THE NEW INSURANCE ECOSYSTEM

INSUREUM

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Zikto Inc. is a Korean startup company, ranked by Forbes as a top-10 Korean startup in 2017. Zikto first started as a wearable device brand in 2014. In 2017, Zikto extended its business to develop 'The Challenge', a multiple IoT device integration platform. Currently, Zikto is partnered with several Korean insurance and financial conglomerates, including KB Financial Group, Kyobo Life Planet, and SK Planet, in connection with the development of a new protocol called Insureum, designed to eventually disrupt the existing insurance industry by leveraging blockchain technology.

Insureum, a combination of Insurance + Ethereum, is the cryptocurrency that will be used in their Insureum Protocol. Zikto Pte. Ltd. will be carrying out the Insureum token sale as described in this Whitepaper. Further information on Zikto Pte. Ltd. is available below.

1.0. Abstract / Intro

Despite the insurance industry's success over the last 30 years, it has never been a technology leader. Finally, with the Insureum Protocol, the insurance value chain will become cost efficient and simple, and create larger value in the insurance industry by enabling transactions between stakeholders. Insurance companies, policyholders and 3rd parties alike can all make transactions according to their own competencies, and all excess value (created from the transactions) is shared based on their contribution.

Zikto started negotiations with insurance and financial institutions in 2015, concerning the gathering and processing of lifecycle data. It was these new connections that led Zikto down the path toward changing their focus as a company.

The Zikto team realized that a lot of players in traditional finance-based sectors have a strong initiative to understand their current and potential customers. A data-gathering intermediary can be a real asset for these sectors to understand their target audiences. With reliable data, they can develop better products that are customized, digitalized and more cost-efficient.

However, it is very difficult and costly for these sectors to gather this data by themselves. It requires a significant investment of time and money to develop and integrate such a system, market it to the public, manage the data gathering processes, and analyze it. The Challenge, Zikto's data integration platform, bridged the gap nicely by providing data and analysis gathered from various smart devices. Zikto secured a number of sales agreements and ongoing negotiations with global insurance companies, as The Challenge offered a good value-for-price. As just one of millions of app developers, Zikto ultimately decided to side with the win-win monetization strategy of adjusting their focus to the processing and integration of data.

Now, Zikto is expanding the idea of data sharing to another level: developing a protocol to facilitate the transactions. It will promote more stakeholders in the traditional insurance industry, benefiting all. Insurers will find easier ways to gather data, users and policyholders will have access to better insurance products, and third parties like app developers and sales agencies will find optimal ways to monetize their services and products.

The Insureum Protocol is a new blockchain-based insurance ecosystem that seeks to connect insurers, their customers, and developers. It is designed to assist insurance companies in tailoring insurance policies to individual lifestyles to provide unique incentives for customers. Zikto's vision is for the Insureum Protocol to create the conditions through which many new insurance products attractive to people under the age of forty are developed.

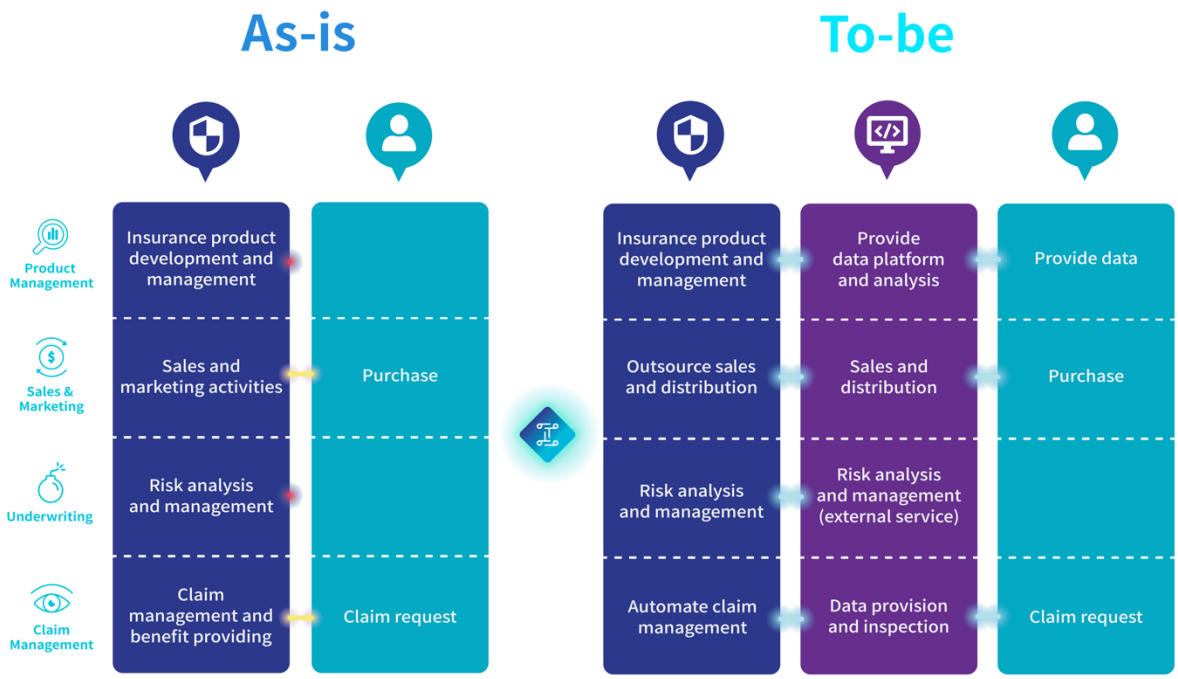

Figure 1. How Insureum will change the insurance industry landscape

1.1. Background

How can traditional, slow moving insurance companies create new cost-efficient processes and adapt to constantly changing market demand? Decentralization via blockchain technology will give these companies a way to outsource costly manual processes like gathering and analyzing data, and avoid falling behind.

Insurance companies are facing drastic changes to the state of the market and its fundamental structure. While other industries adopt and adapt to global digitization trends, the conservative insurance industry is losing ground. Their growth has slowed hand-in-hand with the market due to a rapidly aging population and the changing lifestyles of new generations. Meeting the needs and wants of younger demographics is extremely challenging because of a lack of data and poor capability to deeply analyze it. Globally, a number of insurers are already providing data and digital-driven healthcare services to their policyholders to reduce the cost from claims. For example, the international Medolution programme supported by the National Research Council of Canada is based on the idea of using digitization to reduce costs, while improving patient

quality of life. The Canadian Government's 'Smart Health' program is similarly based on the idea of reducing costs with digitization.

Despite the emerging market, there is a global trend of reduced growth in the insurance industry. This is mainly due to stagnancy in advanced markets such as the US and other developed countries including Germany, UK, and Australia, which are expected to see less than 1.5% growth through 2018. The non–life insurance market is forecasted to see a lower growth rate compared to the life insurance market, but the overall trend is almost identical in both markets.

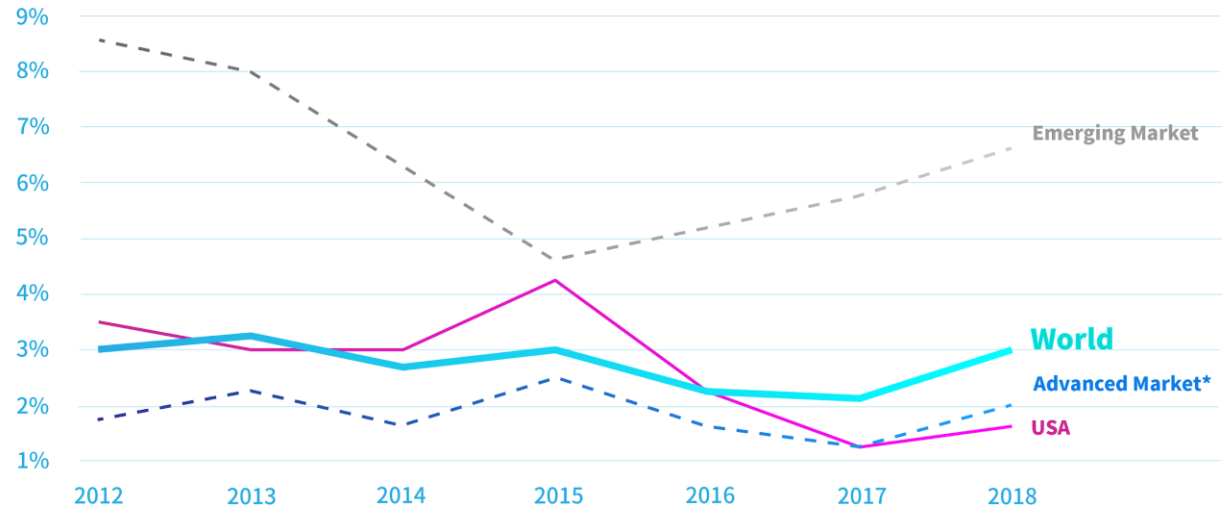

Figure 2. Total market growth forecast of non-life insurance market by country, 2014 - 2018 [20]

**Advanced markets include North America, Western Europe, Israel, Oceania, Japan, Korea, Hong Kong, Singapore, and Taiwan.*

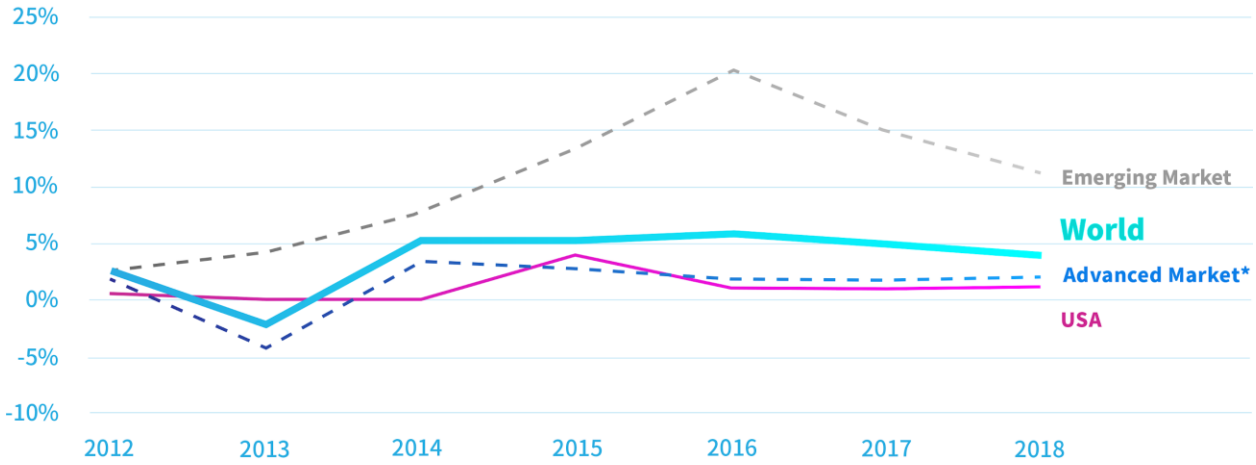

Figure 3. Total market growth forecast of life insurance market by market, 2014-2018 [21]

