and countries can offer these services and protection unconditionally to the population through tax revenues with a minimum GDP expenditure.

We are ready working to build such a future.

Asure Architecture

In the following we will outline the Asure platform architecture.

Public blockchains are a perfect fit for Asure as Asure aims for as much transparency and openness as possible about our processing of business transactions and processes. Everybody will be able to track and verify our business operations and decision making and can participate. On the other hand the Asure platform has to make sure that personal information belonging to our users stays private and can't be linked to any publicly available data on the blockchain. All sensitive customer related data will not be stored within the public available blockchain but in the Asure platform.

Privacy by design and Data Privacy

Privacy by design is an approach to projects that promotes privacy and data protection compliance from the start. Data protection is a key consideration in the early stages of any project, and then throughout its lifecycle. To assure the completeness of our security policies, we follow the ISO 27001 architecture as a baseline, and then supplement it with portions of other recognized security architectures.

Asure treats the privacy of our user's data as a top priority. Global privacy regulations differ a lot, so our approach is that protecting to the most stringent standards is best. Asure established a privacy policy and makes it publicly available. We regularly review the privacy policies of different countries and make sure our controls comply with the most restrictive standards for any incoming and outcoming information and for the data we store. By complying to the EU-US Privacy Shield framework we show our commitment to all the platform participants to utilize the highest security standards.

Public Ethereum Blockchain

Asure platform will be based on top of the public ethereum blockchain. Ethereum has one of the largest ecosystems and support from the community. We are aware that as of today (Q2 2018) Ethereum has scalability and privacy issues which being actively worked on. We are actively tracking the progress in these areas and believe that these issues will be solved within the next few years by the community. To protect personal data of our customers even further we are evaluating recent achievements in zero knowledge proof methods like zk-snarks within the Ethereum platform.

Smart Contracts

Asure DAIO smart contracts are written in Solidity, enabling Asure to support any blockchain that supports Ethereum Virtual Machine (EVM) functionality. These contracts provide the logic for new DAIO project functionality and implement the mechanisms required for the creation of the new DAIO.

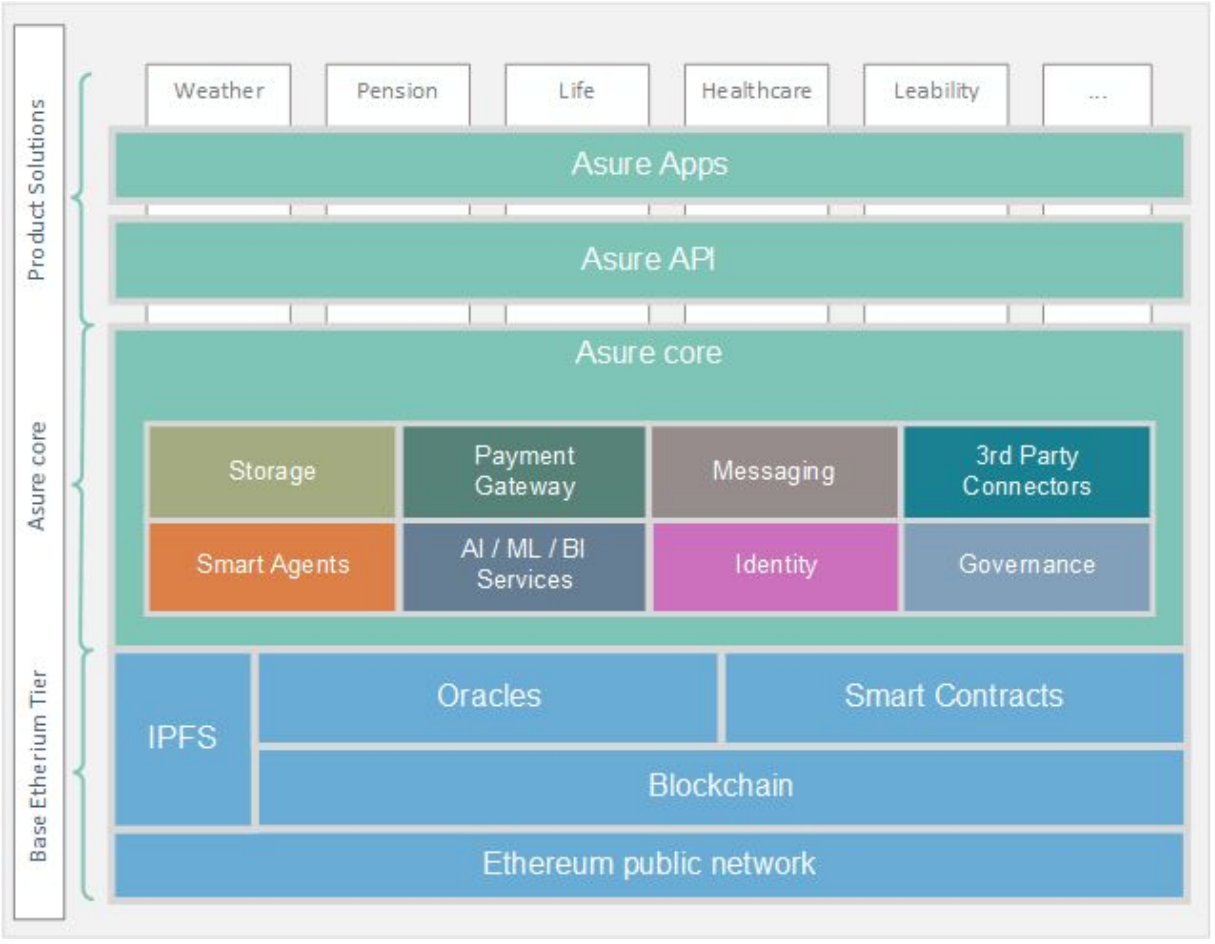
To ease the development of Smart Contracts we use Truffle framework. Truffle framework provides a development environment to efficiently develop, test and deploy Smart Contracts.

