



Improve your health,
and the health of everyone
just by sharing your medical data.



Introduction

Healthcare Services Market

Official Healthcare organizations worldwide are constantly seeking formulas to guarantee the future financing of their Healthcare systems by reducing the present-day dramatic increasing expenditure of the sanitary services provided. The most promising way to help them accomplish this target relays in improving the research processes for the development of new cost-effective products and services.

The increasing costs of medical care.

The combined costs of medical prevention, diagnosis and treatments have reached a growing rate as much as twice the one of GDP in a sector that ranks around 800 billion dollars worldwide *. The increase in life expectancy of many users of healthcare organizations and therefore the treatments due to declining-health persons will increase the expenses year after year in the developed societies.

* Ref: According to the World Bank, the compound annual growth rate in health expenditures for OECD countries between 2009 and 2015 was 2.9% .The equivalent growth rate in GDP per capita was 1 ,2%.

On the other hand, in many underdeveloped health system countries, the very high rates of population growth and the cost of treatments versus the low income rate per family prevents many citizens from accessing even any basic healthcare.

The dispersion of information.

The dispersion of medical information from the patients often renders ineffective the management of their data and therefore affects the value chain that can be applied to them.

On top of this, there is an exponential increase in the complexity of the system that has led to serious fragmentation of such medical data, causing healthcare organizations to frequently lose their focus on the patient.

(ref: Value in health care: Mobilize cooperation for the transformation of the health system (World Economic Forum, 2018)

http://www3.weforum.org/docs/WEF_Value_Healthcare_report_2018.pdf

Dispersed data results in ineffective information, so multiplying the cost of acquiring or developing knowledge about health prevention measures while making it difficult to access models that benefit medical research.



Proposal

The health of a person can be monitored from a set of individual medical data that can be extracted, stored, related, and processed. While in the interpretation of such data, health professionals, companies and research institutes can find therapies, conduct studies or adjust measures in the prevention of diseases not only to a user or a typology of specific user but sometimes to the whole world population.

Create the largest market of "live" health data, where the data collected constantly evolves in relation to the measures that each of the users take in a particular way. Prevention campaigns, application of treatments encouraged by professionals, companies, and health systems will allow not only to taking a "picture of the health" of a person or a group of people, but analyzing the evolution of all of them continuously.

The results of this project thanks to the intervention of many entities with heterodox interests, all them devoted to different areas of health knowledge and with the intensive application of big-data analysis systems, learning algorithms and artificial intelligence will mean a quantitative and qualitative leap in the prevention of diseases and the improvement of people's health.

This facilitates an important technological tool for the global transition towards modern integral healthcare that is more preventive and patient-centered.

The protection of the sovereign identity of the user and the application of blockchain technology allows access to immutable and constantly updated data so that they can not be modified or shared without the owner's knowledge.

The user as a transmitter of data is the axis of a virtuous circle that changes everything.

The development of new hardware including wristbands wearables and other small devices connected to our personal smartphones will allow users to know through contracts with service companies the diagnosis of their health status.

The creation of the user's digital identity will allow management of the value of the data that the user possesses, in addition to limiting access to them both to those who can consult it and to what data can be obtained.



The user will be able to store the data of these analyzes together with other medical information and share them in a distributed and protected network to which the different medical entities can access after due agreement and payment of the value of the user's data.

This modality will not only help preventing the development of some diseases but also will affect the whole health value chain because the easy access to the organized health data of millions of anonymous people will allow us to create new and better treatments, new research, new and better prevention policies

Value chain

[Data → Information → Knowledge → Health policies]

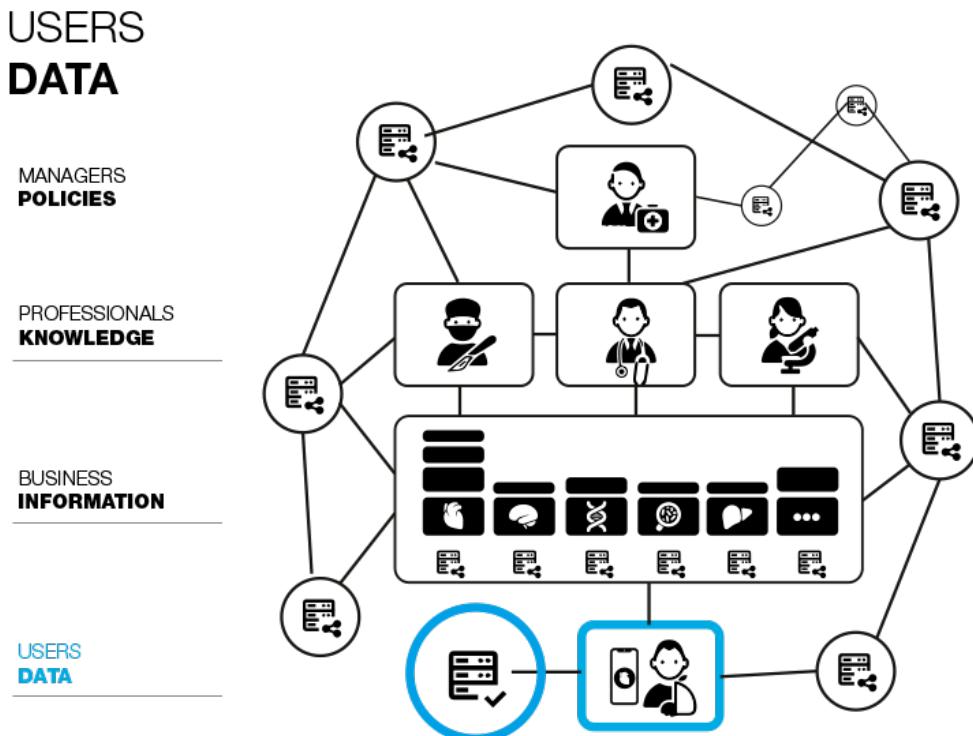
A platform where the data provided by the user creates an ecosystem in which all participating entities come to solve different existing problems, contributing to each of them an increase in value in their participation in the health ecosystem.