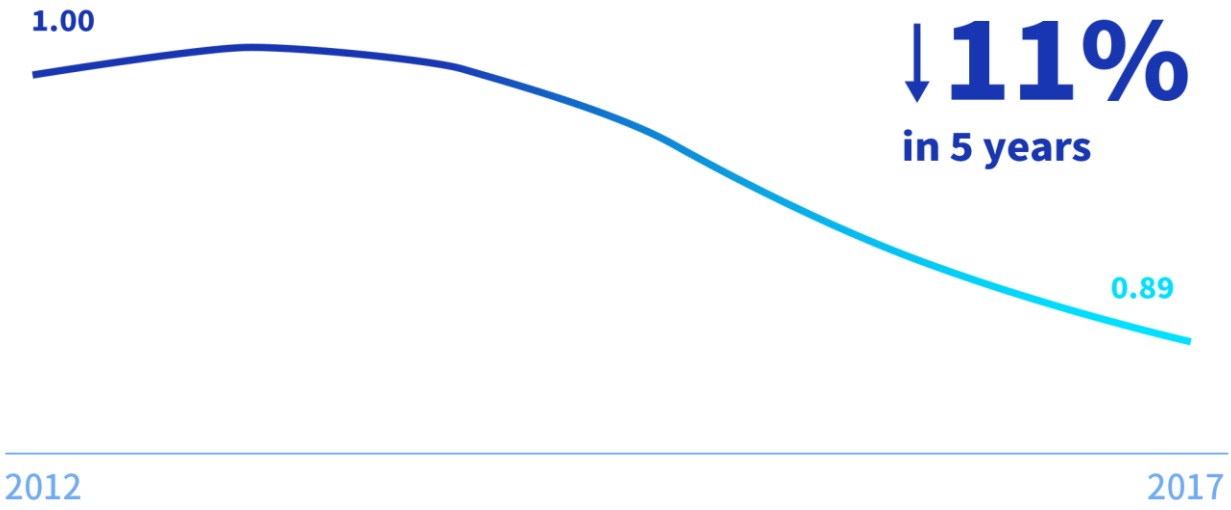

Figure 4. Global Insurance Market Index by quarter, 2012 - 2017 (Q1 2012 as baseline (1.0) [23]

As a result of insurance companies' poor access to data and inability to deeply analyze the data they do have, customers are stuck with limited options from insurance providers who present them with insurance plans which are not 100% suitable for their individual needs.

About 30 years ago, the insurance industry experienced an age of innovation. New investment-linked products appealed to a wider range of customers. But since then, the only major innovations in the insurance industry have been the ability to compare plans and shop online. Insurance policies have remained largely the same with entrenched and standardized packages which are not tailored for individual lifestyles. Because of this, insurers are having a hard time attracting buyers in their twenties and thirties, as they do not find insurance offerings attractive. Even those who do consider buying insurance discover that their lifestyles are not well-matched with available insurance plans. These groups may avoid making an insurance purchase and may put off retirement planning as something to look into in another decade. Millennials also find that there is no clear way to subscribe to specific policies they want. For example, a car owner who only commutes less than 5 miles per day would not want to purchase the same insurance policy that their neighbor subscribes to, which covers more than 100 miles of driving per day. The traditional insurance products, by their nature, are not designed to cover different individual needs and wants.

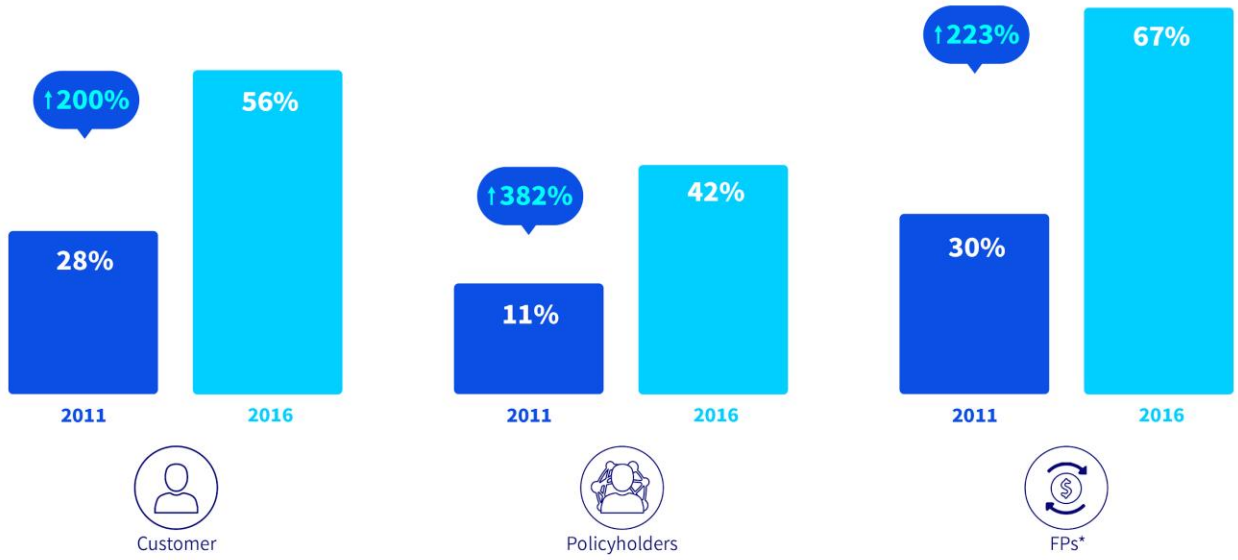

Figure 5. Increase in mobile initiatives of different stakeholders in the insurance industry, 2011 - 2016 [22]

Life insurers, for instance, have until now relied on actual medical data to create the actuarial tables their plans are based on. The problem is that this information is hard to get a hold of, as doctors and medical institutions are rightly reluctant to provide sensitive patient records. The lack of such information is even tougher for smaller companies who want to enter the scene but have no relevant data to rely on when creating their protection plans.

For auto and other non-life insurances, there's a virtually endless stream of user data available online, but very little of it provides insight that is useful to insurers in connection with the creation of new insurance products for a new generation of customers.

After insurance policies are created and marketed, they go through a lengthy process known as underwriting before they come into force, where the insurance provider decides whether to issue the insurance policy to the customer. Between underwriting and making a claim, insurance companies, inspectors and customers may waste time and money in making sure that claims are valid and fraud-free.

It is extremely challenging (and expensive) for insurance companies to be agile and create their own platforms to collect necessary data to speed up product creation and underwriting. Especially considering the fact that there are plenty of platforms with almost identical purposes (e.g., mobile applications and websites), acquiring and retaining users on their own platforms is more difficult than it seems to be. Furthermore, policyholders are reluctant to give away their personal information without any incentive.

Due to the difficulties stated above, currently, most insurance companies process their value chains manually. Customers are paying high premiums to insurance companies partly due to

these poorly-managed value chains. According to reports published by McKinsey & Company, these costs can be reduced by 30% by automating and digitizing the processes.

At the same time, there are a lot of services collecting user data but not effectively monetizing it. Many individual app developers use advertising as a monetization strategy, which is renowned to be the least effective, according to a survey by Combo App [26]. If they can successfully monetize the acquired data in mutually beneficial way, it will be a game-changer for them.

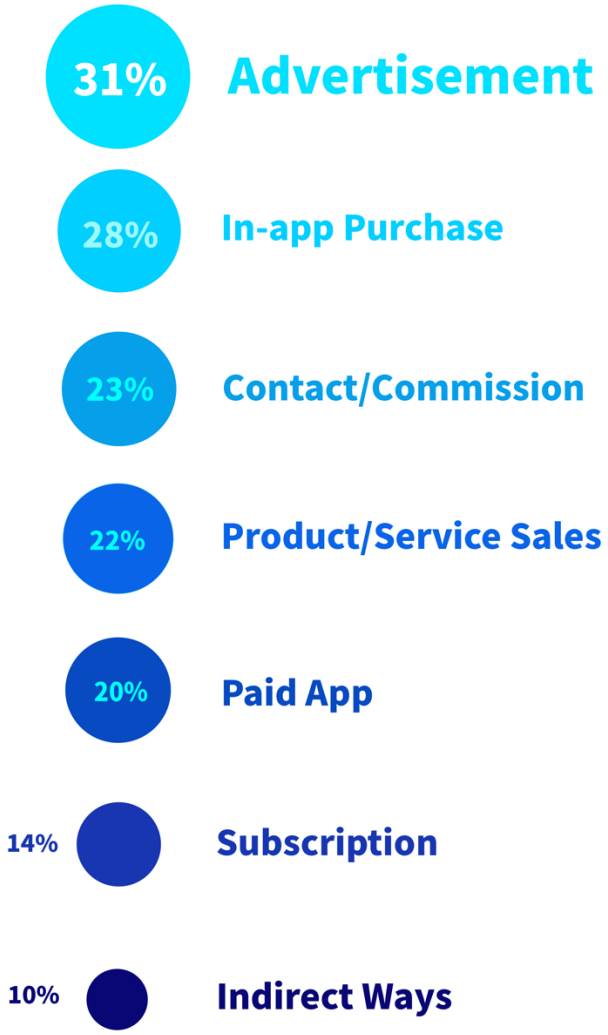

Figure 6. Most common monetization strategies for apps

2.0. Summary of The Insureum Protocol

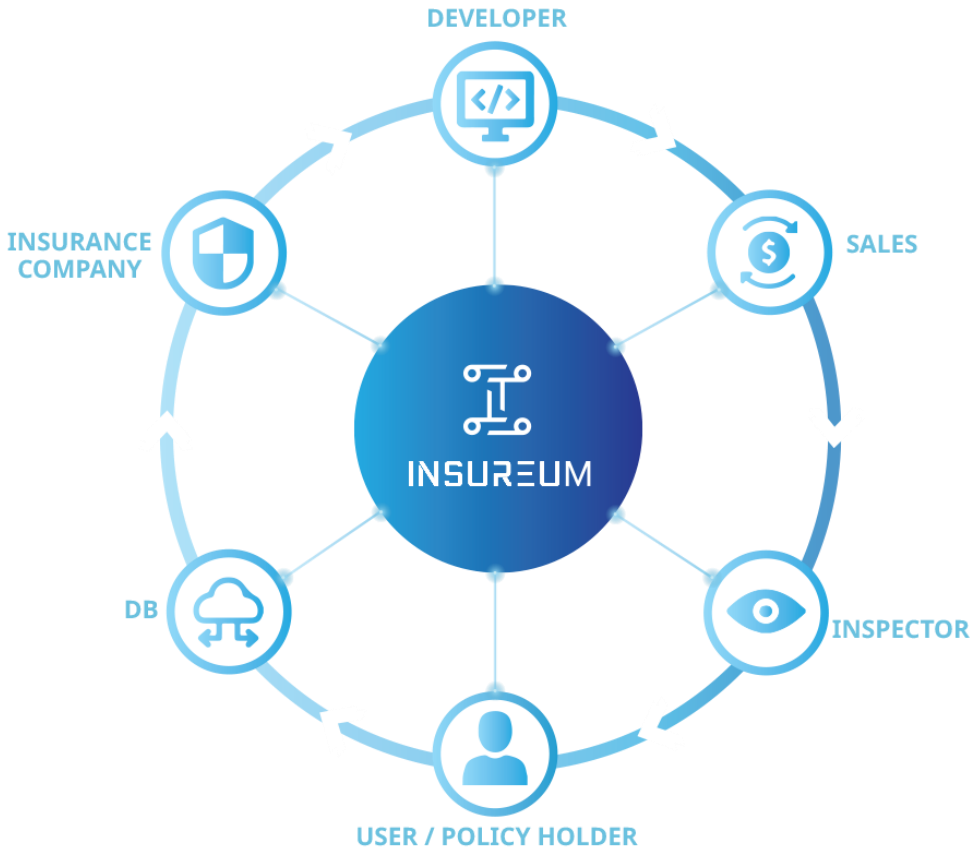

Figure 7. Main stakeholders in the Insureum Protocol

The Insureum Protocol bridges the technology gap between the insurance industry, 3rd party developers (Applications & IoT), and policyholders.