Asure platform places the utmost emphasis on the security of the smart contracts and the gathered funds. Therefore, a number of innovations are being implemented in order to ensure the highest security of the operating code and funds, such as formal verification of the contract code, test suites and migration paths. Therefore we are also looking into Viper - an experimental programming language next to Solidity to write safer and easier to verifiable smart contracts.

Asure Platform

Asure Platform provides common services and the necessary infrastructure to support the smart contracts within the public ethereum blockchain and all kinds of services to implement the whole product lifecycle. The Asure Platform will run on top of a public cloud provider like Amazon AWS, Google Cloud or Microsoft Azure. We aim for provider independence by using Kubernetes as a common abstraction layer between the Asure Platform and cloud provider. On top of Kubernetes will run a Serverless Infrastructure to simplify the development of a Microservices based architecture. We are currently experimenting with kubeless, Kubernetes Native Serverless Framework, and Istio, a service mesh that provides the monitoring services, to run serverless functions on top of Kubernetes.

The Asure Platform architecture will provide the following services and components:



Asure platform architecture

Storage

In order to store uploaded data, Asure will select one of the most appropriate decentralized storage systems, such as IPFS, Tieron, SIA, Storj or MaidSafe. Such systems enable developers to efficiently create secure decentralized file storage for a user data upload. The payment for the decentralized storage operations will be included in Asure's operating costs.

Oracles
The concept of "blockchain oracles" was introduced to solve a built-in limitation of blockchain protocols: the challenge of interacting with an external context. Simply put, an oracle can be described as a translator for information provided by an outside part of the platform. We will use different types of oracles to provide external data for the blockchain used to perform the created smart contracts. The payment for the usage of oracles will be included in Asure's operating costs.

Smart Agents
Smart Agents are autonomous jobs which will be integrated to trigger oracles or product smart contracts in case a related event occurs.

Identity
Because of the importance of KYC / AML and in order to calculate users risk rating we have to integrate an identity management service. Depending on selected product we will need to collect specific information from the user. For example: In case of a homeowner insurance a valid and verified address is needed.

Messaging
In some cases communications between the user and the system is needed. For this scenario Asure is going to integrate an AI based bot functionality realized over different communication-channels like Skype, Phone, WhatsApp, Telegram and a platform integrated instant messenger.

Payment Gateway
Payment gateway is Asure's interface to exchanges that enables users to purchase and sell tokens for Asure platform.

AI/ML & BI Services
The growth of internet connected devices and sensors, which are projected to reach 50 billion by 2020, will have a significant impact on the availability of real-time information – a trend often referred to as 'big data'. Insurers who can exploit this information for better pricing, underwriting and loss control will have a distinct competitive advantage over their peers[20]. One of the ways to reduce insurance costs is automation of claims processing. That's where our AI experience is going to help us to develop a robust, but flexible mechanism that allows to achieve the best accuracy by adjusting, through training and added data, when the first generated answer is a bit far from the goal.

3rd Party Connectors
The platform design is developed BiPRO and ACORD standards conform offering interfaces for possible third parties while maximizing the cost-efficiency while development.

Governance
Asure underlies different DAIO processes like reinsurance, compensation, identity management, application for products, submitting of claims and rewards that need to be regulated via DAIO governance functions.

Proof of Concept
We are currently working on our open source proof of concept which is available on our Github repository. PoC will be a time simulated product suite with a simple dapp which is deployed on the ethereum testnet.

Github: https://github.com/AsureFoundation/poc

Roadmap

The following roadmap reflects our business concept divided into phases to represent our intended future endeavors.

