



WHOZ COIN

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“Whoz is an active global blockchain data sharing platform for genomic information sharing.”

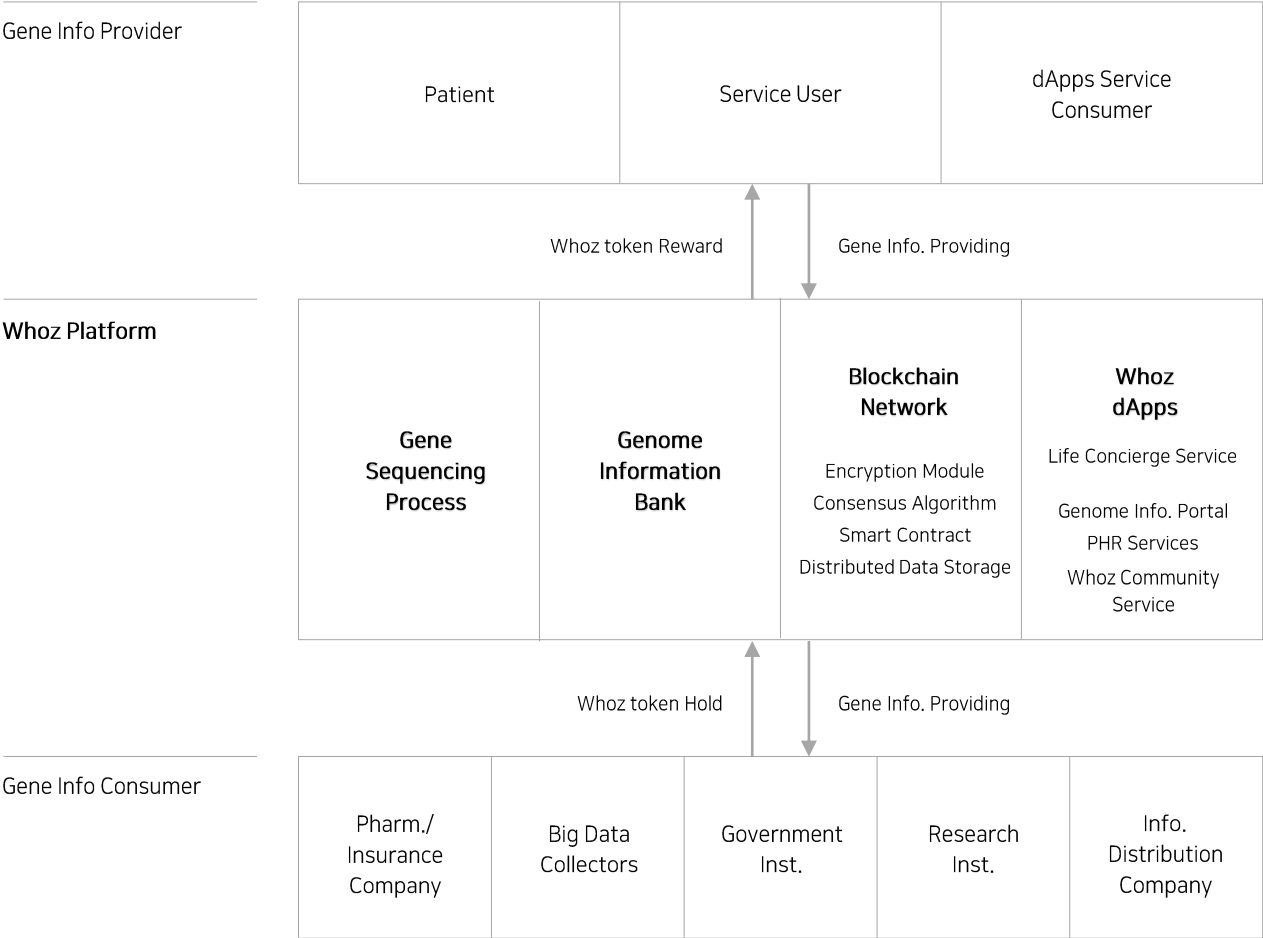


Figure 1) Whoz Platform System Overview

In the Whoz Platform, individual gene information providers can request their own genome sequence analysis through Whoz Platform's Provider dApp and receive the analysis results. You can manage your own genome data that is encrypted and stored safely in the decentralized distributed storage inside the platform. Consumers can purchase cryptocurrencies issued by Whoz and request to view information through Consumer dApps for specific genomic information they want to find. In addition, at the request of the consumer, the Whoz Platform lists the genomic information of the information provider that has gone through the de-identification process. Providers of specific genome information that meet the needs of consumers can check the channels that can provide their genome information to consumers through the Provider dApp You can grant access. At this time, the consumer side acquires the right to access the genomic information storage of a specific individual from

consumer dApps and at the same time pays the Whoz token to the information provider.