Unlike manually managed value chains, the Insureum Protocol uses blockchain technology to create a decentralized ecosystem which connects insurers, their policyholders, and third-party developers, and seeks to provide access to a plethora of individually anonymous, but demographically identifiable data. The premium paid will enrich the total value creation of the industry. Furthermore, the created value is shared based on each stakeholder's contribution.

In recent years, adjacent industries (finance and healthcare) have been seeking new ways to access customer data. In the insurance industry, IoT, wearables and other smart technology can give highly relevant information about customers to insurance companies that can help them tailor-make plans and create insurance products which appeal to potential customers. For example; GPS and telematics tracking can inform insurance companies how fast someone drives, or suggest that a driver who regularly drives for long periods should schedule more breaks. Other technologies may track how often they go rock climbing, cycling, etc. Insurance

companies could also determine the amount of steps taken during a normal day as one measure of health.

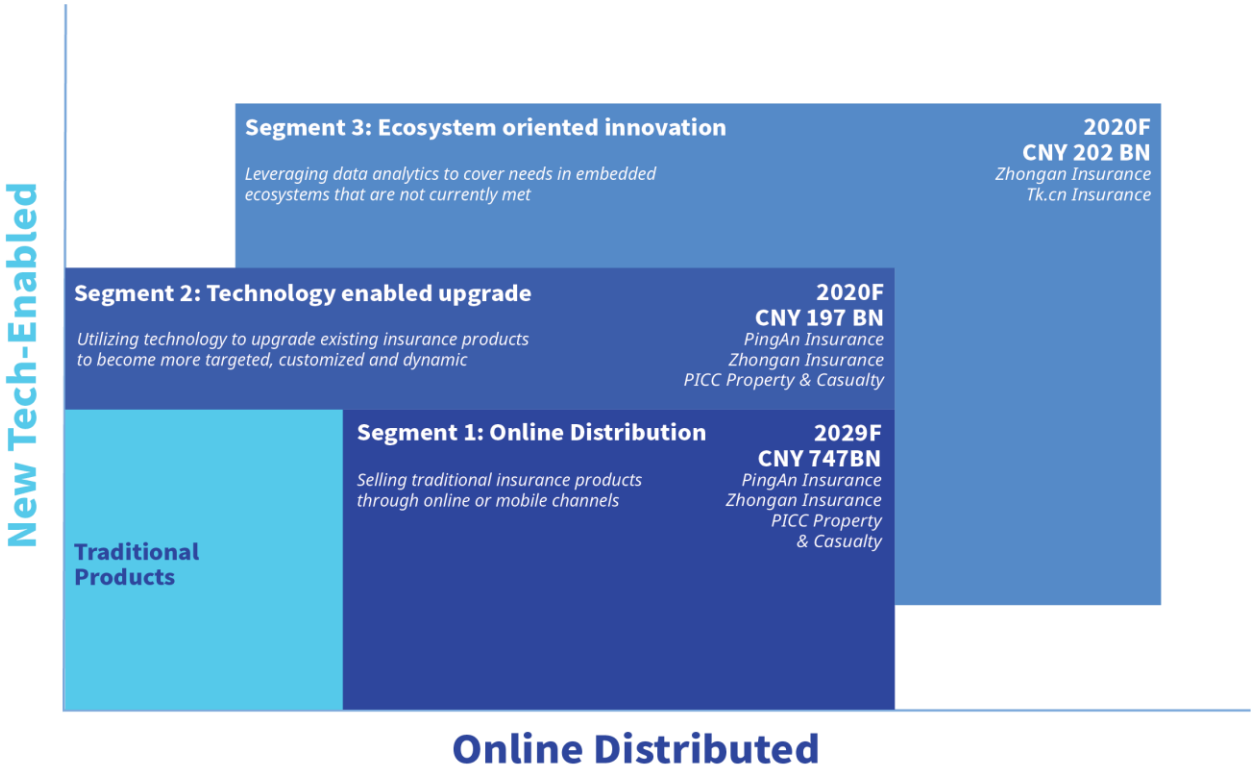

Figure 8. China InsureTech segments, key players and market size forecast by 2020 [24]

Within the Insureum protocol ecosystem, insurers, their policyholders and third-party developers can exchange blockchain-based tokens called Insureum to buy and sell anonymized data. Insurers will receive the data they want and have the opportunity to develop totally new or even better types of insurance products, especially for usage-based insurance segmentation. Developers are incentivized to connect apps to the Insureum Protocol to receive Insureum, and policyholders are rewarded for sharing their anonymized data.

The value of the Insureum Protocol is described below. The value to any particular stakeholder may vary depending on the future development of the Insureum Protocol and other factors. However, Zikto plans to ensure the main idea of Insureum-incentivized data-sharing will be actualized in the following ways during the first stage.

2.1. Policyholders

The Insureum Protocol gives policyholders more power to choose plans that perfectly match their lifestyles by providing insurers with diversified data, even though such plans will not be purchasable through Zikto or marketed via the Insureum Protocol, at least at the initial stage. However, we have plans to serve as a free marketplace for insurance products in the future after acquiring the proper regulatory license. When policyholders choose to share data, they are rewarded by being able to trade and earn cryptocurrency (Insureum). They could, at a later stage, perhaps also save time and effort when making claims, as most of the processes would be automated by utilizing smart contracts on the blockchain.

By its fit-for-all nature, consumer insurance products cannot meet the needs of the various individual policyholders. With the Insureum Protocol, policyholders will be able to purchase customized insurance products such as (for example) pet insurance, car insurance only for long-distance driving, real estate insurance only during the holiday season, cybersecurity insurance and others for a more reasonable price. Secondly, the data that they currently share for free will be made more valuable. Data users (insurers and other third parties) will reward the policyholders (and other data providers like app users) for the data with Insureum. Considering that there is currently almost no reward for the data, this will dramatically impact perspectives on the value of the data.

Imagine an insurance policy that rewards you if you hit metric goals like walking 10,000 steps per day. Or if you're a safe driver and don't slam your brakes in traffic, you'll be entitled to a discount.

2.2. Insurance companies

Insurance companies will be able to create mini ecosystems that contain in-house or third-party apps that accurately gather and analyze the real data of (potential) policyholders. Within these ecosystems, cryptocurrency is exchanged between developers and insurance companies, and can be used to buy and sell anonymized data to develop and manage customized product offerings.

Being able to identify fraud by cross-referencing transactions on the blockchain could also help insurance companies to save time and money when it comes to underwriting and the claims process.

2.3. Developers

Currently, many of the apps that gather user data via IoT devices don't appear to have proper business models through which they may easily and quickly monetize this data. Using Insureum

and The Insureum Protocol, app and API developers may be able to create and maintain a variety of new programs based on requests from insurers. The Insureum Protocol could be used by both insurance companies and developers to exchange apps and/or data in a turnkey ecosystem, with limited difficulty and costs due to transactional or trust issues, as all transactions will be based on Insureum and on a blockchain.

2.3.1. The Challenge

In 2015, Zikto launched its ‘Zikto Walk’ wearable, which became incredibly popular among insurance companies looking to gather data about people's lifestyle habits. Using what it learned, the Zikto team shifted its focus to providing data aggregated from multiple health apps to insurance and financial companies. This data presently feeds into a Zikto-developed platform called ‘The Challenge’. ‘The Challenge’ is a mobile marathon platform which tracks activity from a range of wearables and applications via an API and seeks to build financial products for insurance and financial companies.

In 2017, The Challenge was adopted by KB Card, one of the largest financial conglomerates in Korea, with the world’s first activity-based reward platform for credit cards. Users of KB Kookmin Card receive rewards when achieve the goal of walking 10,000 steps per day. The card has been successfully adopted by the users, and sold more than 23,000 by March 2018.

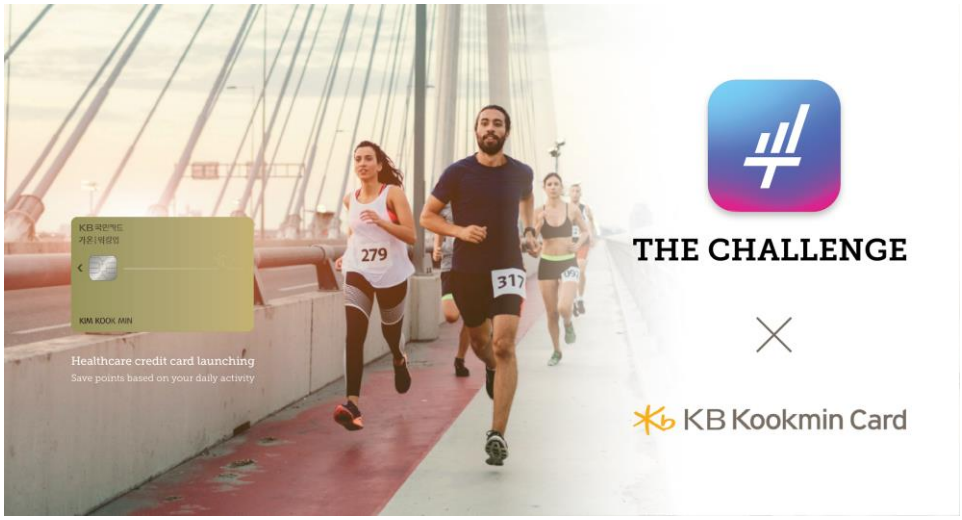

Figure 9. The Challenge card with KB Kookmin Card (link)

The Challenge platform will be leveraged in order to kickstart and maintain the Insureum Protocol.