Phase 0: Research in the blockchain field

Our CTO, Fabian Raetz did a research project at University of Applied Science and Art Dortmund where he analysed the emerging blockchain technologies and its possible applications.
In 2014 a small team led by Paul Mizel and Fabian Raetz developed their own blockchain based currency as a proof of concept and tested different kinds of blockchain issues and economic systems (NRJ Coin). Their early work can be found here
Github: https://github.com/nrjcoin-project

Paul Mizel has built a team in Kiev in early 2016 for AI innovation projects "Insure Assistant" and "Insure Advisor" as full automated chatbots (for support, claim management, etc) with unique learning mechanism and connected to different platforms like Facebook, Telegram, Skype and others.

Techstack: IBM Watson, Microsoft Bot Framework, MS Luis, Microsoft .NET.
Algorithms used: Text mining, regression analysis, SVMs, neural networks.

Phase 1: MVP development

Ethereum blockchain smart contracts are going to be written to control products dynamics, users participation and claim processing. Core platform and the economic system will be ready for real usage.

Blockchain environment: Ethereum Testnet.

The work is in progress and Proof-of-Concept can be seen on www.asure.io/poc

Estimated completion target: Q4, 2018.

Phase 2: Implementing the market entry strategy for Western Europe

Internal economic system development and testing in real markets.

AI algorithms development and testing. AI will be calibrated to enable data verification, fraud detection and claims handling.

Chatbots development to provide direct and natural way to interact with thousands customers at the same time.

Data collection and analysis from the first user interactions activities with the platform and feedback.

Blockchain environment: Ethereum Mainnet.

Estimated time of completion: Q3, 2019.

Phase 3: Expansion of the platform to a global economic system

Insurance product proposals voting process implementation in order to enable product creation on the platform by all interested parties.

AI capabilities extension for enabling automatic underwriting in order to speed up the process tremendously.

Telematics integration in the platform for patterns recognition in the GPS data, traffic conditions and personal driving style for the auto insurance product.

Estimated time of completion: Q1, 2020.

Phase 4: Globalisation and local community work

Stable and functioning platform along with AI-backed automation is being deployed in existing and new markets.

Government corporations (B2G), country specifications, marketing and localization work.

Blockchain environment: Ethereum Mainnet Status: Completion target is Q1, 2023

Phase 5: 2023+

Industry Leader in decentralized autonomous insurance organisations.

We've created a fully autonomous insurance DAIO - a platform for innovation and efficiency. Customers are accessing new and improved insurance products. 100 Mio. customers worldwide are using our permission.

Blockchain environment: Ethereum Mainnet Status: Completion target is Q1, 2023

Phase 6: DAIO - Community is healthy and alive

Self optimisation and self learning mechanism is working and platform is autonomous still working.

After Asure platform has been developed and proved the stability and correctness of operations the marketing efforts will be executed in order to attract clients to various insurance products and provide potential customers with the information about benefits of our approach.

Challenges

Our marketing challenges include

- penetrating existing oversaturated insurance market, such as German, Dutch, etc (est. 2 years) by improving the effectiveness of the Asure platform
- establishing a new submarket in Western European market (est. 1 year)
- panel of experts creation for West European market (est 6 months)
- entering Asian insurance market (est. 1 year)

Technological challenges that we see at the moment are:

- choosing an appropriate AI for robo-advisor and automating claims processing
- collecting training-data for machine learning sources

Other challenges will follow and are addressed in our project. We truly believe that our team has all the knowledge and experience to develop Asure into the best decentralized autonomous insurance organization platform in the cryptocurrency community.

We are putting a lot of effort in order to combat above mentioned challenges.

Asure Token Sale

60% of the total target funding will be raised at sale in September 2018.

On 15th September 2018 at 1PM UTC Asure will offer to the public 60% of ASR tokens. Tokens will be ERC20 compatible and limited in supply.

The ASR token role and token economy

Asure tokens (ASR) are the native tokens of the Asure platform and allow users to interact with the platform. We create a utility token with a deflation mechanism as suggested by Vitalik Buterin[21].

Asure tokens can be used to purchase insurance services within the Asure ecosystem. Once tokens have been used for a purchase, we will burn a percentage of these tokens (i.e., deflation) to support the future value increase of the Asure token. On the other side we use 'proof-of-stake' and 'proof-of-activity' algorithms to compensate the deflation and create a lucrative economic system.

ASR is a utility token which entitles holders to participate in our insurance platform. ASR tokens are not designed as investments.

Members will receive ASR tokens as a reward in return for using and support particular insurance products. By support we mean reinsurance concept of the classic insurance industry wherein you can rebuy risk insurance pools, there will be different reward models for different products on behalf of risk models.

We use a 'proof-of-stake'/'proof-of-activity' algorithm based on the token ownership and an immutable activity score stored on the blockchain. It takes into account the current weight in mechanics of insurance pools and their activity score.

The ASR tokens are non-refundable functional utility tokens and do not in any way represent any shareholding, participation, right, title or interest in Asure or any other company, enterprise or undertaking; nor will ASR tokens entitle token holders to any promise of fees, revenue, profits or investment returns, and are not intended to constitute securities in any relevant jurisdiction.

ASR token will be consumed through interactions between participants on the platform.