1-2 Gene data and NFT

The WHOZ Platform believes that if the genomic data that all 7.7 billion people in the world have equally is used evenly in the genetics academia and pure academic fields of medicine through the correct information sharing system, it will open a new era in the development of human medicine. In order to realize these values, **creating a healthy information sharing ecosystem** will be more important than anything else, and we will give priority to designing the platform and advancing technology.

The philosophy of the WHOZ Platform will be embodied in the establishment of an information sharing ecosystem, and the following mission will be implemented so that the core values can be shared equally among all stakeholders that compose the ecosystem.

- The purpose and significance of the WHOZ Platform is to build a sharing economy system based on high value-added genomic data produced from individuals.
- All information circulated on the WHOZ Platform belongs to the information provider who produces and provides the information, and the sovereignty of that information rests with the individual.
- All information and transaction details of goods traded on the WHOZ Platform should be managed transparently, and decentralized value will be realized^{**} by distributing rights equally to all stakeholders who want to participate in the network.
- In order to maintain a system that can make decisions and aim for a horizontal decision-making structure among members and stakeholders constituting the platform, We do not take a method of controlling in a centralized system
- We do our best in research and development of core technologies, including block chain technology, to achieve the decentralized value of the platform

1-3 Whoz Platform Vision

“The purpose of implementing Whoz Platform technology is to realize a sharing economy based on sharing genetic information.”

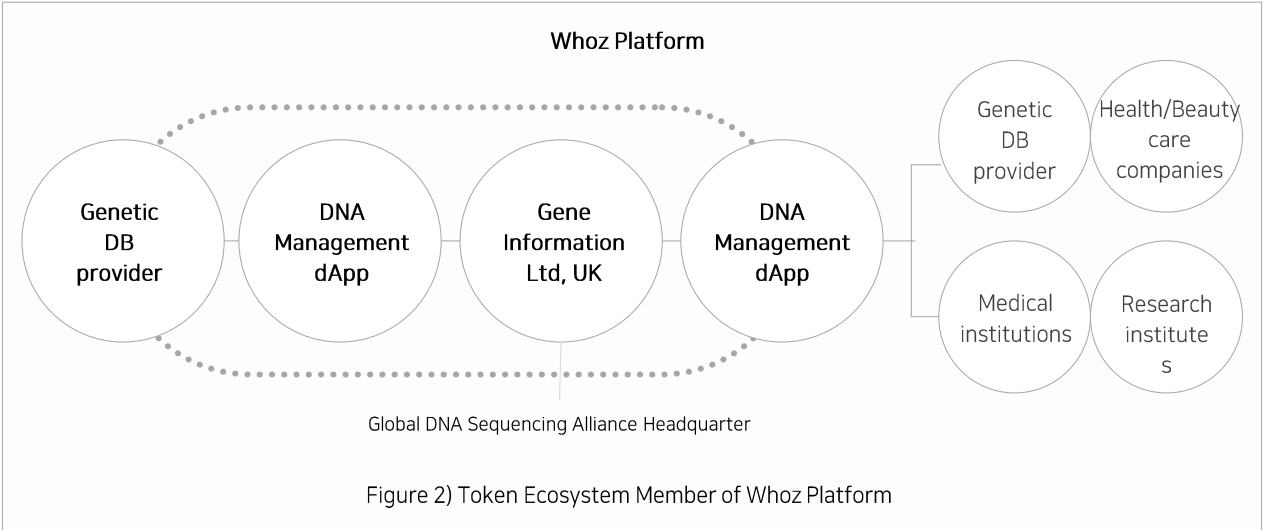
Whoz Platform intends to present a basic roadmap for platform construction and ecosystem creation based on this white paper, and to present a plan for creating an ecosystem where genomic data can be freely and safely circulated on the blockchain network. To create such an ecosystem, we present the following vision.

