Your genome knows much more about your medical history than you do.
Danny Hillis, inventor

Pharma Genome

CURRENCY FOR HEALTH

A-BLOCKCHAIN-BASED

The Human Pharmagenome Based Investment Project

Whitepaper Version 1.0

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CONTENT

1. ABSTRACT

Present white-paper describes the crowdsourced platform for investment and development of an information platform that will alert people to their genetic diseases, guides them with preventive behaviours regarding the way of life and nutrition according to their genetic predispositions in order to escape serious illnesses and help patients select the effective drug and the optimum dose of the drug with respect to their genome. The project is based on Waves platform providing utilities that classical approaches do not utilize to the potential investors.

The essence of our project lies in:

1. **The establishment of an information platform** where, with the help of blockchain technology, an accurate record of individuals will be anonymously and safely stored, which will then have access to information regarding preventive behaviour according to their genome and information in case of illness, which medicines are most effective for them and in which doses.
2. Establishing a **single polymorphism database** and establishing a system for its updating.
3. **Setting up a laboratory for genome analysis** that will determine genetic predisposition for hereditary disease and personal drug sensitivity.

Pharmagenome token will provide above stated points into life.

2. BACKGROUND

2.1 What is a genome and genetic polymorphism?

A genome is the genetic information of an organism. Every person has a unique variation of the human genome. A genome sequence makes every person special, that is, it affects both our outward appearance, such as the eye color, as well as on the personal characteristics of the individual.

Genetic polymorphisms are variations of one gene defining the characteristics of each person. By identifying genetic variations, especially combinations of changes in several different genes, we can estimate effect on different personal risks, such as susceptibility to many common diseases, including **cancer**, **obesity**, **diabetes**, **heart disease**, **mental illness** and others.

2.2 Genetic predisposition

A genetic predisposition is an increased likelihood of developing a particular disease based on a person's genetic makeup. A genetic predisposition results from specific genetic variations that are often inherited from a parent. These genetic changes contribute to the development of a disease but do not directly cause it. Some people with a predisposing genetic variation will never get the disease while others will, even within the same family. Multiple genes collectively influence the likelihood of developing many common and complex diseases.

Personalized medicine or so-called **genomic medicine** can also be used **to predict a person's risk for a particular disease**, based on one or even several genes. This approach uses the same sequencing technology to focus on the evaluation of disease risk, allowing the physician to initiate preventative treatment before the disease presents itself in their patient, for example diabetes, some types of cancer and other serious diseases.

2.3 Personalized medicine

Personalized medicine is the customization of healthcare, with medical decisions, treatments, practices, or products being tailored to the individual patient. It refers to the tailoring of medical treatment to the individual characteristics of each patient. Personalized medicine currently individualizes treatment mainly on the basis of the genomic tests. Research in the field of personalized medicine focuses on biomarkers that could help customize therapy for individual patients, thus leading to more effective treatment with fewer adverse events. **Especially in oncology**, several tumor markers have been identified and it has been shown for example in lung cancer that **personalized treatment approach could improve treatment outcome**, therefore patient stratification based on tumor mutations is already required before targeted treatment.

The use of genetic information has played a major role in certain aspects of personalized medicine. The concepts of personalized medicine can be applied to new and transformative approaches to health care. **Personalized health care** is based on the dynamics of systems biology and uses predictive **tools to evaluate health risks** and **to design personalized health plans** to help patients mitigate risks, **prevent disease** and to **treat it with precision when it occurs**.

3. MARKET

Personalized or genomic medicine is an emerging medical discipline that involves using genomic information about an individual as part of their clinical care (e.g., for diagnostic or therapeutic decision-making) and the health outcomes and policy implications of that clinical use. Already, genomic medicine is making an impact in the fields of oncology, pharmacology, rare and undiagnosed diseases, and infectious disease. **European market is estimated to a fantastic size of more than 51 billion EUR, because 20% of all EU population would benefit from genetic tests.**

The potential market covers those individuals whose genetic predisposition can influence the development of diseases such as:

- Alzheimer's,
- Asthma,
- Atrial fibrillation,
- Cancer (breast, colorectal lung, prostate, skin and others),
- Celiac disease,
- Diabetes (Type 1 and Type 2),
- Gallstones,
- Glaucoma,
- Heart attack,
- Hypertension,
- Multiple sclerosis,
- Psoriasis,
- Rheumatoid arthritis,
- Restless leg syndrome,
- Venous thromboembolism,
- and others.

The therapeutic effect of some medicines and the side effects of these drugs is also largely dependent on our genes. Therapeutic areas include primary care, general medicine, cardiology, oncology, psychiatry, neurology, and transplantation. It is hypothesized that implementing pharmacogenomics guided drug and dose selection will decrease incidence of clinically relevant adverse drug reactions by 30% (from 4% to 2.8%).