The creation of the user's digital identity and acceptance to share their health data through different devices or existing information creates a virtuous circle that:

- 1- It will improve the health of the user through prevention and diagnostics thanks to the access and use of wearables and mobile devices.
- 2- It will improve the health of society as a whole thanks to the analysis and learning processes of the data, provided by each of the entities.
- 3- Reduce healthcare costs thanks to remote diagnosis and prevention systems, allowing poorly developed healthcare systems to offer high value services at a very low cost.
- 4- It will enable health professionals and companies access to information that will allow them to progress in their investigations and develop them in a shorter time.
- 5- It will allow managers to develop effective prevention policies at very reduced costs.



Users – Data



The basic entity of the ecosystem is the final user. This is the one that provides the data on which the entire platform and its services are built.

Upon registration, The user acquires a digital identity that protects the anonymity when sharing their data or the type of them.

The user can then buy health services and sell their data in a secure manner, leaving a record of all transactions of the data without being able to be identified by name.

The user is the one that validates what data they want to share and to whom they want to share it, using a series of forms that will allow them to use and access them.

Access to user data allows entities to optimize current procedures and create new services with added value by transforming data into information related to further diagnostics.

The sale of their medical data, allows users to have resources to buy these or other services generated in the ecosystem itself.

The purchase of the services to which the user accesses can be on an individual basis or also through those that we call healthcare managers. Some examples of the latter would be insurance companies, public or private healthcare organizations, or large public and private corporations that want to maintain the health of their employees while looking for improving the quality of service that has contracted with some entities through their

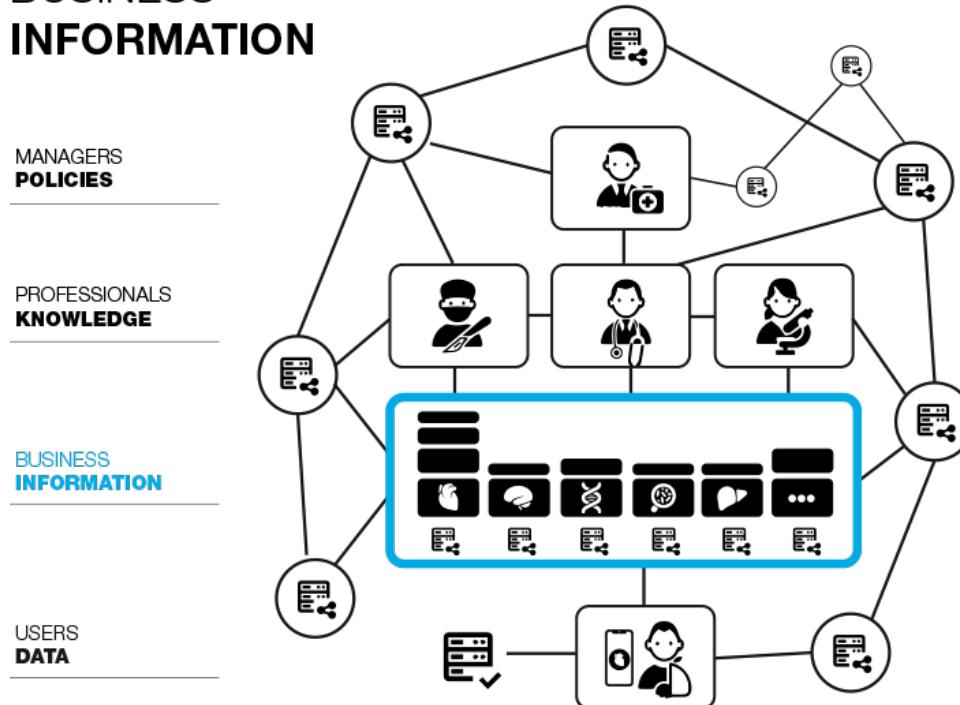


policies with the user, with a coverage that provides for the payments of benefits as a result of sickness or injury.

These same entities can offer the user rewards and incentives to acquire their data, as well as try to convert them into customers.

BUSINESS – Information

BUSINESS INFORMATION



Companies that offer services directly to users, professionals and healthcare managers, that make up the ecosystem.

The use of Blockchain technology allows them to register in an immutable, transparent, decentralized and secure way both the data and the transactions that are carried out.

These service companies process the data of the users contributing to the system and transforming it into relevant information. This processed information is available to the ecosystem, in the form of diagnostic or similar services, which can be contracted by any ecosystem actor such as individuals, other companies, or health management agencies.

As an example, companies can sell their services in unitary form or as a subscription system, allowing an evolutionary view of the data provided by users.



The amount of data provided for analysis, as well as the diversity of new verticals incorporated and their services within the ecosystem allows an analysis with an unprecedented specialization, enabling ecosystem members to learn from the results of the contracted services, cross-checking the data through expert systems, big data techniques, sophisticated algorithms and/or Artificial Intelligence.

The services enter the ecosystem through the payment of a fee that allows to adapt the systems, contracts and other integrations in the model of the platform and to maintain the coherence of it.

Service companies can also set up a node of the system, upon payment, to manage and verify the transactions made, as well as to access them.