- Build a global genome sharing platform so that anyone around the world can freely share their genome information through the Whoz Platform regardless of race, country, gender, or age.
- Establish a global sequencing alliance so that anyone around the world can actively analyze their genome information.
- Establish a blockchain-based decentralized network system in which genomic information can be shared transparently and safely.
- Establish a token-based economic system so that rewards and payments can be made based on Whoz tokens when genome information produced from information providers is delivered and distributed to consumers.
- Establish and continuously improve the Whoz dApps environment that can access and utilize the platform's resources for the stakeholders constituting the ecosystem.

Whoz Platform's Token Ecosystem

2-1 Ecosystem members

The members of the Token Ecosystem of the Whoz Platform are broadly classified as follows.



- Genome DB provider
- Whoz: Gene Information Ltd, UK (Global DNA Sequencing Alliance Headquarter)
- Genome DB management & distribution: DNA Management dApp
- Pharmaceutical companies
- Health/beauty care company
- Research institute
- Medical institutions

2-1-1 Genome DB Provider

Genomic DB provider refers to users who have requested a genetic test from Whoz through the Whoz Platform and checked the genetic test report on the DNA Management dApp, who have agreed to use the genome DB on the Whoz Platform. Users can request a genetic test from the Whoz team in the following cases:

- Concerns about family history of 4 major diseases (cancer, heart, cerebrovascular disease, rare intractable disease)
- Purpose of participating in Whoz Platform Community
- The purpose of requesting excellent inspection companies around the world and reducing inspection costs
- Curiosity about genetic testing

Users who want a genetic test will check the test results through the following process.

- Users request a genetic test from the Whoz team through the Whoz Platform.
- The Whoz team delivers the sample collection kit to the user and obtains the user's consent to collect the sample.
- The user agrees to the sample collection, collects his/her saliva, body hair, etc. using the sample collection kit, and sends it to the Whoz team.
- The Whoz team conducts genetic testing.
- The Whoz team prepares a genetic test report.
- The Whoz team's genetic test report is stored in IPFS Content Storage on the Whoz Platform.
- Whoz Platform allows users to check genetic test reports through the DNA Management dApp personal page.

Users can choose whether to consent or not to use the genome DB in the DNA Management dApp of the Whoz Platform. The client who chooses to consent to information use becomes a 'genome DB provider' of the Whoz Platform, and the client who chooses not to consent to information use becomes a 'general user' of the Whoz Platform.

- After requesting a genetic test, the user's genome DB who selects non-consent to information use in the DNA Management dApp → General user's genome DB: In case of non-consent to information use, it is classified as a 'general user' and the general user's genome DB is Whoz Platform It is stored in an encrypted state in Whoz Content Storage of

- After requesting a genetic test, the user's genome DB who selects consent to information use in the DNA Management dApp → Genome DB provider's genome DB: After requesting a genetic test, partner companies are prevented from using information in the DNA Management dApp of the Whoz Platform. From that point on, the user who consents becomes the 'Genome DB Provider'.

Like general users, the genome DB of the genome DB provider is also stored encrypted in the Whoz Content Storage of the Whoz Platform. The genome DB of the provider's genome DB is transmitted to companies and institutions in a de-identified state and becomes a very important data that forms the basis of the Whoz Platform ecosystem.

The genome DB provider will receive Whoz tokens as a reward for using the genome DB on the Whoz Platform. Whoz has value as a currency on the Whoz Platform, and you can purchase goods from companies affiliated with the Whoz team or use the services provided by the affiliate companies.

Additionally, genome DB providers can engage in independent economic activities on the Whoz Platform dApp. You can work in the community where genetic information providers gather, share medical knowledge, and see trends in the medical industry, such as treatments and treatments for various diseases.