Also, the ASR Token will be listed at various token exchanges for an easy exchange and trading.

Vesting

According to best practice and in order to protect investors and future participants of our platform, we will lock up our team's tokens. The Asure Team and advisors will receive their tokens in twelve equal parts over two years.

The vesting ensures token course stability and commitment of all involved team members. If a holder attempts to transfer more ASR tokens than vested, the transaction will be blocked.

We are going to publish the smart contract to control vesting within our project. Hence, we will prove to the community our long-term commitment.

Every 6 months we will unlock funds for the next 6 months for driving the project forward. We have decided to implement this action for the purpose of the additional safety of the funds from the crowdsale participants and with that the safety of future users.

KYC/AML

The primary objective of token sale registration is to enforce a mandatory Know-Your-Customer (KYC) check to prevent identity theft, terrorist financing, Anti money laundering (AML), and financial fraud. It also allows our team to understand our token holders better and manage risks appropriately.

The Asure tokens are not being offered or distributed to, as well as can not be resold or otherwise alienated by their holders to citizens of, natural and legal persons, having their habitual residence, location or their seat of incorporation in the country or territory where transactions with digital coins are prohibited or in any manner restricted by applicable laws or regulations, or will become prohibited or restricted at any time after this agreement becomes effective ("Restricted Persons").

We do not accept participation from the restricted persons and reserve the right to refuse or cancel the ASR token purchase requests at any time at our sole discretion when the information provided by the purchasers within the KYC procedure is not sufficient, inaccurate or misleading, or the purchaser is deemed to be a Restricted Person.

Crowdsale Privacy and Security

The security of your data is of great importance to us. There is no "cutting corners" when it comes to security, even under the pressure of running an ICO. As such, please find below the measures which will be employed to ensure your privacy and security:

- All your data will be stored in an encrypted form on our servers
- We don't store your password as we only support external authentication providers like Google and Facebook
- All the information required for the KYC process will be wiped out from our systems once the checks are completed

Asure will never share members' personal data with 3rd parties without prior consent. In order to be on the safe side you should take these precautions:

- Never send any fiat money or crypto coins to any address during the registration process. There is only one public token sale date and it is specified on our website: www.asure.io
- Bookmark the registration website, and never get to it following any email links.
- Never trust emails related to the particular sale details (such as the information about soft or hard caps, Ethereum address to send to, etc.). Remember that sender's email address can be easily forged.
- Never reply to our emails. Perform all your operations on our website only. You can check your registration status on our website using your account details.

Excluded participants

Due to legal restrictions citizens and residents from the following countries are not eligible to acquire ASR tokens: American Samoa, Belarus, Burundi, Central African Republic, Cuba, Congo (Brazzaville), Congo (Kinshasa), Guam, Iraq, Iran, Lebanon, Libya, Northern Mariana Islands, North Korea, Puerto Rico, Somalia, Sudan, South Sudan, Syria, United States, US Virgin Islands, US Minor Outlying Islands, Venezuela, Yemen, Zimbabwe.

Token Issue summary

In the following table one can see all the important details of ASR tokens.

Mission	Asure is a DAIO – fully automated insurance for all kinds of risks and a platform for insurance innovations built around artificial intelligence
Token name	ASR
Ticker	ASR
Token issuer	Asure Foundation
Token type	Ethereum ERC20
Price	1 ETH = 12.000 ASR
Target contributions	A maximum of 500.000 ETH worth of ASR tokens
Early contribution bonus	First two weeks bonus: 25% more ASR tokens, Second two weeks bonus 10% more ASR tokens, Third two weeks bonus 5% more ASR tokens
Timeline	Registration for individual cap opens 1th September 2018 Start: 15th September 2018 Start: 15th November 2018 Sale commences at 1PM UTC
Handover of tokens	With smart contract exchange
Trading	Trading on exchanges commences December 2018
Transferability	Commences on the first day of trading on the exchanges

Table 5: Token Issue summary

Token distribution

It is very important that the community understands how the Asure's funds are going to be invested into the future in order to contribute to the idea of creating a world with a distributed autonomous insurance system. See below how the investments will be allocated.

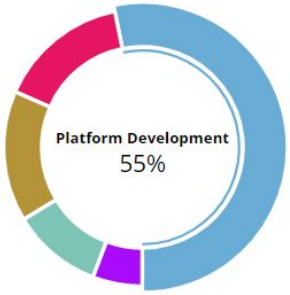
60% of all ASR tokens will be distributed. 20% of the Asure token will be used for community initiatives and incentives for the supporting ecosystem.

60%	Distributed to public during Token sale	Contributions will be used to develop the platform, and to fund security, legal and operational needs.
15%	Community & Expansion	Comprises education initiatives, incentives to developers and to create new insurance modules.
5%	Bounties	Asure provides compensation for a number of tasks spread across marketing, bug reporting or even improving aspects of the asure platform.
20%	Asure Team (15%) and advisors (5%)	These are placed to acknowledge the time, effort and resources contributed to the Asure platform. The Asure team and advisors receive their tokens as part of their compensation package, and team tokens will be vested for a twelve month period.