Infectious diseases	Oncology	Psyhiatric diseases	Pulmology	Gastroinestinal diseases	Revmatologic diseases	Nevrology	Cardiology	Anticoagulant therapy	Statins	Analgetics	Immunosupresive treatment	Antidiabetics
Abacavir	Abemaciclib	Amitriptylin	Arformoterol	MoviPrep	Azathioprin	Brivaracetam	Carvedilol	Acenocoumarol	Atorvastatin	Codeine	Tacrolimus	Metformin
Boceprevir	Trastuzumab	Aripiprazol		Omeprazol	Carisoprodol	Carbamazepine	Clopidogrel	Phenprocoumon	Simvastatin	Oxycodone		
Efavirenz	Afatinib	Atomoxetine			Celecoxib		Flecainide	Warfarin		Tramadol		
Flucloxacillin	Alectinib	Brexpiprazol					Metoprolol					
Voriconazole	Anastrozole	Citalopram					Propafenon					
	Arsenic trioxide	Clomipramine					Peridoprine					
	Atezolizumab	Clozapine										
	Avelumab	Doxepin										
	Belinostat	Escitalopram										
	Blinatumomab	Haloperidol										
	Bosutinib	Imipramine										
	Brentuximab	Nortryptiline										
	Brigatinib	Paroxetine										
	Busulfan	Phenytoin										
	Cabozantinib	Pimozide										
	Capecitabine	Sertraline										
	Fluorouracil	Venlafaxine										
	Irinotecan	Zuclopenthixol										
	Mercaptopurine											
	Tamoxifen											
	Tegafur											
	Thioguanine											

4. MISSION STATEMENT

Ethics & Responsibilities represents the starting point.

1. Health
It is clear that genetic information has a major role in certain aspects of personalized medicine. Personalized health care uses predictive tools to evaluate health risks and to design personalized health plans to help patients mitigate risks, prevent disease and to treat it with precision when it occurs.

2. Discovering new polymorphisms
Research into the detection of new polymorphisms and thus the expansion of a database of drugs that can be linked to the genome.

3. Quality and professionalism
Providing a leading position in the field of research and services related to the discovery of new polymorphisms, and thus the expansion of the knowledge base on the relationship between the genome and the use of medicines and their dosing.

5. VISION

Our vision is to become the most important knowledge base in pharma genetics. Our desire is personalization of medicine, where each drug and its necessary dose can be personalized according to the patients' patients genome.

Pharmagenom is the currency for health and business opportunity.

You can do variety good things A variety of positive things can be done:

1. **Provide effective medicine to evaluate health risks;**
2. **Enable the creation of a personal health plan.**
3. **Prevent diseases and to treat it with precision when it occurs;**
4. **Enable detection of new polymorphisms, thereby increasing the range of medicines included in the program;**
5. **It allows secure storage of your genome;**
6. **Open working positions and treatments;**
7. **Make money ethically.**

Consumer perception

Promoting professionalism within all sectors of the supply chain will aid in removing the negative stereotypes and broaden the range of patients. We are their hope, so, we are determined to be trustworthy.

Advanced Clinical Research

Setting up a laboratory for the detection of new polymorphisms that determine which drug is the most effective in terms of human genome.

Research will be focused on the area of diseases such as various types of Cancer, Alzheimer's, Glaucoma, Multiple Sclerosis, Arthritis, PTSD and many other physical and mental health problems.

Transparency

We believe that the project is managed transparently, so that investors are constantly informed about all important steps and decisions, they significantly influence the performance of the project.

Generating New Jobs

Industry is expected to create tens of thousands of jobs and stimulate economic growth for businesses that can take advantage of new business opportunities.

6. CHALLENGE

The challenge we are facing is, in particular, the creation of a single database of human genomes and the establishment of a single knowledge base on discovered polymorphisms.

Project Pharmagenome to achieve considerably **high returns relative to the risks** of secured investing in genome database and underlying assets.

7. THE PHARMAGENOME SOLUTION

The platform will enable:

- Genome analysis
- Secure storage of full genome information with block chain technology
- Complete database of polymorphisms
- Full interpretation with our medical team
- Analysis of cancer cells genome

Our advantage is the high level of professionalism of the project team and the extremely rapidly developing areas of the pharma genetics, which has recently received extraordinary growth in all areas of medicine.

The project PHARMAGENOME is a touch point with investors rapidly growing market of using human genome for mere effective medical treatment of patients.

A. **Qualitative point**

- Available and up-to-date information on all medicines and doses adjusted according to the genome of each patient, especially in the treatment of severe forms of cancer and other serious illnesses.

B. **Ethical point**

- Accessibility to anyone who needs such a service.
- High level of anonymity and security.

C. **Business points:**

- EU market alone worth 51 billion EUR.

8. PHARMAGENOME TOKEN

8.1. Pharmagenome Token model

PharmaGenome Tokens are issued on the Ethereum network and will be freely traded on the open market. Ethereum[1] is an open-source project which allows creation of smart contracts and provides users with a secure and fast transaction system.

8.2 Token sale period

Token sale period will start at 00:00 on May, 25th 2018 and will last until 24:00 on June, 08th 2018 (GMT+1). Within this period, investors will have the opportunity to buy PharmaGenome Tokens at the token sale price of 0.00001 USD. The results of the presale will be published on the official PharmaGenome website.

8.3 PharmaGenome Price and Token Supply:

We are raising:	90,000 USD
ICO Token Price:	0.00001 USD
Payment Methods:	Bitcoin (BTC), Ethereum (ETH),
Token sale Start Date:	May 25th, 2018
Token sale End Date:	June 8th, 2018
Total Token Supply:	9 billion
Trading of tokens:	30 days after Token sale competition

9. ROADMAP

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