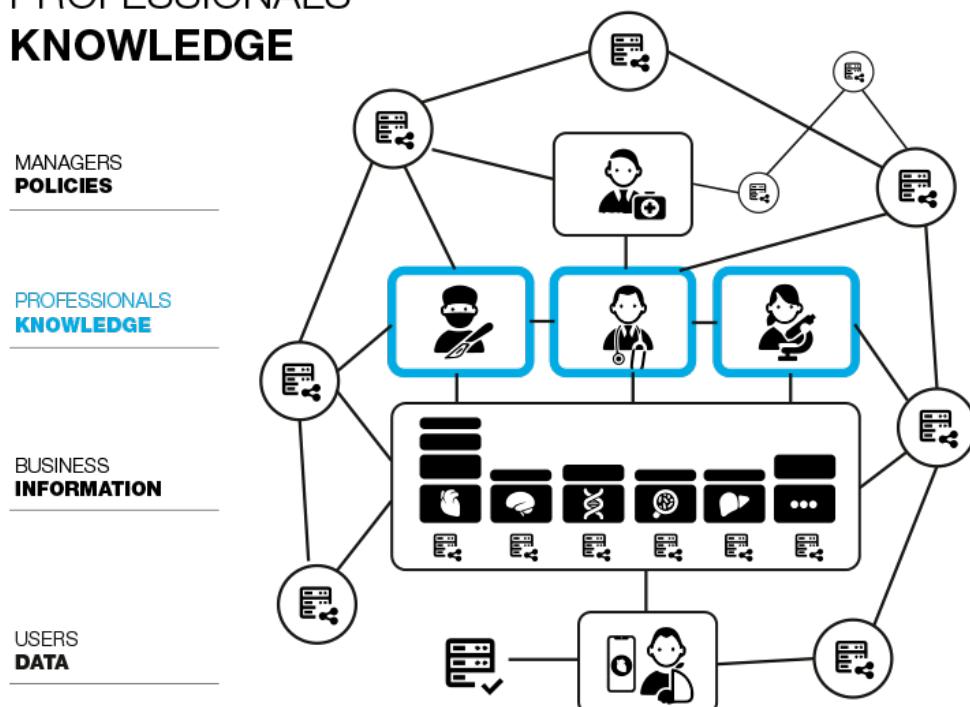
Companies can organize service contracts with any of the other entities in the system by passing the same coherence filter.

In addition, the system enables you to create new services on services already provided in a certain specialty by increasing the value of it.

The companies charge the entities to which they provide the services and the nodes that manage the system will be rewarded for their validation work with a commission on the transactions carried out that are incorporated into each block.

Professionals – Knowledge

PROFESSIONALS KNOWLEDGE



The analysis of information helps the research and finally becomes knowledge. This ecosystem provides the healthcare industry with access to different data sources, multiple types of subjects and different pathologies -among many other issues- to prepare their reports, forecasts, studies or future pharmacological developments.

The first service will be related to cardiology but the ecosystem will be populated by new verticals and services referred to other medical needs, all them related to the healthcare industry.

As the number of users grows and the services in relation to the different pathologies are incorporated and new data can be made available, the platform is revalued because it offers the interveners a unique tool in constant evolution to which there is no better alternative so far.

They can be applied to the data of a service, depending on the service offered, rules of diagnosis, algorithms and machine learning that will learn from the health of users anonymously to prevent irregular behavior.

In addition, the platform enables the possibility of developing other more complex and specific sub-services, linked to artificial intelligence. Thanks to this system, this possibility will be accessible to more research groups, opening the possibilities to larger group of scientists or academics worldwide.

The system also enables reputation management among professionals in the ecosystem based on different parameters that are approved in the governance of the system or proposed by entities, insurers and healthcare systems to their own medical teams.

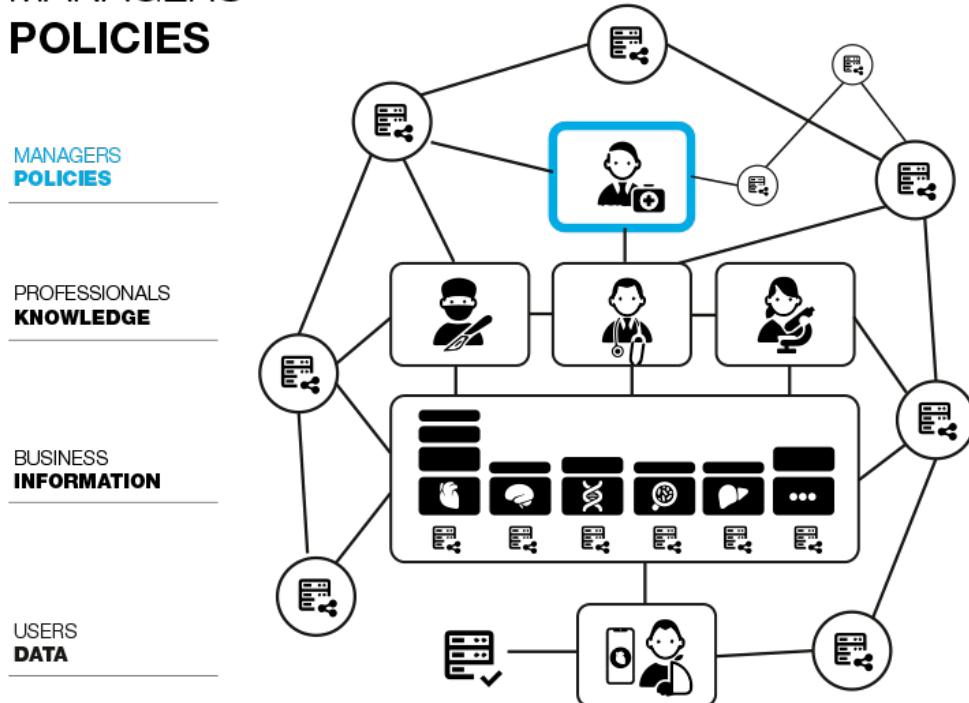
The professionals will also be able to value their research, since their publication and access to it will be present/available in the system.

In addition, there is a certain possibility that research results themselves will end up becoming products, services or sub-services within the ecosystem itself, facilitating all the processes associated with innovation.



Managers – Policies

MANAGERS POLICIES



The managers, thanks to the creation of this platform, will have a tool that allows them to optimize resources of any healthcare systems.

Reduce waiting lists, increase remote services, allow access to tests, diagnostics while offering the different entities of the system new possibilities for prevention and diagnosis is not all. It can also favor a key medical environment conducive to important research.

Brokers or insurers will have a tool to develop prevention policies for their policyholders, becoming a marketing tool as they offer their customers a new added value. Participating in this platform will be a cost saving formula that can affect the price of your clients' policies as more of your insured customers enter the system.

The hospital association societies will optimize many of their resources if, thanks to prevention policies, they reduce palliative care or hospital admissions, freeing up time for users and medical professionals.

In countries with poorly developed health systems, it is a model that can help its inhabitants to know and prevent their state of health without compromising economic resources that they do not have.

For insurers, the platform not only provides them with a return on the efficiency of their services, but the very dynamics of the transaction business offers them a new business model.