Table 6: Token distribution

Application of funds

We envision that ETH derived from the sale of Asure utility tokens ("ASR") will be allocated in the following manner.



Platform Development	55%
Legal	15%
Marketing	15%
Tax	10%
Office Expenses	5%

55%	Platform Development	A large part of the budget will be applied in three areas: ● The creation of ongoing development of our smart contract insurance products ● Development of autonomous artificial intelligence system (Machine Learning) ● The end-user experience for iOS and Android applications as well as the Asure platform (API, Rest/GraphQL) itself
15%	Legal	We are acutely aware of the need for rigorous compliance. We will need our own well-resourced legal department and access to specialist legal advice. Our principal concern of course is to fit within complex regulatory frameworks across the globe.
15%	Marketing & Operations	Additional staff and resources to cover day-to-day operations and prudent management as the organization expands.
10%	Tax	Tax and organisation development fees.
5%	Office Expenses	Office expenses and HR activities to build up needed team to achieve roadmap goals.

Table 7: Application of funds

Furthermore, due to the operational complexity of an insurance business, an insurance company is difficult to operate at the bare minimum of capital. Economies of scale become effective at larger scales, and therefore we estimate the minimum solvency capital required to run a sustainable insurance. In total, we can estimate the minimum total capital requirement for starting an insurance business between 10%-15% for operations.

Team

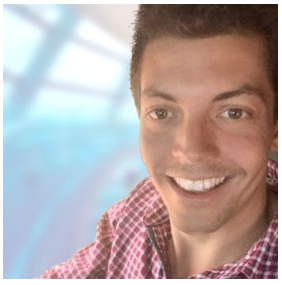
Paul Mizel
Founder & CEO

Fabian Raetz
Founder & CTO

Gamal Schmuck
Founder & CIO

Andrey Kuchaev
Community Manager

Azamat Toktakunov
UX/CX Expert



Alexander Böhner
Insurance Expert

André Beschmann
Team Manager

Ilja Leyberman
Chief Architect

Matthias Hollweg
Insurance Analyst

Nabil Azzam Jai
Insurance Analyst

Wadim Kolossow
Insurance Analyst

Jan Heinicke-Clemm
Insurance Analyst

Igor Gutjahr
Operations Analyst

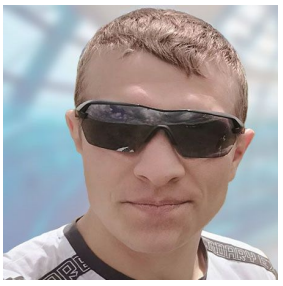
Morris Janatzek
Blockchain Developer

Michael Kasko
Blockchain Developer

Slawa Lipp
Blockchain Developer

Sergej Savchenko
Full Stack Developer

Jan Geske
AI Developer



Serhii Kirienko
AI Developer

Serhii Yaremchuk
Full Stack Developer

Anastasia Scherbakova
Full Stack Developer

Alexander Grünke
Marketing

Patrick Möller
Marketing

Mariia Shabalina
AI / Data Science

We are a team with most members based in Dortmund(Germany) and Kiev (Ukraine). The following people are currently working either full- or part-time for the Asure. After the token sale finished we are going to hire additional experts and utilize our partners network to achieve our goals on the roadmap.

Paul Mizel – Founder, Chief Executive Officer

Paul is a Master's Degree with over ten years' experience in creating, growing and managing online insurance businesses. Former Head of Innovation and current shareholder at BROCKHAUS AG (Insurance Consulting Company), he also co-founded ECHTNICE GmbH. He and his innovation team in Dortmund (Germany) and in Kiev (Ukraine) worked on blockchain-related projects since 2014 and in AI/Machine learning field for the last 3 years for a number of insurance companies.
http://linkedin.com/in/pmizel

Fabian Raetz – Founder, Chief Technology Officer

Fabian has been working for more than 10 years at BROCKHAUS AG. In Paul Mizel's Innovations department he researched cutting edge technologies that could help changing the Insurance field. His Bachelor Thesis was about implementing Blockchain technology for Insurance use-cases. He also supported a number of open-source projects.
http://linkedin.com/in/fraetz

Gamal Schmuck – Founder, Lead Software Engineer

Gamal has over 10 years experience in software development in both financial and digital businesses. For the last few years he helped implementing solutions for authorities and insurances and as a certified Usability Engineer at Fraunhofer Institute in Bonn he started to focus himself and his work mainly on usability engineering to create software which rather simplifies people lifes instead of making it more complicated.
http://linkedin.com/in/gschmuck