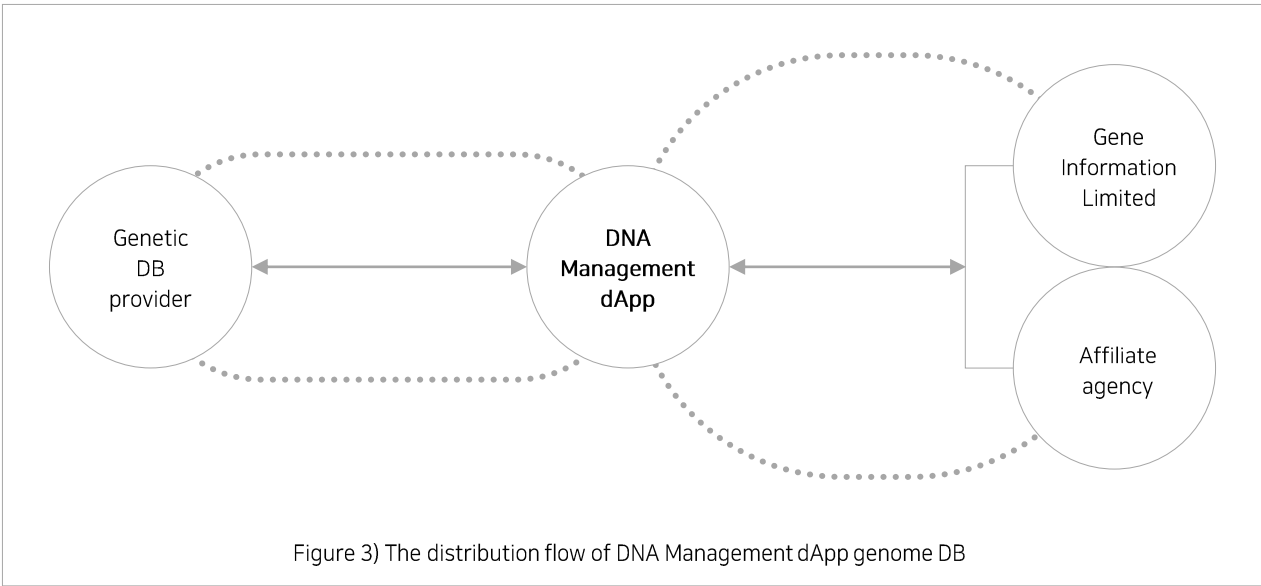
2-1-2 Gene Information Ltd, UK(Global DNA Sequencing Alliance Headquarter)

Test centers that receive samples from genetic test clients (saliva, body hair, basic surveys, etc.) and actually perform genetic tests are the most important actors in the Whoz Platform, and are one of the stakeholders who will participate in the Whoz Platform network.

IGene Information Ltd, UK, which oversees the inspection center, which is the most core node in the PGS Platform, adds reliability to data by playing the following roles.

- Establish the Global DNA Sequencing Alliance to directly manage and supervise genetic testing.
- The genetic test report to be delivered to the genetic test client is delivered to the Whoz Platform.

2-1-3 Genome DB Management & Distribution: DNA Management dApp



All genome DBs stored in the Whoz Platform are managed and distributed through the DNA Management dApp and provided to affiliated organizations and companies through the following process.

- Affiliates purchase Whoz tokens through Whoz' DNA Management dApp or exchanges.
- Affiliated companies search for and request the necessary genetic information from Whoz' DNA Management dApp. The searched genome DB is a non-identifying DB, and only minimal information is provided to confirm the gene type.
- The DNA Management dApp sends a message of consent to use of information to the genetic test client with the genome DB selected by the affiliated company or institution.
- Genetic test clients can choose to consent to the use of information, and the DB consenting to the use of information is provided in the form of a genomic DB that has been de-identified by affiliated companies and institutions. From this point on, the genetic test client becomes the genomic DB provider.
- Affiliated organizations and companies send Whoz tokens to the DNA Management dApp to purchase the required genome DB.
- DNA Management dApp transmits the genome DB that has obtained consent from the genome DB provider to affiliated companies and institutions.

DNA Management dApp sends Whoz token to genome DB provider.

- Genome DB providers can use Whoz tokens to purchase products or use services provided by affiliated organizations and companies of the Whoz Platform, and can cash out through exchanges.

2-1-4 Pharmaceutical companies

Pharmaceutical companies can engage in the following activities on the Whoz Platform.