Currently, setting up an API and platform that collects wearable data from different manufacturers (e.g., Nike, Apple or Fitbit) would cost roughly $2–3 million (based on a rough estimation by a local insurance company), according to an insurance industry expert. Using ‘The Challenge’ platform instead, insurance companies now only need to pay an average of 70¢ per customer, per month. ‘The Challenge’ will also be an efficient option for insurers who want to

develop activity level–based insurance and refer to specific PHRs (Personal Health Records), but don’t have their own platform.

2.4. Third parties

All the stakeholders who are connected to the insurance value chains will be able to join the protocol and share the value as the protocol will cover all value chains from product management to claim management.

Third party stakeholders include, but not limited to: app developers who develop apps/services to gather data from users by insurers request; database providers who store users’ lifecycle data; GAs who act as external sales agencies for the insurers; inspectors for the claim management process; and freelance underwriters.

The database providers can also participate as a distributed database provider since the transactions among the stakeholders will mostly be data-heavy. In sales and marketing, an external salesforce (GA: general agents) will “outsource” sales of the insurance company, collaborating with the internal salesforce. For claim management, external inspectors can provide inspection service for the claims requested from the policyholders. In the later stages, we project that the underwriting and risk management can be partially outsourced to external underwriters and risk assessors.

All transactions will be based on blockchain technology, leading to less (if not zero) transaction costs and more efficient value distribution.

3.0. Changes to Value Chains with the Insureum Protocol

Figure 10. Value chain and transactions with users/policyholders of traditional insurance companies

Traditional insurers appear to lack any significant capability to develop digital-based products for emerging needs, like usage-based or digital insurance products, as such development requires more diverse data from policyholders. As shown in the diagram above, insurers lack communication with their users, especially during the product management process of their value chain. This is mainly because of their old-fashioned product development models. Insurance products are not well-aligned with the changing needs of the customers, especially for those in younger age groups.

The existing value chain makes it challenging for insurers to lower the prices of insurance products. Most processes are manual and human-based, which leads to high operating costs. Insurers want to obtain the capabilities of process automation and data processing to cut costs, but these digitization and automation improvements require intensive investments of time and money. Furthermore, it is challenging to acquire and retain consumers on their platforms (mobile apps and websites) even if they manage to develop their own in-house platform. Users are reluctant to use a variety of platforms developed by different parties, not only those of insurers but also those of other app developers. Also, according to the report [13], the outdated underwriting process results in additional time and costs, and undermines insurance sales.

On top of this, the traditional value chain has little room for other 3rd party players to participate, as most existing processes are centralized, performed solely by the insurer. Currently, insurers develop their own data-gathering apps even though there are external applications and platforms available. Part of the reason for this inefficiency is that the internal systems are designed for centralized use by insurers.

Policyholders are directly affected by this. Almost all insurance products are still developed in the same way as they were in the 1980's due to a lack of ability to develop digital insurance products. Smaller, niche-targeted insurers (e.g., P2P insurers) offer more customized insurance products, but are not able to reach the general public. Also, prices are increasing across the board, leading to customer dissatisfaction. [27]

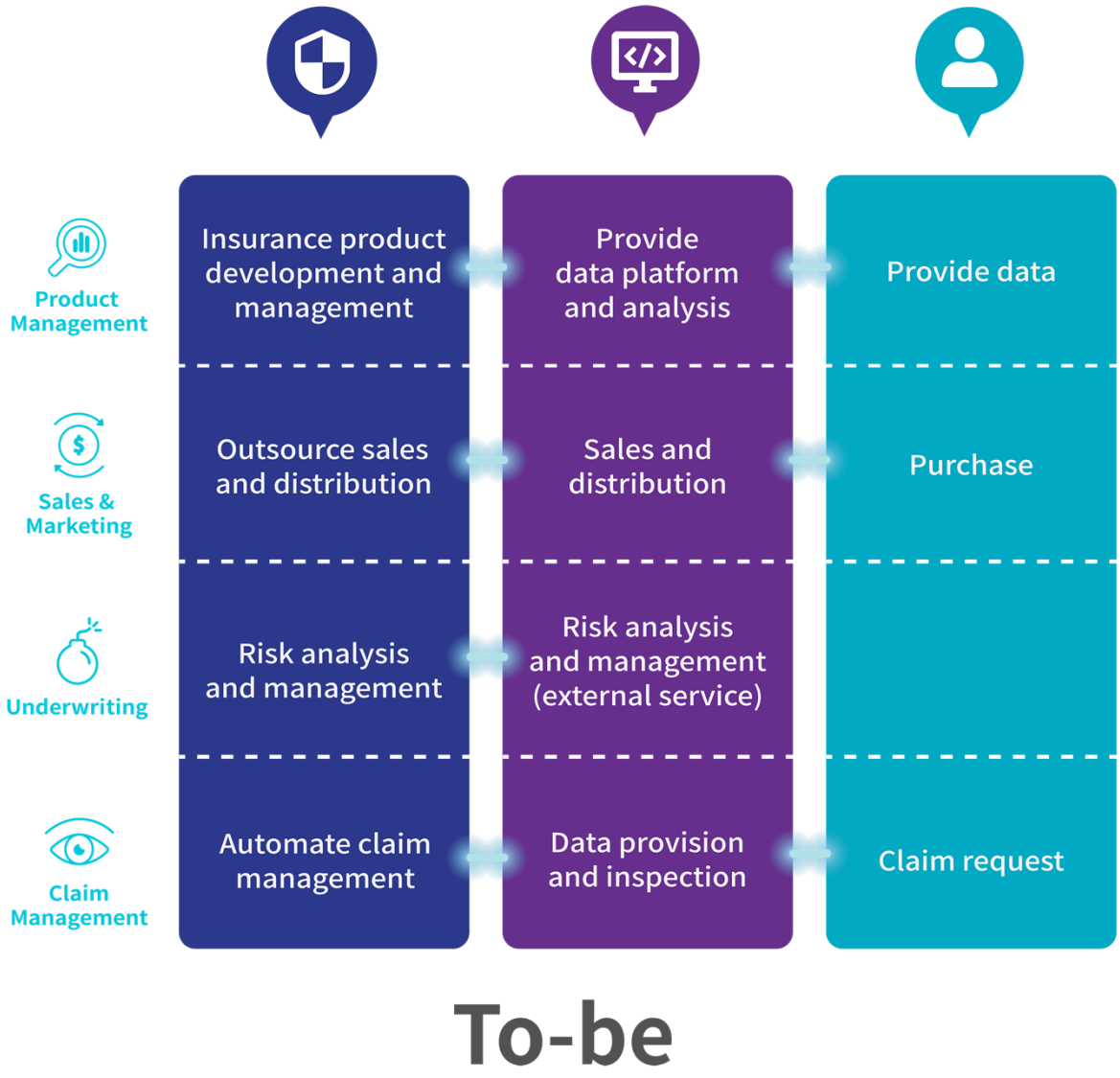

Figure 11. Value chain and transactions with users and 3rd parties in the Insureum Protocol

The Insureum Protocol is an ecosystem designed to resolve the problems described above. By decentralizing the value chain processes of insurers, more value can be created both from larger sales and lower costs. Insurers, 3rd parties, and users can share the created value according to their contributions to it.

The overall processes will be executed on the Insureum Protocol in three phases, focusing on each value chain process in each phase in order:

3.1. Phase 1: Product Development

Figure 12. Transaction of insurers, users and 3rd parties in the product development process

Insurers can buy user data, developers can gather and analyze the data based on insurers' requests, and users can sell their data using the Insureum Protocol. Insurers can gather users' lifecycle data to develop more customized, usage-based insurance products. Developers can gather and analyze requested data with their pre-developed or on-demand solutions. Users can easily sell their lifecycle data using developers' solutions and get rewarded with Insureum.

Insurers can develop more custom digitized insurance product offerings using their users' data and developers' analytics (e.g., sleep cycle, daily walking distance, menstruation cycle) by requesting specific data and analytics to target users and developers. This will also be very useful for renewal-based insurance products, such as annual vehicle insurance. Currently it takes about 3 months to sync accident data due to the data-gathering and analytical processes from multiple entities and adjust the premium for the following period. With blockchain-based real-time data syncing, mismatches and inefficiencies would dramatically decrease. Insurers can properly acquire and use specific data with owners' consent.

Under the EU GDPR Act (https://www.eugdpr.org/) which will be enforced from May of 2018, all personal data collected and used by organizations active in EU should either be discarded or properly purchased from the owners. The Insureum Protocol can be of obvious assistance in ensuring data is collected legally and morally in Europe.

Developers, such as smart phone application and web service developers, can use or modify their products and services to gather requested data. In most cases, insurers will directly contact a specific developer whose product/service has the desired target user base and type of data, such as 'active 20-30s' or 'wearable device users'. The developer will then use their existing product/service to gather or sort out the required data. For example, if an insurer enquires about 20-30s women's sleeping cycle data for a new project development, the developer of a sleep cycle tracking app (e.g., Sleep Cycle, Lark, Apple Health) can sort out 20-30s women's data and provide it to the insurer with the users' consent.

Users can sell their lifecycle data to developers and insurers in a more transparent, legitimate way. As general awareness grows about how their personal data is used, users will be more eager to learn how their data is used, who uses it, and finally be compensated accordingly.

The contract used in this process will make sure that data has been successfully created and sent by the DApp, as well as maintaining its integrity. Users and those who request their (anonymous) data can exchange the data for Insureum in a secure and decentralized ecosystem. DApp developers will also receive Insureum in return for adding value to the network by hosting the DApp on the platform.

Critical information such as creation date, duration, creator and data hash value will be stored in an Ethereum chain. However, the actual data can be stored in distributed storage by the platform provider until the contract is closed. This is to save gas and create an efficient network while maintaining the benefit of using a public chain.

Anyone who requests data can always verify its integrity by checking the data hash value on the Ethereum chain. The data can be trusted, regardless of how many times the owner of the data changes, since there is no way to alter the original data.

The diagrams below show the transaction's underlying processes within the product development value chain:

3.1.1. Data purchase

Data platform or insurance companies with Insureum tokens will reward the end-users for collecting data necessary to create new insurance products. Users may spend Insureum tokens within the Insureum-enabled data platform, and they may also use Insureum tokens to pay insurance companies for their service or premiums.

3.1.2. Product development

Insurance and data platform companies will collaborate together on the Insureum Protocol to utilize the blockchain technology to create new types of insurance products. In addition, any InsureTech companies from other value chains can also contribute to create and distribute the insurance product.

3.1.3. Value distribution

All premiums and rewards can be paid by Insureum tokens, and it is encouraged to stick with Insureum to enjoy the benefits of the blockchain ledger. (They may of course still pay for their premiums with fiat currency as well.) In addition, general agencies, financial planners and even customers can make referrals to get rewards within the protocol.