Andrey Kuchaev – Community Manager

Andrey holds a Master of Science degree in Computer Engineering from Duisburg-Essen University. He was working at Fraunhofer Institute where his interest in the Blockchain technologies has arisen. After that he joined BROCKHAUS AG team where he got to know the insurance field and its challenges. He worked in multiple projects for a major international insurance provider.
https://www.linkedin.com/in/akuchaev

Azamat Toktakunov – UX/CX Expert

Azamat came from Kirgistan to BROCKHAUS AG, Germany in May 2016 and is actually working in different projects for various big insurance corporations. He has over 10 years of experience in web application projects and focused himself mainly on UX / CX and frontend development in general. Azamat holds a B.Sc. degree in Computer Science from Kyrgyz State University.
https://www.linkedin.com/in/sweedbes

Alexander Böhner – Insurance Expert

Alexander is a marketing and sales expert in relation to insurances. He worked as project manager for several german insurance companies like Mannheimer, Gothae, Zürich AG and Signal Iduna.
https://www.linkedin.com/in/alexander-böhner-991533107

André Beschmann – Team Manager

Andrè is a certified project manager in different project management frameworks like International Project Management Association (IPMA) and SCRUM. He worked for a number of major international insurance companies in different team sizes, ranging from 5 to 250 team members.
https://www.linkedin.com/in/abeschmann

Ilja Leyberman – Chief Architect

Ilja is a Senior IT-Consultant and Solution Architect for insurance companies, he has much experience in creating techstacks for different requirements. He discovered Blockchain and the opportunities around this technology several years ago and is actually working on some projects in this field.
https://www.linkedin.com/in/ilja-leyberman-816004124

Advisors

Dirk Mattern – Organisation Advisor

More than 30+ years of experience in information technology and business development for various industries and especially insurance markets.
https://www.linkedin.com/in/dirk-mattern-81758552

Emanuel Kuceradis – Technology advisor

More than 10+ years of experience in software development and 3 years in Big Data and distributed platforms and technology for international markets.
https://www.linkedin.com/in/emanuel-kuceradis-86514566

Michael Lurz – Insurance advisor

Michael has more than 10+ years of experience in information technology and insurance development he developed many different insurance products and platforms in small and

big teams for one of the biggest international insurance organisation based in Germany.
https://www.linkedin.com/in/michael-lurz-4914a7143/

Dr. Georg-Christoph Lichtenberg – Legal advisor

Dr. Georg-Christoph Lichtenberg advises national and international clients on tax and legal issues in a wide variety of industries and areas, including technology and insurance organisations.
https://www.linkedin.com/in/dr-georg-christoph-lichtenberg-040437161

Organisation and Work

We are in contact with BaFIn (The Federal Financial Supervisory Authority in Germany) about the rules of conduct and organisational requirements in an attempt to establish Asure Foundation in Germany. Depending on the results of the discussion, the foundation will be based either in Germany or in Switzerland.

The Asure Foundation is a non-profit organization and is based on three main pillars: innovation, collaboration and customer focus with a community of members engaged in research and development of smart contracts for newly developed Smart Products created on Asure platform.

The Foundation includes blockchain, AI and ML researchers as well as insurance experts. The Asure Foundation is an important element of the Asure platform, that lets us coordinate interactions in different parts of the ecosystem.

We are going to work in collaboration with our industry partners on blockchain projects and on further development of the Asure platform. Our partners have long-standing experience in the insurance field as well as business process analysis and improvement of various insurance products.
With the support of our partner network we will be able to achieve the top performance.

Dortmund is rich with insurance businesses; more than 100 insurances are present in the area with more than 75.000 employed persons in 150 km vicinity of Dortmund.[21]
The following statistics shows only the largest insurance companies situated in or around Dortmund:

Name	City	Employees
ERGO Group	Düsseldorf	28217
Generali Deutschland	München, Köln	14957
Signal Iduna Gruppe	Dortmund, Hamburg	13000
AXA Deutschland	Köln	11483
Zurich Gruppe	Bonn	6146
Gothaer	Köln	5350
DEVK	Köln	3974
LVM Versicherung	Münster	3164

Provinzial NordWest	Münster	2914
Continentale Krankenversicherung	Dortmund	2482

Our collaboration, implementation and technology research partners are:

Technology Specialists Employees: 2.712	Insurance Specialists Employees: 120		UX Specialists Employees:50

Legal Note

PLEASE READ THE FOLLOWING SECTIONS AS WELL AS THE "TOKEN SALE TERMS & CONDITIONS" (SALE T&C) AND THE "TOKEN REDEMPTION TERMS & CONDITIONS" (REDEMPTION T&C) CAREFULLY.

No person is bound to enter into any contract or binding legal commitment in relation to the sale and purchase of the ASR tokens and no cryptocurrency or other form of payment is to be accepted on the basis of this whitepaper.

AN INVESTMENT IN ASR INVOLVES A HIGH DEGREE OF RISK AND MAY RESULT IN THE LOSS OF ALL OR PART OF THE INVESTMENT.