Health systems buy data, buy services and buy knowledge for the application in their health policies, they can also establish incentive models for their users for whatever reason they deem appropriate, and can even assimilate the total cost of a user's service or a set of users.

The application of Artificial Intelligence will help to design health policies using the data and services of the system.

Technological Proposal

Distributed registration

At the core of this proposal is the Distributed Ledger Technology (DLT), which represents a system of exchange and storage of data in a network of peer-to-peer nodes. To guarantee the security and integrity of data, the system is designed based on special consensus mechanisms as well as Blockchain technology.

Sophisticated cryptographic techniques enable each participant of the system to interact (issue, read and save information) without establishing prior confidence. Interactions with the Registry are shared among all participants and require verification before processing and storing information.

The selection of the Distributed Registry for this project is determined by the capabilities offered by this technology applied to the exchange of information in health services:

- Introduces a distributed and secure registry of information exchange without having to have a single trusted operator.
- Reduces service costs and increases efficiency, thanks to the elimination of intermediaries while processing almost in real time.
- Introduces a set of identifiers into a distributed and secure registry to better protect the patient's identity.
- Shares updated patient data almost in real time through a system of records.
- Controls access to patient information in a distributed and secure manner.
- Creates intelligent contracts that work in a constant work flow based on programmed rules to access patient data.
- Provides patients and / or agencies with a sovereign IDD (decentralized digital identity) that will allow them to operate both within the system at first and outside the system once the W3C protocols are applied



Platform

The platform is a trust network where different actors share and process data and services and which allows not only to record the transactions between the parties but also to quantify the value of each of them according to their typology. This platform would not be possible without the existence of Blockchain technology.

The architecture of the platform consists of two Ledgers, one of which deals with the management of the Digital Identity and another is used to manage the Data Contracts. For scalability needs, the structure of the applications and the experience and development, the platform will be carried out on two frameworks of Hyperledger.

Both Hyperledger frameworks are an initiative of the Linux Foundation (<https://www.linuxfoundation.org/>), their code is open and hundreds of programmers and companies participate in the development, ensuring its development and continuity. These same frameworks are being sponsored by IBM.

Identity Ledger

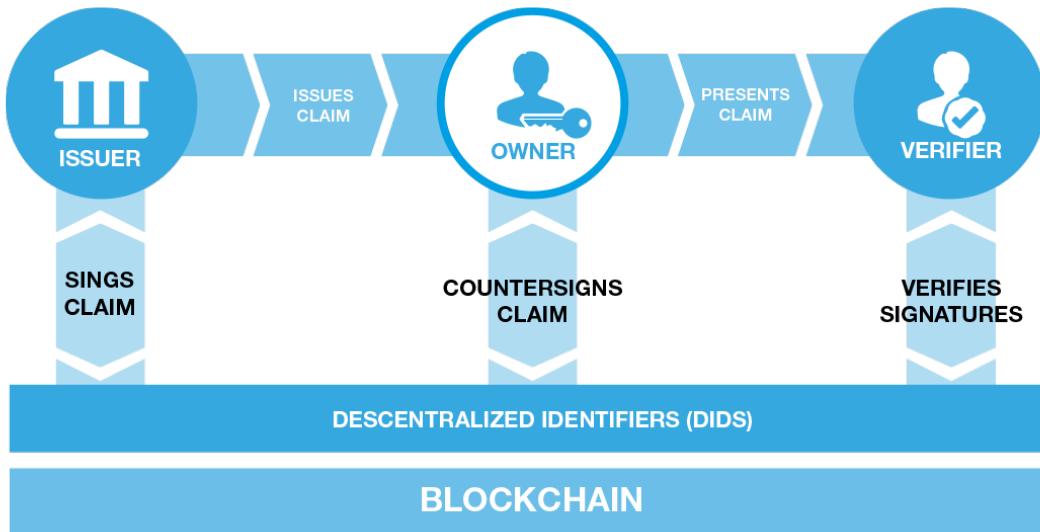
Digital Identity represents a set of information about a natural or legal person or an object in the digital context. It is the key concept in the so-called “Internet of Value” because it defines each of the contractual parties.

The centralized form of analogical identity in the real world is essential in any legal context and, in particular, in health services. In the same way, in the context of the emergent Internet of value, the present-day need for a digital identity -decentralized, composed, dynamic and available according to the requirements requested in each context and moment of time- arises more and more.

Currently, the main promoters of digital identity (Sovrin foundation and 3W consortium) are developing a public and sovereign digital identity solution worldwide for any person, organization or object. The fact of possessing that identity will allow its owner to present his credentials in a private and safe way in multiple contexts, be it for the acquisition of transport ticket, diploma of education or clinical history ...

Following the initiative of Sovrin foundation and 3W consortium, the digital identity in the present development is implemented on the basis of Indy, which is a distributed, secure and open-source Ledger book. Within the platform and by an offline consensus, special nodes are established to Trusted Anchor. They are previously recognized entities that facilitate online registration of new entities, both legal and physical. The role of trusted registrar will be assigned to health organizations, medical insurers, etc.





The flow of communications between a natural person (User) and a Trusted Registrar is as follows:

Being an identity owner, the user installs an app (Wallet) and sends the registrar a request for his file (Transcript) via a secure connection. After accepting the connection, the user is assigned a Distributed Identifier (DID) which is a global single sequence of bits and is used from this moment and on during all bilateral relations between the User and the Registrar.

The user composes his sovereign digital identity based on a set of DIDs from multiple registers. In a similar way, the registrars provide DIDs to legal persons and keep these identifiers in the Identity Ledger.

For example, a patient (natural person) and a diagnostic entity (legal entity) want to perform a data transfer contract. To do so, each party must be duly registered by a trusted registrar (for example an insurer), have their own DID, be able to exchange their claims and sign the contract in question.

Data Ledger

Data Ledger will be implemented based on a Hyperledger: Fabric or Sawtooth framework. Each of these frameworks provides a highly modular architecture that is composed of several layers: consensus layer, contract layer, communication layer, identity services, client layer, etc.