3.2. Phase 2: Sales and marketing

Figure 13. Transactions of insurers, users and 3rd parties in the sales and marketing process

Insurers can leverage external sales agencies (GA; general agents), to pinpoint the target consumers. They can also work with GA in the Insureum Protocol and utilize an optimal commission scheme using the blockchain. With smart contracts, commissions can be automatically paid to the GA according to the number of products sold and the duration the product was activated for. GAs can access a targeted user pool based on big data analysis. Users can sell their lifecycle and insurance data to receive ISR as a reward, and use the ISR (or even fiat currency) to purchase custom usage-based digital insurance products.

Users can also share insurance data starting in phase 2, including what type of insurance products they have and their duration of policy activation. With this data, insurers and GAs can effectively understand their target users by demographic or other metrics. This will help them optimize their sales process, from segmentation and customer targeting to actual sales and performance evaluation. The Insureum Protocol will provide required data analysis so insurers and GAs can leverage the full potential of the data.

Insurers can optimize their internal salesforce by having two separate and easily-assessable sales channels: internal salesforce and GAs. Their internal salesforce can utilize the protocol's user pool to reach their optimal target market and analyze sales performance, which will help improve their overall sales efficiency. Also, the insurers can efficiently expand their target market by collaboration with the GAs.

This process will reward GAs who successfully deliver on their contract with the end user. Distribution is one of the key factors to successfully launch an insurance product, and Insureum rewards GAs in the same manner it works in the real world. At this point, users will pay their insurance premiums, and pre-defined portions will be transferred to the GA as per commission schemes when certain conditions are met.

Since smart contracts can store transaction data virtually forever, commission schemes will be more reasonable in the Insureum Protocol. GAs can receive commissions the whole time the insurance policy is active. This will benefit both the GA and insurer simultaneously. The GA will be encouraged to ensure the insurance policy is active as long as they can to receive the maximum commission. Under the current commission scheme, a GA's goal is to keep the insurance policy active for only two years in order to collect the maximum commission of the policy holding.

The majority of the data will be stored in the Ethereum network. Detailed information will be encrypted with the owner's private key. The insurer will have read permission of the contract by default.

3.3. Phase 3: Claim management

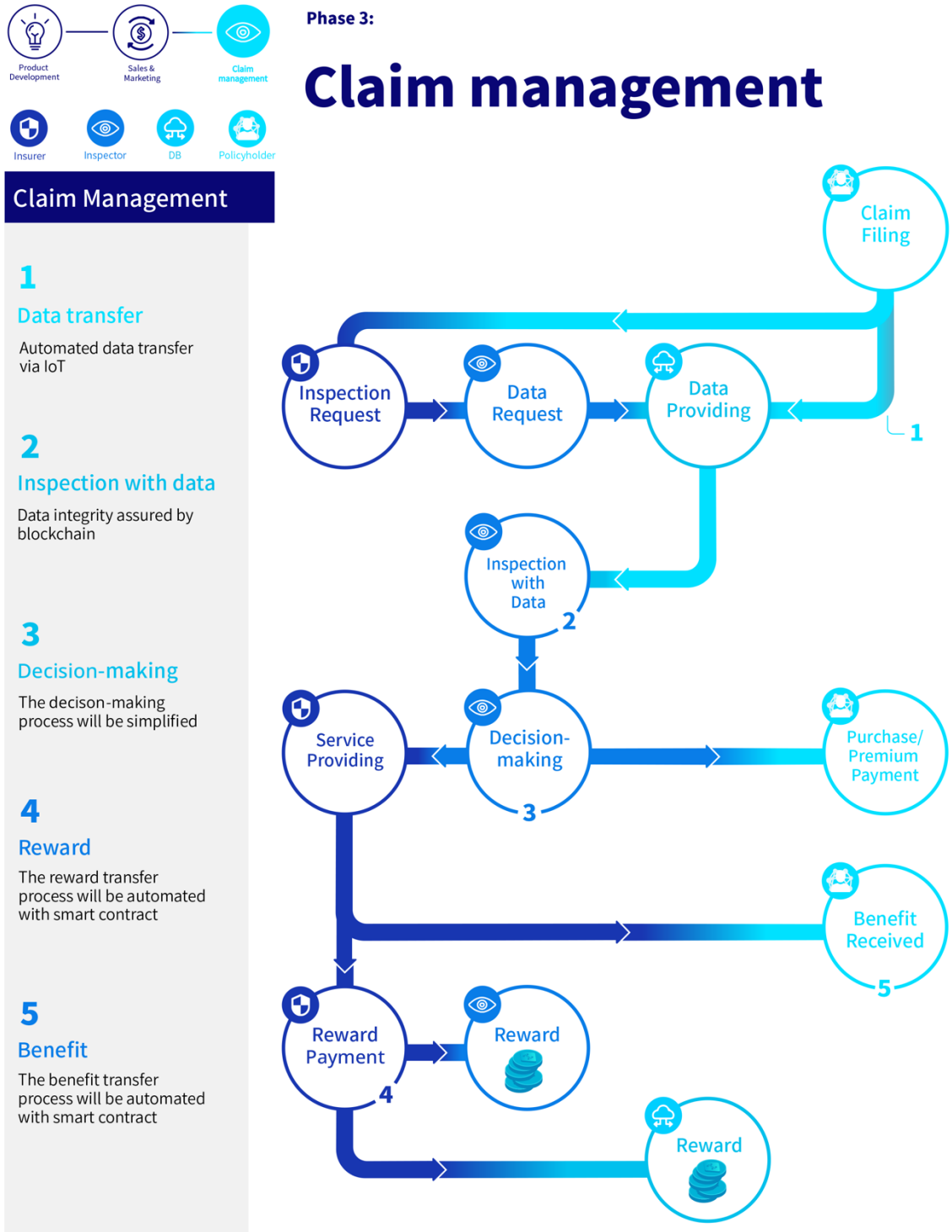

Figure 14. Transactions of insurers, users and 3rd parties in the claim management process

Insurers and inspectors can also automate the claim management processes. Users can also easily provide data and receive insurance benefits by using the automated service. Insurers can receive validated data from inspectors collected from IoT and digital devices. It is then used to manage claims requested by the users. Once validated, the smart contract can automatically pay policyholders using ISR. Fraud risks and transaction and contracting costs are minimized with blockchain and smart contracts.

Whenever a policyholder files a claim, the smart contract will automatically initiate and check if the conditions are met. If they are, users will be instantly paid and the platform provider will also be rewarded for facilitating the data and Insureum exchange. However, there may be cases when inspectors are required. Peer evaluation or even a professional inspector can also add value to the network, and they will be rewarded for their efforts.

And even in cases where a human inspector is required, the whole messy process of underwriting is cleaned up by keeping data neat and tidy on the blockchain. The decision-making process becomes much more time and energy-efficient, resulting in dramatic financial savings for insurers and speedier claim filing for policyholders. Everybody wins.

When making a claim, policyholders and inspectors don’t need to use third party data centers to exchange data about a claim. A direct line into accurate and secure information will save both parties time and money.

Smart contracts tied to P2P insurance schemes are protected from fraud. As all data and transactions are recorded on the blockchain, inspectors have much less room for error and can quickly pay out any owed contracts.

3.4. Use Cases

Since the blockchain is a newly-adopted technology, there will be a variety of new insurance products leveraging it in the near future. Listed in this section are four insurance product types that are most compatible with blockchains and expected to be available within the next 3 years.

3.4.1. Micro insurance (Short-term, specific coverage)

Policies can be instantly taken out and recorded on the blockchain. This is especially useful for young people who are travelling or about to engage in high risk activities like rock climbing or hang gliding. They can subscribe to activity-based, short-term insurance specifically designed

for such activities. With this type of micro insurance, younger generations who were not previously interested in being insured would be more open to the idea of becoming so.

3.4.2. Usage-based insurance (UBI)

UBI is based on the idea to match the premium with the exact value of the insurance product. The idea itself is well-known. For example, let's say you have car insurance but don't drive a lot. With UBI, customers will only pay for what they use and get reimbursed for being outstanding customers. 'Third generation UBI' telematics inside your car check how you drive (braking hard, swerving) and will reward you if you drive safely. Even 'risky' elderly drivers can get access to lower premiums if they can prove they are still actually good drivers.

3.4.3. Risk prevention

Transactions and data from wearables are secure and totally decentralized. This means that no one party is responsible for the surveillance of the majority of the data. The claims industry is incredibly risk-prone and spends over $2 billion a year to identify fraud. The security of the blockchain is the killer app here. Nobody can lie, and everything is there for everyone to see. Still, that does not mean that the data itself is open to everyone; all the data is protected by encryption with a hash function, but the transactions will be recorded and visible to everyone.

3.4.4. Personalized insurance / P2P insurance

P2P (peer-to-peer) insurance is a risk-sharing network where a group of associated or like-minded individuals pool their premiums together to insure against a risk. Peer-to-Peer Insurance mitigates the conflict that inherently arises between a traditional insurer and a policyholder when an insurer keeps the premiums that it doesn't pay out in claims. This will be more realistic especially with the blockchain, since all the transactions will be open and the data sharing and processing will be automated.

Also this will dramatically reduce the inefficiencies from the underwriting process, which is time consuming and costly. Insurance companies have traditionally had to go through a lengthy and expensive underwriting process. The blockchain has eliminated this process almost entirely. Now, plans can be securely created, reviewed and delivered to customers rather than waiting for pricing, underwriting and inspectors.

4.0. Insureum Token Dynamics

Thanks to smart contracts on the blockchain, payments can be immediately issued once certain parameters are met. This is something that was impossible before without lengthy review processes.

4.1. InsureTech

InsureTech is one of the hottest areas in the insurance industry and is a feasible solution to digitize the industry. As the attractiveness and room for disruption of the industry is huge due to the large market size and relatively low degree of digitization, many InsureTechs have evolved to disrupt the industry.