NOTHING IN THIS WHITEPAPER CONSTITUTES AN OFFER OF SECURITIES FOR SALE IN ANY JURISDICTION WHERE IT IS UNLAWFUL TO DO SO.

THE ASR TOKENS (AS REFERRED TO IN THIS WHITEPAPER) HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE U.S. SECURITIES AND EXCHANGE COMMISSION ("SEC") OR BY THE SECURITIES REGULATORY AUTHORITY OF ANY STATE OR OF ANY OTHER JURISDICTION, NOR HAS THE SEC OR ANY SUCH SECURITIES REGULATORY AUTHORITY PASSED UPON THE ACCURACY OR ADEQUACY OF THE INFORMATION IN THIS WHITEPAPER.

THE ISSUANCE AND SALE OF THE ASR TOKENS HAVE NOT BEEN REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933 ("THE —SECURITIES ACT") OR ANY OTHER APPLICABLE SECURITIES LAWS AND, UNLESS SO REGISTERED, THE ASR TOKENS MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED WITHIN THE UNITED STATES OR TO OR FOR THE ACCOUNT OF ANY U.S. PERSON, EXCEPT PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND ANY OTHER APPLICABLE SECURITIES LAWS.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This Whitepaper includes statements which, to the extent that they do not recite historical facts, constitute forward-looking statements. These statements may be identified by the use of forward-looking terminology, including the terms "believes", "estimates", "forecasts", "plans", "projects", "anticipates", "expects", "intends", "may", "will", "could" or "should" or, in each case, their negative or other variations or comparable terminology, or by discussions of strategy, plans, business prospects, objectives, goals, future events or intentions. These forward-looking statements appear in a number of places throughout this Whitepaper and include, but are not limited to, statements regarding our intentions, beliefs or current expectations concerning, among other things, the business model of Asure platform, development costs, liquidity, prospects, growth, strategies, expectations about development of cryptocurrencies, blockchain technology.

LEGAL NATURE OF ASR AND OF THIS WHITEPAPER

The ASR tokens are not intended to constitute securities in any jurisdiction.

The Whitepaper does not constitute a prospectus or offer document of any sort and is not intended to constitute an offer of securities or a solicitation for investment in securities in any jurisdiction.
This Whitepaper is intended for general informational purposes only and does not constitute a prospectus, an offer document, an offer of securities, a solicitation for investment, or any offer to sell any product, item or asset (whether digital or otherwise). Asure and token purchasers' interests are aligned to make Asure DAIO a viable platform that truly disrupts the insurance industry.

The potential purchasers acknowledge and agree that they are not purchasing ASR tokens for purposes of investment, speculation, as some type of arbitrage strategy, for immediate resale or other financial purposes.

DISCLAIMER OF LIABILITY

Acquisition of ASR token does not represent the acquisition of any form of security with respect to the Asure Platform. By purchasing and holding the ASR tokens, the potential purchaser is not entitled and (or) guaranteed any form of dividend or other revenue right of similar nature. The potential purchaser will not have any influence on the corporate management of Asure and the Platform.

To the maximum extent permitted by the applicable laws, regulations and rules, Asure shall not be liable for any indirect, special, incidental, consequential or any other kind of losses, in tort, contract or otherwise (including but not limited to loss of revenue, income or profits, and loss of use or data), arising out of or in connection with any acceptance of or reliance on this Whitepaper or any part thereof.

RISK FACTORS

The purchase of tokens involves a high degree of risk, including but not limited to the risks described below. Before acquiring ASR tokens, it is recommended that each participant carefully weighs all the information and risks detailed in this Whitepaper, and, specifically, the following risk factors.

A. Dependence on computer infrastructure

Asure's dependence on functioning software applications, computer hardware and the Internet implies that Asure can offer no assurances that a system failure wouldn't adversely affect the use of the sale participants' ASR tokens. Despite Asure's implementation of all reasonable network security measures, its processing center servers are vulnerable to computer viruses, physical or electronic break-ins or other disruptions of a similar nature. Computer viruses, break-ins or other disruptions caused by third parties may result in interruption, delay or suspension of services, which would limit the use of the ASR tokens.

B. Smart contract limitations

Smart contract technology is still in its early stages of development, and its application is of experimental nature. This may carry significant operational, technological, regulatory, reputational and financial risks. Consequently, although the audit conducted by independent third party increases the level of security, reliability, and accuracy, this audit cannot serve as any form of warranty, including any expressed or implied warranty that the

ASR Smart Contract is fit for purpose or that it contains no flaws, vulnerabilities or issues which could cause technical problems or the complete loss of ASR tokens.

C. Regulatory risks

Blockchain technology, including but not limited to the issue of tokens, may be a new concept in some jurisdictions, which may then apply existing laws or introduce new regulations regarding Blockchain technology-based applications, and such regulations may conflict with the current ASR smart contract setup and ASR token concept. This may result in the need to make substantial modifications to the ASR smart contract, including but not limited to its termination, the loss of ASR tokens, and the suspension or termination of all ASR token functions.