In the core is the concept of Intelligent Contract, a program that represents the business logic and is executed within the Ledger. Intelligent Contract is an ideal tool to register and facilitate the exchange of values. This platform deals with data purchase and sale



contracts that regulate relations between producers and consumers when establishing permits and instructions for managing medical data.

The contract layer is responsible for processing transaction requests and determining if they are valid in accordance with the policy and the contract in question. This layer interacts with other architectural layers, in particular with the Identity layer. In this way, the information related to the digital identity can be requested from the Identity Ledger and validated by the contract interpreter.

The Data Ledger will have the capacity to store two types of information: the own data "on-chain" (files, documents, images) as well as the "off-chain" metadata that are encrypted links to the data stored in other storage systems. Each of the two formats has its advantages and disadvantages, with the final selection depending on the particular service that defines the technical and security requirements.

Nodes and Roles

The platform represents a network of nodes that provides scalability, confidence and security to the platform and the ecosystem. All the nodes are responsible for replicating the status of the Data Ledger. The special nodes (trust registrars) validate the transactions of the data and, the services added to these transactions, such as contracts, rewards, incentives or reputation that are provided to the different entities, as well as the management of the creation of the blocks that are stored in the Ledger. And the other nodes?

In relation to the fulfillment of Intelligent Contracts within the Platform, the following roles are defined:

- Registrar represents a Digital Identity Manager. The Registrar registers the participants of the Platform, both Producers and Consumers, and responds to requests (claim) about the identity of each one always anonymously.
- Producer represents an entity that generates the raw data or processed data. In each purchase-sale transaction, the Producer transmits these data to the Consumer and receives an established remuneration in return.
- Consumer represents an entity that receives the Producer's data in each purchase-sale transaction and sends an established remuneration in return.
- Administrator represents the manager (Consortium) of the Platform. The Administrator maintains the network of nodes in operation according to a contract and receives established commissions in return. It is in charge of the granting of licenses, homologation, and start-up of new nodes.



Cases of use of services.

Cardiowarning.

Cardiovascular diseases account for almost 70% of health expenditure in developed countries and are the greatest cause of human mortality in them.

Periodic, regular and continuous monitoring of the heart would allow an early diagnosis and therefore the application of initial phase solutions that would avoid and / or delay most heart diseases, saving many lives and improving the quality of life of people, in addition to drastically reducing the enormous economic resources involved.

Similarly, the knowledge and means necessary to perform and especially analyze an electrocardiogram are not accessible to much of the world (small healthcare centers, rural areas, remote places with difficult access in less developed countries, etc.), still doing more difficult early detection of heart disease.

The solution proposed by cardiowarning consists of 5 modules that work as a complete solution for monitoring and early diagnosis of heart disease:

- An ECG analysis and diagnosis system that allows obtaining all the parameters of the electrocardiogram correctly, and performing an analysis of the patterns to diagnose such possible heart diseases of the patient.
- An inbound/outbound integration module that allows both any type of ECG to be loaded in the system for later analysis and diagnosis, as well as allowing access to patient data to the different associated medical services. This module facilitates access to the service to any person / institution / hardware that needs to perform a diagnosis of an ECG, and allows medical professionals to access the results / ECGs of their patients.
- One access point (App, Website) through which you will receive so many ECGs from our own hardware devices or from other manufacturers, such as those who want to directly add patients / medical centers. The result will always be the interpretation and possible diagnosis of this ECG.
- A hardware device with sensors that allows the monitoring of the patient both of the ECG and of other parameters that allow to expand the diagnosis, such as respiration, temperature and accelerometer. This device will be distributed both with sensors for



reading on demand, and in continuous monitoring format (patch, shirt, etc.). The device is directly connected to the access point to obtain an immediate diagnosis and receive the corresponding alerts, as well as an emergency alert system for a serious cardiac situation.

- A bigdata system that monitors the evolution of ECG and is responsible for finding new previously unknown patterns that evolve to heart disease. This system is the key to even more premature detection of possible cardiovascular problems and future help within medicine and cardiology research.

The three major differential factors of the CardioWarning platform will be:

1- Universal service approach to analysis, interpretation and diagnosis of ECG. Accessible from all over the planet by any hardware device that generates an ECG, any doctor, hospital, health service, institution, corporation that needs it, rural or areas of difficult access, countries or areas with fewer resources, NGOs, etc.

2- Designed as a research tool to accelerate the discovery of new patterns and parameters of cardiovascular diagnosis from an EGC database specially classified and exploited by big data technologies.

3- Global platform for the prevention of cardiovascular health that from a simple and intuitive application and operational in the cloud, will allow us to have a vision and a 360° management of our cardiovascular health in a continuous way and also make available to our medical service the historical and the real-time information available in an easy and fast way. All this is possible thanks to the integration of:

- Analysis, interpretation and diagnosis software based on the latest IA technologies, universal service model, Service Agreements to provide service to manufacturers, and devices both on demand and continuous monitoring.
- Different sensors that will add to the medical interpretation of the ECG other medical parameters such as heart rate, skin temperature, respiratory rate, fall detection in case of syncopes, blood pressure or control of activity among others. In addition, from the application you can enter subjective parameters, situations, including consumption of medicines, drugs or other substances, etc. that may affect the diagnosis.
- Alarm management systems and warnings for important or urgent diagnoses, automatic call in emergency situations (heart attacks, fibrillations, falls or loss of consciousness, ...), health recommendations module customized to the diagnosis or specific monitoring and online connection with medical service among other services.



The current model of most health systems can be optimized by the development and implementation of a preventive system, as represented by the CardioWarning platform. The current parameters are clear and convincing:

- Unsustainable costs
- Capacity and quality of care deficit
- Aging of the population and greater longevity. And therefore increase in chronic diseases (among them the most important cardiovascular diseases)
- Increase in all age groups (especially after 40 years), the concern (and therefore the requirement) for everything that has to do with your health.