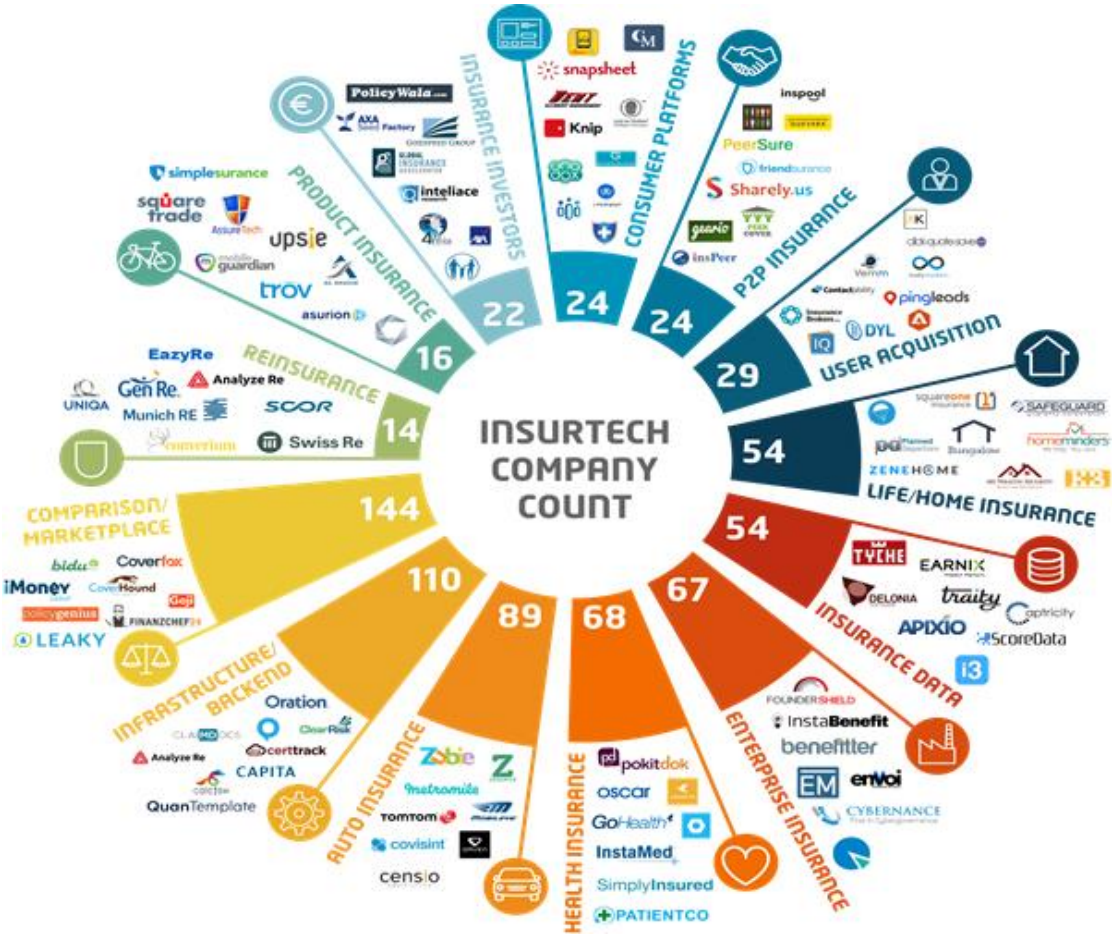

Figure 15: The InsureTech universe [25]

Most InsureTechs are focused on increasing and facilitating the use of the value chain of the insurance industry, and not disrupting it. According to McKinsey's article "*InsureTech - the threat that inspires*," only 9% of InsureTech companies are disrupting the value chain.

Despite the buzz and interest from the industry, nobody has really asked the fundamental questions on this topic: What's missing, what's next, and who will be left standing? At Zikto, the team truly believes many of the value chain problems and processes can be solved with public blockchain technology. The Insureum protocol will effectively solve the traditional problem of delayed digitization and give the industry a chance to adopt blockchain technology.

4.2. Data value dynamics

The core premise at the heart of the Insureum token is that all data has value and insurance companies need trusted data.

1. Data has historically been utilized to develop insurance products. However, real time diversified data will give the opportunity for insurance companies to develop new types of insurance products and give more benefits to their customers through multiple IoT devices.
2. The more the data is used successfully, the lower the loss ratio will be for insurance companies. The more policyholders are verified, the more valuable the data becomes.
3. When each source of data contains more layered and cross-verified data, the value of the total data set increases. This allows for the implementation of dynamic pricing for all insurance packages using IoT products.

4.3. Insureum Tokens

The Insureum token is a tool used by nodes / participants to access the value chain and create disruptive insurance products. Consumers can pay their premiums with cryptocurrency at any insurance company.

Insureum will employ a digital token to manage incentives and payments for all nodes across the insurance industry value chain. This token will be an integral part of the economy concerning data sharing, validation, rewards, and payment for product development on the Insureum protocol. Nodes and participants will be rewarded each time their data is used for analytics purposes or when revenue is generated by insurance product sales from the insurance companies.

4.4. Strategies to boost adoption

A big question behind many utility tokens is: How do I make sense of the early adoption cycle and make sure the tokens are usable and have utility in their industry?
Since Zikto is in the early stages of the widely-adopted blockchain technology, the team knows insurance companies and 3rd party platforms will be hesitant to enter into a tokenized economy. For this reason, Zikto has developed incentivizing strategies to jump-start the value of the Insureum token in the market:

1. **For 3rd parties**: Zikto will create an optimal commission scheme for general agencies and financial planners to sell products created for the Insureum protocol, as described in section 3.2.
2. **For insurers**: Zikto will allocate 15% of the ISR tokens for promotions to join the protocol. However, the ISR will be locked in for one year (selling this ISR on an exchange will be prohibited for this duration), and it can only be used to reward users and purchase data from 3rd parties.
3. **For users**: Customers can pay their premium payments with ISR tokens granted by insurance companies.

These strategies will create a system of immediate adoption into the ecosystem and strengthen the value of token at the exchange.

4.5. Ensuring sustainability of The Insureum Foundation

The core value of a decentralized ecosystem is the lack of any central entity controlling or influencing transactions within the ecosystem — with this structure, the foundation needs a sustainable cash flow structure to manage and maintain the sustainability of the protocol. Cash inflows will be invested into managing issues like influential inflation or deflation, ambiguous or harmful behaviors from stakeholders, or extreme cases like illegal use. Zikto has allocated 15% of the total fund as a reserve pool to effectively manage potential risks.

The Insureum Protocol will implement a dynamic fee scheme, which will be integrated into the protocol based on: 1) the amount of ISR and data transferred, and 2) the maturity of the product. The key takeaway of keeping the fee structure dynamic is to prevent transactions on the protocol from becoming too expensive or complex. By only imposing fees for transactions with large amounts of data and value, the protocol can attract a much larger range of stakeholders, including less influential stakeholders (less capital, data, etc.) to execute transactions on the protocol. Even for large companies, the fees will still be cheaper than overall transaction and contract costs compared to traditional transaction methods. Furthermore, as fees will be imposed to ‘well-performing’ products/services that survive long enough and generate sufficient profits, the stakeholders who benefit the most from the protocol/ecosystem will be the ones who

pay. Also, no stakeholders will need to pay any fees during the first few years, since maturity is calculated on a yearly-based.

Another monetization tool is the customization that smart contract templates offer. Basic features will be provided without any cost to stakeholders, though in the event a transaction has complex requirements, stakeholders will have a need for more specific and customized Smart contracts. The stakeholders can either revise the contract directly (if they have enough internal resources with blockchain expertise) or can request an update or upgrade (which will be cost-efficient in most cases as very low fees will be offered).

The details on fees described above will be fine-tuned along with the development of the Insureum Protocol.

5.0. Timeline

The team has been hard at work on The Insureum Protocol ICO project since October 2017. They've already raised $5.2M USD in seed and Series A funding and secured a 5-year contract with KB Kookmin Card (국민카드), one of Korea's largest credit card companies. In addition, the team was listed by Forbes in 2017 as one of 10 up-and-coming Korean startups to watch for.

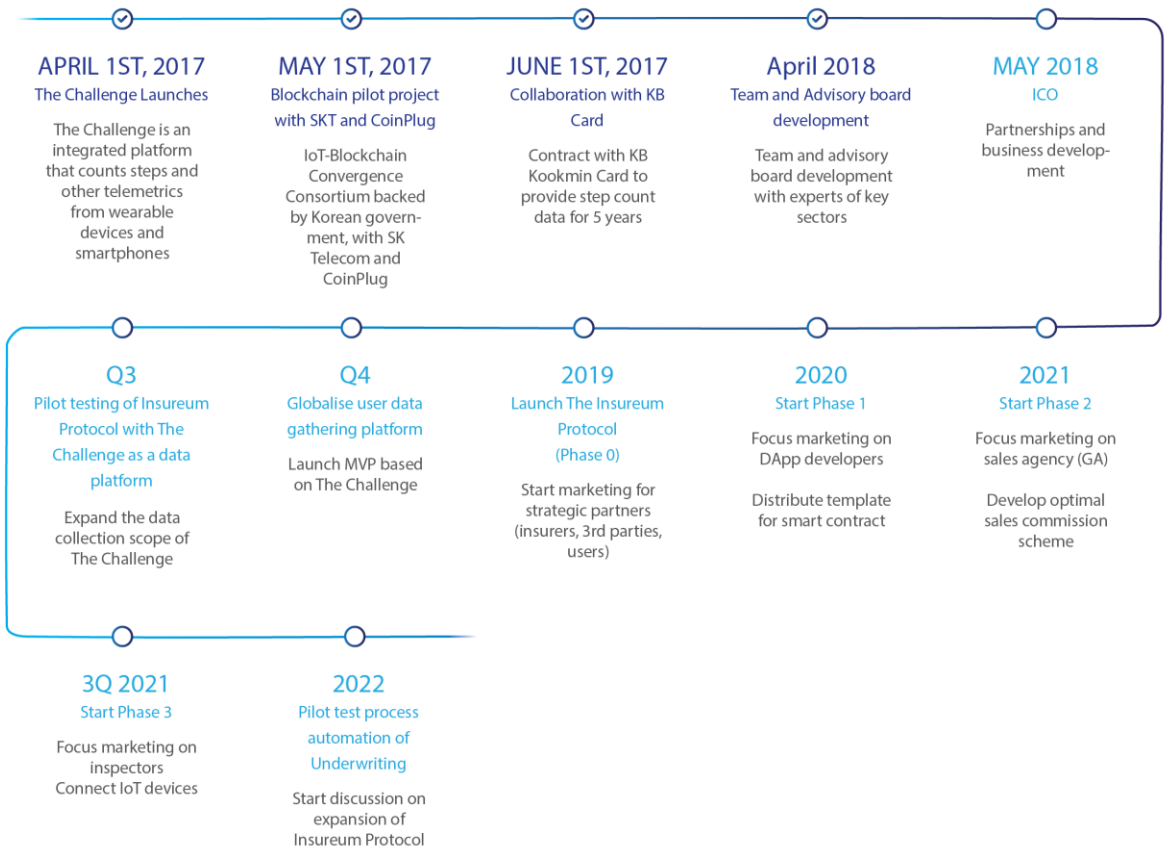

Figure 16: Timeline of the Insureum Protocol

2017. 4. 1 – Launch of 'The Challenge' (Integrated step count platform for wearable devices and smartphones)
2017. 5. 1 – Operation of blockchain-related pilot project with SK Telecom, CoinPlug, Daily Intelligence (ICON)
2017. 6. 1 – 5-year contract to provide step count data to KB Kookmin Card
2017. 10. 16 – Completion of first draft of the white paper
2018. 5 - Public Token Sale
2018. 3Q – Pilot test Insureum using 'The Challenge'
2018. 4Q – Deploy MVP for Insureum protocol interface to gather usage data globally
2019. 2Q – Launch Insureum Platform (phase 0) and implement strategies to gather main players (insurance companies, users, 3rd parties)
2019. 4Q - Start Phase 1, focus marketing on DApp developers, distribute smart contract templates
2020 - Start Phase 2, focus marketing on sales agency (GA), develop optimal sales commission scheme
2020 3Q - Start Phase 3, focus marketing on inspectors, connect to IoT devices
2021 – Pilot test underwriting automation, start discussion on Insureum Protocol expansion

6.0. ISR Token

Insureum (ISR) is a fixed supply of tokens that will be issued during the token creation. No more tokens will ever be created. Our potential investors may participate with Ethereum (ETH) and investors may access tokens by following the “ISR Token Sales Terms & Conditions”.