D. Taxes

ASR token holders may be required to pay taxes associated with the transactions contemplated herein, whether in Germany or in their home countries. It will be a sole responsibility of ASR token holders to comply with the tax laws of Germany and other jurisdictions applicable to them and pay all relevant taxes.

E. Force Majeure

Asure's performance may be interrupted, suspended or delayed due to force majeure circumstances. For the purposes of this Whitepaper, force majeure shall mean extraordinary events and circumstances which could not be prevented by Asure and shall include: acts of nature, wars, armed conflicts, mass civil disorders, industrial actions, epidemics, lockouts, slowdowns, prolonged shortage or other failures of energy supplies or communication service, acts of municipal, state or federal governmental agencies, other circumstances beyond Asure's control, which were not in existence at the time of this whitepaper release. If such circumstances occur prior to the issue of ASR tokens and Asure is unable to issue ASR tokens within one month from the projected date, it may issue a refund at the request of the ASR token purchasers. The refund will be issued in the original amount and form of payment to the same digital wallet or bank account where the funds were transferred from.

F. Disclosure of information

Personal information received from ASR token holders, the information about the number of tokens owned, the wallet addresses used, and any other relevant information may be disclosed to law enforcement, government officials, and other third parties when Asure is required to disclose such information by law, subpoena, or court order. Asure shall at no time be held responsible for such information disclosure.

G. Value of ASR Token

Once purchased, the value of ASR Token may significantly fluctuate due to various reasons. Asure does not guarantee any specific value of the ASR Token over any specific period of time. Asure shall not be held responsible for any change in the value of ASR Token. Assumptions with respect to the foregoing involve, among other things, judgments about the future economic, competitive and market conditions and business decisions, most of which are beyond the control of the Asure project team and therefore difficult or impossible to accurately predict. Although the Asure team believes that its assumptions underlying its forward-looking statements are reasonable, any of these may prove to be inaccurate. As a result, the Asure team can offer no assurances that the forward-looking statements contained in this Whitepaper will prove to be accurate. In light of the significant uncertainties inherent in the forward-looking statements contained herein, the inclusion of

such information may not be interpreted as a warranty on the part of Asure or any other entity that the objectives and plans of the Asure project will be successfully achieved. Please note that the Asure project may be subject to other risks not foreseen by its management at this time.

GENERAL ISSUES

ASR tokens do not (and are not intended to) mean any note, stock, treasury stock, security future, security-based swap, bond, debenture, evidence of indebtedness, certificate of interest or participation in any profit-sharing agreement, collateral-trust certificate, preorganization certificate or subscription, transferable share, investment contract, voting-trust certificate, certificate of deposit for a security, fractional undivided interest in oil, gas, or other mineral rights, any put, call, straddle, option, or privilege on any security, certificate of deposit, or group or index of securities (including any interest therein or based on the value thereof), or any put, call, straddle, option, or privilege entered into on a national securities exchange relating to foreign currency, or, in general, any interest or instrument commonly known as a 'security', or any certificate of interest or participation 34 in, temporary or interim certificate for, receipt for, guarantee of, or warrant or right to subscribe to or purchase, any of the foregoing.

The original text of the Agreement is in English. Albeit the Company may place a translation of the Agreement on the Webpage, the English version shall prevail if there is any conflict.

If you are in any doubt as to the action you should take, you should consult your legal, financial, tax or other professional advisor(s).

Conclusion

We at Asure believe that the future of insurance will be defined by Crypto technologies (esp. Blockchain), AI and Big Data in a decentralized context, which create a whole new insurance experience geared for the digital world. It can only be achieved by using decentralized blockchain platform and artificial intelligence as basis for creating insurance protocol for any kinds of risks in the world.

With our token sale, we want a wide range of people to participate in this long-term journey and create success story by changing how insurance works in our new digital age.

Be part of this journey, and join our Token Sale - we are looking forward to welcome you on-board!

Acknowledgements

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Thank you for your attention.

„Be curious. And however difficult life may seem, there is always something you can do and succeed at. It matters that you don't just give up. „
Stephen Hawking

License

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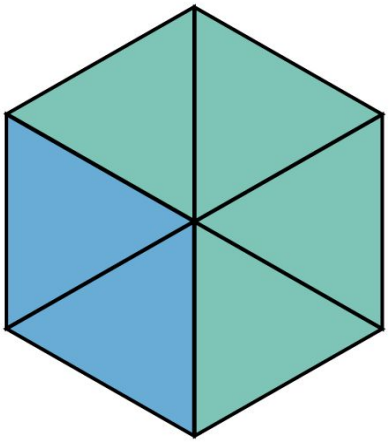

Asure Foundation

A Non-Profit Foundation

First full risk decentralized autonomous insurance organisation

www.asure.io

Contact:	community@asure.io
Web:	https://asure.io
Telegram:	https://t.me/asureteam
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