Once we have the cardiological data of the users and we integrate the service offered by Cardiowarning to the blockchain platform, we will allow the users through their digital identity:

- Share and sell your cardiological data with the entities of the system in a safe and anonymous manner.
- Ensure the integrity of the data and diagnostic services received
- Analyze and investigate the problems of cardiological health in specific populations
- Analyze the efficiency of medicines and prevention policies
- Reward good practices
- Reward professional teams
- Cost savings

The business model of the CardioWarning platform is based on the collection and analysis of information and the ability to interpret it correctly for the elaboration of an automatic diagnosis. In this way, it allows interpreting an ECG, detecting different types of arrhythmias or making a diagnosis about the ECG or its history (continuous or frequent monitoring), from anywhere in the world.

In this way, any particular user, doctor, hospital, company or institution, will have available an interpretation and diagnostic service of ECGs. In a first phase, we differentiate five business models:



1. CardioWarning Service. Back-End Service aimed at end users, doctors, small hospitals, research centers, health care services, rural or remote areas without means of analysis, NGOs, public health systems in countries with fewer resources, etc. In this case, the strategy involves free access at a particular level for sporadic needs and a quotation for sections as the number of monthly analyzes increases.
2. CardioWarning Device. Device connected to the CardioWarning platform for analysis and diagnosis that is also capable of performing a quality ECG. Prevention technology that will improve the quality of life of people while providing a better service and reduce costs derived from cardiovascular diseases. Oriented to insurers, hospitals, end users concerned about health, with risk factors or with a diagnosed cardiovascular disease and in general health systems. Initially there will be two models:
 - Continuous monitoring device, integrated in a shirt with sensors or attached to the body allows anyone to obtain a constant ECG reading and the associated diagnosis in their mobile device. This device has a built-in GPS and accelerometer to make emergency alerts in case of serious situations, recommends guidelines or actions based on analysis, diagnosis and context and includes the possibility of incorporating a medical service online or offline for the analysis of diagnosis and possible treatments.
 - On-demand reading device, indicated for small health centers, doctors not specialized in cardiology, as a complement to medical services displaced abroad, NGOs, and, in short, any health service that needs to make an ECG on time, interpret it and do not have the knowledge or the necessary means to do it.
3. CardioWarning Service Agreements. Services aimed at manufacturers of continuous monitoring devices (in development) and manufacturers of wristbands and smart watches that incorporate in the near future the possibility of obtaining an ECG (Apple, Samsung or Fitbit already work on it). The CardioWarning platform in this case provides the device with the ability to interpret and diagnose the ECG or ECGs as if it were a cardiologist.

The goal is to popularize the service and to get access to the interpretation and diagnosis of the CardioWarning platform from any ECG reading device. The solution would also be valid for any hospital that has devices that generate the ECG in digital format, since they can obtain the diagnosis from any online access point.



Business Proposal

Some data of the size of the market.

- The investment for the development of pharmaceutical products in the world exceeds 300,000 million Euros per year.
- The data buying and selling industry accounts for 250,000 million dollars annually (ref: Opiria Whitepaper)
- The market for private medical insurance in Europe represents 125,000 million Euros per year.
- The total expenditure of the Spanish healthcare system in 2014 amounted to 95,722 million euros (66,826 million financed by the public sector and 28,895 million financed by the private sector), which represents 9.2% of GDP (6.4% public health expenditure and 2.8% private). The per capita expenditure is 2,058 euros per inhabitant.
- The costs of cardiovascular diseases will have an impact of more than 120,000 million Euros in the EU in the year 2020.
- EU inhabitants 500 million potential users
- Inhabitants Russia 144 million
- US inhabitants 325 million
- World inhabitants 7,350 million people
- Sales of mobile phones (2017): 1,400 million
- Sales of wearables (2015- 2018) 300 million with an annual growth of 18%

Target audiences.

- Anyone with a mobile phone or a computer can create their digital identity and trade their data.
- Anyone who installs a health application on their mobile and uses a wearable or not and records health data can save and sell this data.
- Anyone who can share health data can receive medical diagnoses.
- Anyone who has a mobile and / or a wearable can extract data processed on their mobile, share them with the system and receive a diagnosis.

Starting from this last assumption we are going to a market that in 2019 will be more than 350 million users, the annual sales growth of devices and wearables, the popularization of



the price of the same and the improvement of smartphone technology could give access to more than half of the world's population in 5 years.

The magnitude of the figures and the different services that can be integrated into the ecosystem will find multiple opportunities to take advantage of this convergence of data, interests, services, knowledge ... all this will increase the value of the platform.

The transmission of data, its reading, the contracting of services, the development of reports and investigations and the payment of all of them generate transactions and each transaction ... moves value.

To this target audience we also have to add all the entities that participate in the success of the platform and in which we must support ourselves to make a massive contribution to the benefits that each individual has to share their health data.

The success of the platform will also be the success for all the entities that participate in it.

- Insurance companies.
- Systems of health
- Health service companies
- Universities
- Research Centers
- Pharmaceutical companies
- Technology companies
- Professional health groups
- Associations of health users
- Healthcare professionals.
- Large public and private corporations.

Investment / financing formula.

The project is based on the creation of 2 blockchains, a digital identity based on the Indy platform and a Fabric allowed blockchain both based on the hyperledger platform.

Being a permitted network, the blockchain that processes system transactions can only service those nodes that have been approved by the network administrator.

All transactions that are generated in the system have a value related to the price of the sale of the shared data and the services offered on this data.

The nodes charge a commission for the approval, validation and records of each of these transactions and once the block of transactions made in a certain period of time is closed, an income is generated for the node that made it. Consensus algorithms will be created so that all the nodes end up receiving the same income.

As an example and only analyzing what we call normal use.



For example if the value of a user's data is € 1 the transmission of this data and the validation that the purchase of the data has been made has a value of € 0.1
The purchase of a cardiological diagnosis costs € 5, therefore the registration and validation of the transaction costs € 0.5

There are many small transactions within the system that must also be operated, observer nodes transactions, commission payments, Fiat currency changes or cryptocurrencies to the Token of use in the system

Sale of use licenses.

The sale of the use license and therefore the sale of the management of the transactions, will be the main source of financing for the project.

The funds will be invested at first in the developments of the technological platform and the cardiological use case "CardioWarning". In subsequent developments, we will work jointly with other entities in the development of other verticals, such as services linked to diabetes, neurology, longevity, genomics, cryopreservation ... as well as in the integration of ERC systems.