6.1. Terms & Conditions Summary

- Token: Insureum (ISR)
- Total number of tokens: 450,000,000 ISR
- Number of tokens offered: 292, 500,000 ISR
- Currency accepted: ETH Only
- Fixed Price: 1 USD per 10 ISR
- Duration:
    - Presale: 00:00 May 30, 2018 (UTC)
    - Public sale: June 2018 (UTC; to be announced)
- Special Condition: Token sales will close early if target amount is reached
- Offering Details:

Topic	Detail
Insureum Token	● Insureum (ISR) is a smart contract digital protocol that satisfies the payment requirements of insurance ecosystem between consenting parties within the Insureum Protocol.
The Issuer	● ZIKTO PTE. LTD., A Singapore based private limited company. ● Major shareholders: Ted Kim & David Suh, who both co-founded ZIKTO Inc. (Korea) & ZIKTO Corp (USA).
Rights	● No voting or membership rights in any Zikto entity. ● No revenue sharing, dividends, equity, & etc in any Zikto entity. ● No governance rights with respect to the Insureum Protocol or any related project.
Refunds	● None
Listing	● Exchange partners (Targeting: June ~ July, 2018)

6.2. Insureum (ISR) Token Offering Event

65% of the tokens will be available to public investors. 15% will be allocated to the ISR team & advisors, and 15% will be reserved. The remaining 5% will be allocated to the foundation & strategic partners to maximize the impact of our token sales event.

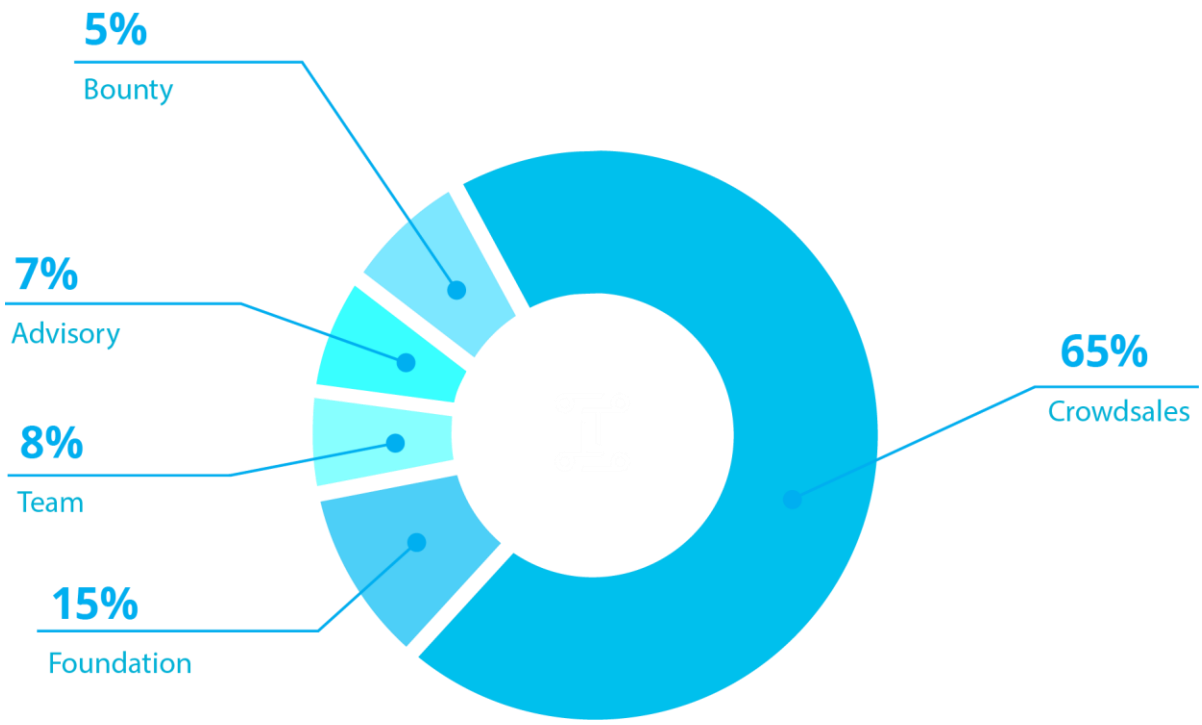

Figure 17. ISR distribution percentage by group

Please note that the percentage discussed above may vary with the amount raised through the token sales event. Final disclosure will be announced through the following channels:

1. Website: http://insureum.co
2. Facebook: https://www.facebook.com/insureum/
3. Medium.com: https://medium.com/@insureum_zikto
4. Twitter: @insureum_zikto

6.3. Use of proceeds

The funds will be used to accelerate the completion of the Insureum protocol. Selected key proceeds are divided into seven key segments: Strategy Partners, Marketing, Technology Expenses, Reserve 1, Reserve 2, Operation (Legal, etc.) and Business Development.

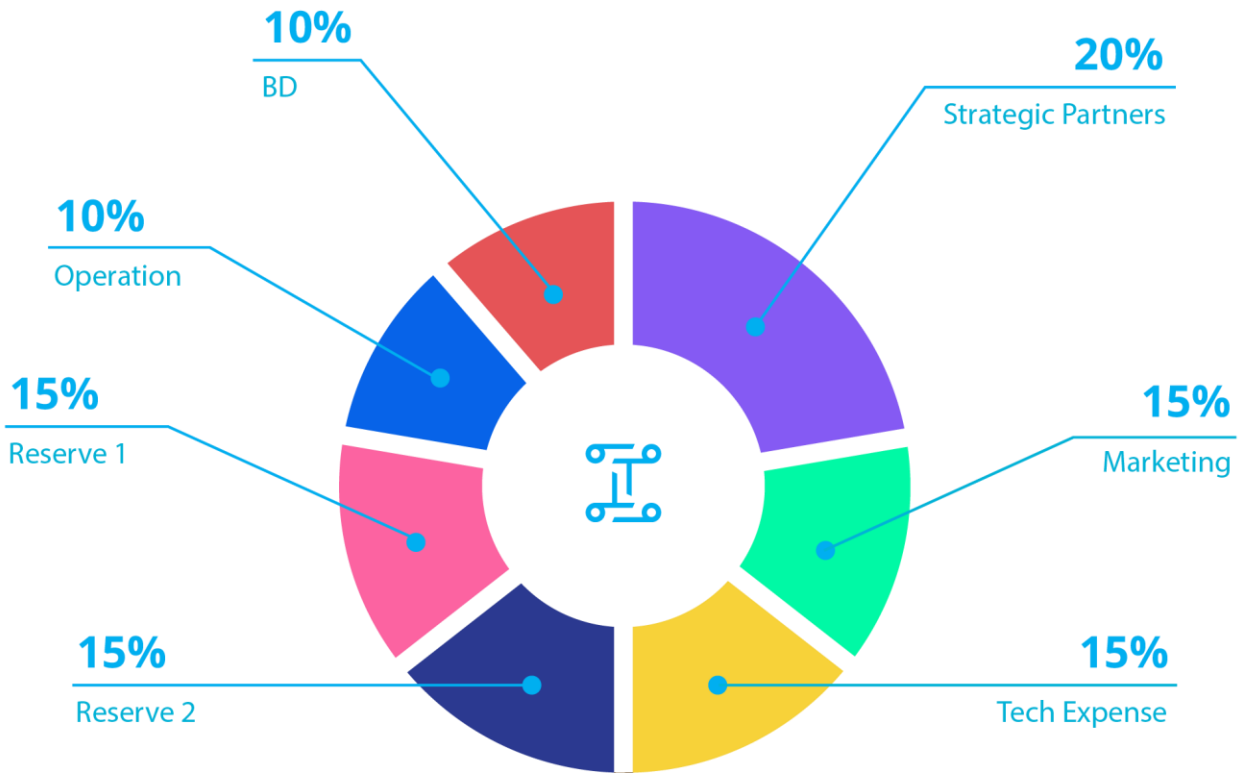

Figure 18. Fund usage percentage by key segment

- Strategy Partners: 20%
Any costs associated with the Insureum protocol expansion which are provided to potential global business partners.

- Marketing: 15%
Marketing costs will be used to advertise the Insureum Protocol to potential strategic partners and directly to B2C customers. This will lead to larger network protocols with diversified nodes and products. This also includes incentives for early adopters described in section 4.4.

- Tech Expenses: 15%
This percentage will go to completing the development of the Insureum Protocol as described in this paper. This includes the Insureum Engine, DAPPs, the smart contract system, security, etc.

- Reserve 1: 15%
Tokens maintained in this pool have the potential to increase in proportion according to platform growth.

- Reserve 2: 15%
This portion will be reserved for the foundation to decide a specific use for in the future.

- Operation: 10%

This covers regular monthly costs: legal fees, accounting, compliance, infrastructure, outsourcing, staffing, management, etc.

- Business Development: 10%
This covers fees associated with global expansion of the Insureum Protocol in the future, including offices and business development-related expenses.

6.4. Governance

Initial governance of the Insureum Protocol will be under Zikto PTE Ltd., a private limited entity incorporated in Singapore. Eventually, where permitted by relevant laws and legal requirements, - Zikto plans to migrate governance of the Insureum Protocol to a Decentralized Autonomous Organization (DAO). However, whether this is permissible and how this can be accomplished is uncertain and Zikto has no obligation to carry out any such migration. In any event, Insureum token-holders have no right or ability to participate in the governance of the Insureum Protocol.

6.5. Ethereum-based coin

Insureum is an ERC20-based token. Instead of creating a new individual node to create a blockchain, Insureum uses Ethereum nodes and will be based on existing Ethereum blockchains. By doing so, the Insureum Protocol can efficiently supply the processing power (nodes) and leverage Ethereum’s networking power and feature sets.

Insureum can take advantage of the Ethereum chain and store critical information by using a small amount of gas. Creating our own blockchain nodes can be inefficient for a utility coin as it requires a huge investment in both time and money. Therefore, by using the Ethereum network’s processing power, Insureum has a head-start and is equipped with a greater and more secure storage capacity. The stored data is inherently secure and invulnerable to even a single point of failure. Insureum will be able to process block creation and store the data on the Ethereum nodes.

Ethereum has two distinctive features: smart contracts and Decentralized Autonomous Organizations (DAOs). Smart contracts automate transactions and force them to follow rules set by the contract. They are one of the most valuable features of using cryptocurrency and the blockchain. This will significantly benefit the insurance industry by reducing costs associated with contracting and executing transactions.