The nodes are in charge of managing transactions and therefore they are the ones who charge commissions for them. A node is a set of software applications that makes this management possible.

Depending on the growth of the market (geographic growth, incorporation of new health services, sum of insurers and health brokers, medical and user associations, etc ...) new nodes will be created, assigning use licenses. Market growth will determine the value of the licenses.

A part of the financing received from the sale of these licenses for the use of the nodes will be dedicated to attracting and including entities that generate more traction to the ecosystem either through the number of users or new services.

In this way, the financing formula, the sustainable maintenance of the system, the generation of benefits for all participants is related to the transactions and the value they offer to the different entities when participating in this business.

Private sale.

In order to ensure the value of the investment, it will be carried out in two tranches.

Sale in which it is determined that the value of a node is 200,000 € will be put on sale 24 nodes. Worth 4,8 Million Euros. (possibility) In this first sale, investors will only have to



make a deposit of 50% of the investment. This formula reduces the risk by breaking it down into two milestones.

First round of financing:

- Develop blockchain platforms
- Carry out the technological development on the Hyperledger DLT platform of cardiowarning
- Close agreements with insurers, medical societies, hospitals, new diagnostic services, technology companies and wearables and professional associations and users of medical services.
- Legal
- PR and communication.

Second round.

Investors who have participated in the first round must make the second payment for 50% of the investment or sell the license to use the node to another investor.

The platform development team, the cardiology service development team and the commercial team must have met the objectives.

The resources of this 2nd round will be destined to:

- Development of connection technology with different devices
- Development of new analysis and diagnosis models
- Creation of algorithms, machine learning and analysis for the connection of Artificial Intelligence systems.
- International expansion and incorporation of new entities.
- Development of governance.

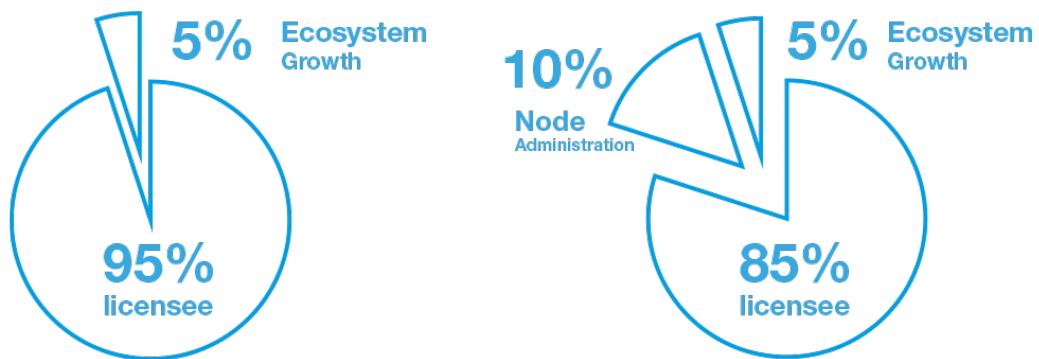
Distribution of transaction income

The revenues made through the transactions by the licensees have 2 models of distribution depending on whether they use infrastructure and administration of the system itself or not.

In both cases a contribution of 5% is made for the maintenance of the system and marcom actions that allow to develop the knowledge of the ecosystem.



In the event that the licensee would like to subcontract the hosting and administration of their node, 10% will be deducted on the transactions made for the maintenance of this service.



Distribution of transactions between licensees and ecosystem growth.

The distribution of the transactions between the licensees will be carried out applying a random algorithm for the closing and publication of the blocks and therefore of the income of the transactions carried out, (safety issue explain a little) the result of this distribution will be equitable and In any case there will be analysis mechanisms that will compensate the differences in income among the licensees.

Other income of the system

Participation fee in the system.

There are other income models that benefit the ecosystem.

To operate as an entity that sells services in the ecosystem, an annual payment must be made for the maintenance, development and growth of the ecosystem itself.

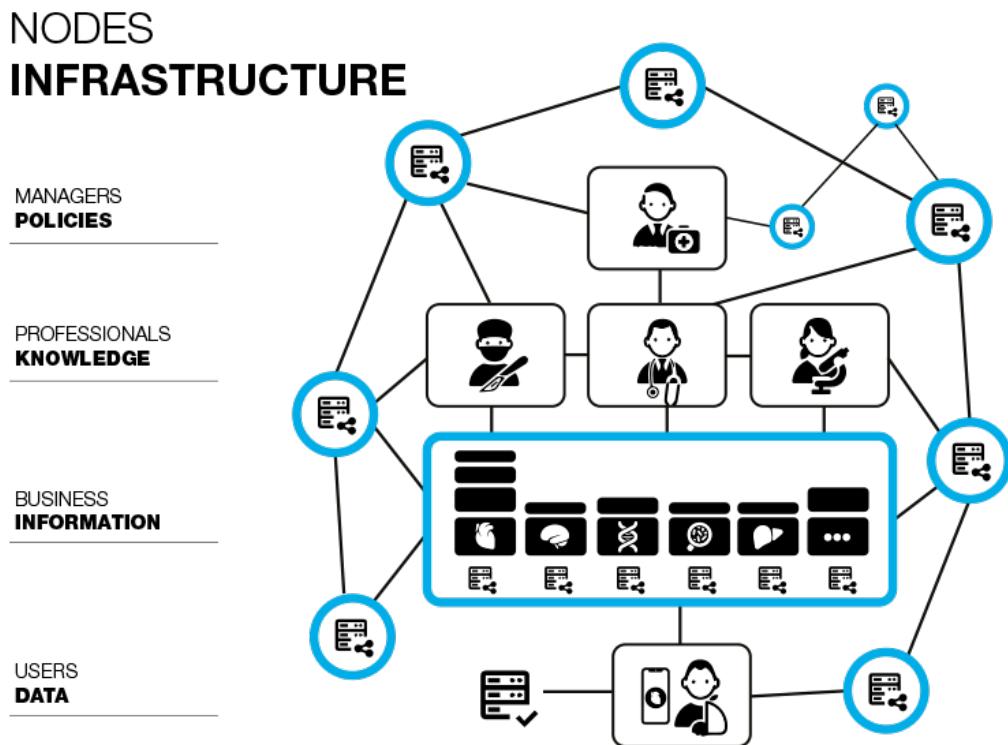
On the other hand, service companies must pay the expenses derived from the analysis and adaptation of their service to the platform, in order to maintain the consistency of the same even when the system provides an API connection these services should be analyzed.

The commissions of the exchange unit.

An internal exchange unit will be created that will allow managing the change of the value of the token to FIAT currency. Every change of Fiat currency to the platform token as the opposite case generates a small commission that allows financing the service and helping to maintain the infrastructure of the platform.



The nodes



The nodes are the ledger copies and through consensus analysis the information in each of them so that the copy that is saved each node is the same that has been approved by the set. An identical book in each of the nodes.

Nodes process system transactions and store them in blocks that are temporary groupings of a set of transactions.

Once a node has saved that block, it is rewarded by paying a certain amount of money for the set of transactions validated and saved in that block.

The consensus determines how the validations of the blocks are distributed and therefore these economic rewards.

We wish that the typology of the owners of the nodes be heterogeneous and we seek to give input to the different interests and entities that exist in the ecosystem.

The economic value of the nodes allows each of the entities to find new financial forms to develop their legitimate interests.

Management and transaction validation nodes.



In the nodes that manage the transactions and receive the corresponding commissions, we find two types depending on what they contribute to the ecosystem.

1- Investors and / or entities such as insurance or companies that intend to participate in the system with their services and that have invested in a license for use. These nodes are responsible for managing, validating ecosystem transactions, receiving the corresponding transaction fees for this.

2- Associative or prestigious entities that will generate traction. Through a series of algorithms, the traction they have contributed to the system will be analyzed by regulating the transactions that correspond to them in order to maintain the benefits of the rest of the nodes.

The Token

The token that is used in the platform is a utility token that facilitates the system to measure and monitor all the activities of the same, provides reputation and allows to settle agile payments within the ecosystem.

The token is used to pay or collect:

- The data
- Diagnostic services.
- Reports and investigations of the system.
- Rewards and Incentives.
- Transactions of the nodes, validations, observations of the system.
- Data storage.

The price of the token will have a parity value to the FIAT currency in which the platform operates.

At the moment that any entity wants to operate in the ecosystem, it must change the currency or cryptocurrency that it uses to the token of the platform that will be deposited as a balance in its wallet.

The tokens will be delivered through an internal exchange office, this office facilitates the operation to any entity of the system.

When an entity wants to change the tokens for a fiat currency or cryptocurrency, go to the exchange office and change their tokens.

There are as many tokens as there is "fiat" balance in the system, when an entity changes the tokens in the exchange office these tokens are "burned".



Marcom Strategy

Marcom strategy for capturing pre-sale investment.

The first effort is to communicate to the entities that may be interested in the investment, the existence of the project and the team that composes it.

Health systems, insurers, telecommunications companies, investment funds aimed at health and technology, medical associations and professional media, investment and crypto-investors.

Marcom strategy for the acquisition of new entities that participate in the system.

The market to which the platform is directed is global and even when there are no diagnostic services you can start to capture data and offer digital identity to users, the existing data on mobile devices already completed by the user, to practice sports will allow to share them and start receiving financial incentives for it.

They are advanced users who will incorporate activity data, health metrics etc into their digital identity. Thanks to this, the entities that participate in it can start to operate with their services or analyze the data of users or customers anonymously in order to apply health policies in their markets or systems.

The first communication and commercial effort is to address these entities that group users so they can extract this data.

These entities will carry out communication actions to collect the data of their clients anonymously. Insurance and public and private health systems are our first objectives.

Once the entities have that data, they can analyze it and apply the layers of services or research necessary to meet the objectives of their business.

That is why the focus of the commercial and communication activity is aimed at capturing these brokers of users who use the data services of users.

These services are not subject to a single diagnostic model but to the general set of the health industry and to all users who may or need to use it.

Being an ecosystem in which multiple entities can participate, we understand that the legitimate reasons for them, economic, commercial or health will become traction of the knowledge of the platform.



The start of the Pilot will be in the EU / USA, while agreements with entities from other countries are closed.

Marcom strategy to attract users

The times for the connection with diagnostic systems will be subsequent to the entry into production of the digital identity and the connection to the data of the existing devices in the market. They are devices that can give us user's life data but they will not be medical data yet.

A very powerful message will be launched to the most advanced users and the whole population that uses devices that measure activity, runners, etc.

The value of the data is yours, if you want to get the value that your activity, your life, your health ... suppose for companies, institutions ... protecting your identity ... this is your application ...

It is an appeal to freedom to "possession of my identity"

This appeal to freedom, to the ownership of the data will work its virality in social networks, PR, media and presentations to appropriate that maxim of Digital Sovereign Identity.

Technological Roadmap

4-6 MONTHS

- Sovereign digital identity.
- Currently version 1.0 of the digital identity service that responds to affirmations is finalized
- Application for mobile devices:
- Ability to extract user activity information that registers the mobile phone.
- Ability to complete biometric user data.
- Prototype of the contracts platform.
- Exchange token
- CardioWarning: Creation of the product development team. Closure of software requirements for signal decomposition. Publication of list of arrhythmias detected, severity, order of implementation and dates.

8-9 MONTHS

- Blockchain of intelligent contracts
- Integration of the first Diagnostic services.
- CardioWarning: Integration in the platform. Prototypes of hardware devices for continuous and timely monitoring. Agreements in the USA and Europe.



12 MONTHS

- Integration of 4 diagnostic services.
- CardioWarning: Operating product in the absence of approvals. Closing of integration agreements with manufacturers and initial deployment in the USA. Start of real operational tests.

Graphic Image:

Image Roadmap

Commercial. First 6 months.

Presentation and capture of entities that are part of the ecosystem.

- Insurance companies
- Systems of health
- Health technology development companies
- Technology companies.
- Medical associations

Presentation to the media of first sovereign identity that allows you to trade with your health data. Download the application for the mobile.

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