Smart contracts enable developers to create trusted networks and help to form a decentralized ecosystem with unknown individuals/organizations. This foundation will help nodes to join the ecosystem.

In order to decentralize the entire value chain of the insurance industry, Insureum suggests three types of smart contracts: First, a smart contract can be added to any transaction(s) based on Ethereum. When added, it will hold a certain amount of cryptocurrency until a predefined action is triggered. Thus, transactions will not be required to have an intermediary (trusted 3rd party that oversees and guarantees the transaction) throughout the entire transaction processes.

This feature can be extremely useful when newly-established parties are developing insurance products. Since smart contracts ensure that every transaction will follow their contract, associated issues and costs from credibility automatically drop.

Additionally, smart contracts can work as a virtual coordinator to disseminate rewards to the proper users based on the amount of value they have added to product development and sales processes. To properly use the feature, the protocol must carefully decide which data to store in the Ethereum public chain due to its gas price. Since the gas price is adjusted based on the amount of data associated with transactions, the total gas price could offset the value of using a smart contract if there is huge amount of data added onto the transaction.

6.6. What is KYC and why is it needed?

In order to participate in the token sale, Zikto will require users to register for and complete a KYC (a.k.a. Know-Your-Customer) procedure. The primary objective of the KYC check for token sale registration is to prevent money laundering, fraud, etc.

It is important for the Zikto team to understand who future token holders are and manage risks accordingly. Zikto takes security very seriously and believes that for blockchain technology to be widely adopted, it needs to be established on a safe, secure foundation. This KYC certification is benchmarked against standards typically adopted by banks and global financial institutions.

Registering your KYC information is easy. Here's what you need:

- a photo or scan of your passport identification page
- a selfie of you holding your passport, with the ID page open
- an e-mail address
- a mobile phone number
- the ETH address of your Ethereum wallet *

Just head over to our website and register on the whitelist. Enter the required information, upload the two required image files, and you're good to go. Once you've successfully registered, we will contact you for verification.

Investors may be whitelisted by registering their KYC information before the presale period begins. The KYC registration process will remain open throughout the presale and public sale period. If there is any problem, they must re-submit the KYC registration form before the public sale ends in order for their purchase to be valid.

7.0. Team

Ted Kim - Co-founder, CTO and co-CEO of Zikto. He is focused on development and engineering of the Insureum Protocol. Prior to founding Zikto, Ted worked in the Future Device Lab at LG Electronics specializing in machine and deep learning. Ted majored in both electrical engineering (BA) and computer engineering (MS) at Purdue University.

David Suh - Co-founder, CFO and co-CEO of Zikto. David is in charge of the financial management, fundraising, and business development at Zikto. Prior to founding Zikto with Ted, David worked as a proprietary trader at Shinhan Investment Corporation and as an Analyst at Sears Holdings. David holds a BA of business administration from Purdue University.

Jay Kim - Senior developer. Jay leads development and maintenance of The Challenge, both on the front and back-end. Prior to Zikto, Jay worked at Daum Kakao, leading the development of Kakao Driver, and at Comtus. Jay has a BA of electrical engineering from Yonsei University in Korea.

Thomas Choi - Data scientist. Thomas manages data outflow at Zikto. Thomas managed the government project of blockchain development with SK Telecom and Coin Plug in 2017. Before joining the team, Thomas worked at MWN, and founded and managed a startup company called Sentence. Thomas studied at Virginia Tech, majoring in electrical engineering with a BA and MS.

Andrew Seo - Sales director. As well as general sales at Zikto, Andrew also tackles B2B sales and customer service. Prior to Zikto, Andrew worked at LG Electronics and at Deloitte Consulting. He has a BA of business administration at Sungkyunkwan University.

Ziggy Bak - Growth hacking director. Ziggy oversees strategy and marketing. Before joining the team, he worked as a business developer at Reddal, a global management consulting firm, and at Crevisse & Partners, a venture capital/incubator. He also founded a fashion advertisement startup called Style Plugged and worked at global consulting firms (BCG and Bain) as an intern. Ziggy holds a BA of business administration from Korea University.

Michael Ahn - Marketing manager. Michael is responsible for overall marketing strategy at Zikto. He worked at Streami (GoPax), one of the largest crypto exchange in Korea and T3 Trading Group in the US before joining Zikto. Michael holds BA in economics and East Asian studies at Brandeis University.

Hayden Lee - Senior graphic designer. Hayden is managing the overall branding and graphic design at Zikto. She worked at More Good Foundation and SJR as a graphic designer before joining Zikto. Hayden holds BA in graphic design from Brigham Young University.

Peter Han - Junior blockchain developer. Peter is supporting general analysis of the insurance industry and modeling of the business models under Insureum Protocol. Before joining Zikto, Peter worked in the product development team at Meritz Fire & Marine Insurance. Peter holds FRM and a Korean actuary license level 1 for certifications, and a BA of mathematics and financial engineering from KAIST.

Newt Choi - Customer service manager. Newt manages customer service and customer orders. Prior to Zikto, Newt worked on a Korean Air CS team and in the pharmaceutical department of Inje University Ilsan Paik Hospital. Newt majored in animal biology science (BA) from Hankyoung University.

Victoria Shangina - Graphic designer. Victoria is involved with all the graphic design and web-page development for Zikto. Victoria worked as an illustrator at the Ministry of Unification and Cool Farm before joining Zikto. She studied contemporary art at Ulan-Ude Art School in Russia and majored in computer science at Baikal National University in Russia (BA) and Seoul National University (MS).

Donna Lee - Finance administrator. Donna is managing the overall cash inflow and outflow of Zikto. Prior to Zikto, she worked at Axiom Info System as a finance and HR administrator. She holds a BA of economics from Korea National Open University.

8.0. Advisors

Will O’Brien - Technical and strategic advisor. A veteran in the cryptocurrency and blockchain industry, he was Founder and CEO of BitGo from 2013-2015, Limited Partner and advisor to Blockchain Capital since 2013, and is an investor and advisor to pioneering projects including Civic, Orchid, Photon, Nodle, and Telegram. Will's angel investment and advisory portfolio spans a broad range of sectors, and he has been featured in multiple major media articles. Will holds a B.A. in Computer Science from Harvard University and an MBA from MIT Sloan School of Management.

Chanwoo Lee - Investment advisor. He is currently a professor in business administration at Kookmin University, former CIO for NPS (National Pension Service – world's 3rd largest pension fund, USD 520 Billion AUM) and former CIO for Teacher's Pension Service, CIO for National Credit Union Federation, CIO for Kyobo Financial Group and many more. Chanwoo received a Ph.D. in business administration from Kwangwoon University and MBA from Yonsei University, bachelor's degree in Economics from Korea University.

Ismail Malik - Blockchain and media advisor. He is the Editor in Chief at ICO Crowd and he was selected as one of the worldwide 100 most influential people in the Crypto market. He is also a Founder & CEO at BlockchainLab. Mr. Malik studied in Birkbeck, University of London.

Santhosh Kumaraswamy - Engineering advisor. He is the President at Mobiuso, Co-founder & CTO at EOSNodeOne, founder at Innovation Biosciences and the advisor to companies at Blueprint Health (New York). He was a director at Skyscape, which was acquired by Merck. Santhosh holds a master’s degree of business administration from Harvard University and Boston University, and a bachelor’s degree from the Indian Institute of Technology (IIT Madras).

Kingsley Edwards – Blockchain advisor. He is the CEO at Block16.io, co-owner of Rogue Sports, founder of Las Vegas Bitcoin Meetup, former VP of business development at Unikrn and founder and CEO of Leet.

Chanki Lee - Investment advisor. He is the CPO and Co-founder at Nextmatch, former CEO at DAYLI Marketplace and executive board member at DAYLI Financial Group. Chanki has a Bachelor of Computer Science from POSTECH.

Yohan John Kim - Investment advisor. Yohan is Founder and Managing Partner of NE Partners, a blockchain startup advisory and investment company, and is also Limited Partner of Pantera's ICO Fund. Yohan serves as Advisor for numerous blockchain companies and investments in the industry, including StreamToken, Origin Protocol, FunFair, DMarket and others. He has operational experience as International Senior VP of eDaijia, Senior Director of Operations & Head of Kabam KR, and Director of GREE Korea. He spent time as a venture capitalist and investment banker (Kennet Partners, TeleSoft Partners, Citigroup Global), executing transactions resulting in over $1B USD in value.

Yoonsup Choi - Healthcare advisor. He is the Chairman of Choi Yoonsup Healthcare Research Center, Managing Partner at Digital Healthcare Partners, and visiting professor at the Digital Health school of Sungkyunkwan University. Yoonsup has a BA in computer engineering and life science and a PhD of System Biotechnology from POSTECH.

Sungjae Hwang - Investment advisor. Mr. Hwang is Co-founder & CEO of FoundationX, Co-founder & Partner of FuturePlay, Co-founder & CSO of Pium, and the former Co-founder & CPO of Fluenty (Acquired by Samsung Electronics). He has a PhD. in HCI from the Graduate School of Culture Technology, an MS in Computer science from KAIST, and a Bachelor's degree in Computer Science from Kwangwoon University.

Chiweon Kim - Healthcare advisor. He is a Managing Partner at Digital Healthcare Partners and Managing Director of Seoul Wise Convalescent Hospital. Before starting his career in medicine, Chiweon worked at McKinsey & Company. He received a PhD of Internal Medicine from Seoul National University and a MS from the graduate school of public health at Yonsei University.

Sungki Lim - Insurance advisor. He is a Director of the Institute of Actuaries of Korea, Team Leader of product/actuaries and IFRS TFT at Kyobo Life Planet Insurance. Sungki studied mathematics (BA and MS) at Seoul National University.

Kwang-nam Kim – Investment advisor. He is the representative of KNK Partners and a partner patent attorney at Ji-Myeong Patent & Law. He has 20 years' experience in investment and intellectual properties. He managed various kinds of private funds (AUM of KRW 300 million) at 'Ideabridge Asset Management'. Kwangnam has a BA and MS in electrical engineering from Seoul National University.

Gana Oh - Medical advisor. He is a Managing Director at Oh-Gana Dermatology Hospital, and studied at Korea University Medical School.

9.0. Partners and supporters

Partners

Supporters

Disclaimers:
This Whitepaper may be amended from time to time without notice. This Whitepaper is intended to provide general information and is not meant to be exhaustive, comprehensive or authoritative. Zikto accepts no liability in relation to the Whitepaper, or any reliance on the Whitepaper, and does not warrant the accuracy or completeness of the Whitepaper.
Insureum tokens may only be purchased pursuant to the Terms of Sale of the Insureum token sale.
If any of the risks described above and/or other additional risks presently regarded to be immaterial actually materialise, the commercial viability of the Insureum project and/or the Insureum Protocol may be materially and adversely affected. These risks could result in the failure of the sale of the Insureum token, the destruction of the Insureum token and/or the termination of the development or operation of the Insureum project and/or the Insureum Protocol.

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