* Recruitment of clinical trial participants

Pharmaceutical companies conduct clinical trials on humans to prove the safety and effectiveness of new drugs, foods, medical devices, and new procedures. In general, the recruitment of participants for clinical trials is carried out through the process of checking the documents submitted by prospective participants and then checking whether they meet the conditions for the clinical trial through basic tests such as blood tests and screening tests. In this process, applicants who do not meet the criteria for participation frequently appear, and the pharmaceutical company bears all of the economic and time costs. However, if pharmaceutical companies use the IOGS Platform to find participants suitable for clinical trial conditions, the accuracy of participant recruitment will be different. The process for pharmaceutical companies to recruit clinical trial participants on the Whoz Platform is as follows.

- The pharmaceutical company delivers the purpose and reason of the clinical trial, the number of participants, and the participation compensation plan to the GIF.
- The Whoz Platform selects a number of genomic DB providers that meet the purpose and reason of the clinical trial in the DNA Management dApp.
- The Whoz Platform notifies the clinical trial information and confirms the intention to participate in the DNA Management dApp personal page of the selected genome DB provider.
- The Whoz Platform connects genomic DB providers who wish to participate in clinical trials and pharmaceutical companies.
- Pharmaceutical companies conduct clinical trials.
- Pharmaceutical companies pay Whoz to genome DB providers as compensation for clinical trials
- Genome DB providers can use the services provided by partner companies and institutions of the Whoz Platform by using Tokens, and can be cashed out through the exchange.

This allows pharmaceutical companies to increase the accuracy of clinical trials while reducing costs and time compared to the traditional process of recruiting participants for clinical trials and research. The clinical trial participant recruitment method provided by the Whoz Platform will ultimately increase the credibility of clinical trials and research.

2-1-5 Health/Beauty Care Company

A health/beauty care company can receive a genome DB from the DNA Management dApp of the Whoz Platform and utilize it as follows.

* A company that produces diet food and supplies

Companies that produce diet products can conduct various research related to diet through the genome DB. This will enable the production of tailored diet products for people with genes that are more likely to develop obesity. The company collects numerous de-identified genome DBs for the production of diet products and classifies the genomes from various perspectives. Therefore, it will be more subdivided than previously produced diet products, and many types of products will be produced.

In the meantime, consumers have been able to choose diet-related products based on general SNS advertisements or testimonials. However, for diet products made based on the genome DB, the Whoz Platform

provides standards so that consumers can select products suitable for their individual constitution based on their genetic test results.

By resolving consumers' concerns about these choices, unnecessary consumption can be reduced and weight loss can be performed efficiently. Smart consumers can select products that are suitable for their constitution, segmented by constitution based on their genetic test results, and through this, they can increase their satisfaction with the product they choose. In addition, through dApp, information on distribution, including production date and production location of diet products, can also be recorded on the Blockchain. In this process, customers who are sensitive to country of origin and expiry date can directly inquire all information about the products they have ordered, increasing their trust.

* Companies that produce food and supplies related to hair loss treatment

Companies that produce products related to hair loss treatment can research products specialized for hair loss prevention and treatment and products that slow the progress of hair loss through the genome DB. Based on this, companies can produce new hair loss prevention and treatment-related products based on genetic testing, and recruit new and different customers. Hair loss due to causes such as aging and male hormones can be partially recovered through prevention and treatment, but hair loss due to genetic causes is known to be difficult to cure, so continuous management is required. A company operates a separate dApp and can manage a variety of customers, including genomic DB providers who are interested in hair loss prevention and treatment. Consumers can receive various additional services from the company's dApp, and they can act as subjects. Consumers can purchase products related to hair loss prevention and treatment through the company's dApp, and can participate in a community among people with hair loss genes. Through the related community, you can share various information about hair loss among users, and you can also get medical-related expertise such as attending conferences and seminars, new treatments, and new treatments.

* Companies that produce and distribute cosmetics, etc.

Cosmetics companies can create a new type of R&D DB by adding the genome DB to the skin-related DB they have accumulated over the years, and use it efficiently. Among them, for products that meet consumer needs, such as skin type analysis and genetic factors of aging, the reliability can be increased by utilizing and researching the genome DB.

Now, consumers can choose cosmetics suitable for their skin type based on the genetic test results through the Whoz Platform, and even consumers without genetic test results can identify the types of subdivided products and purchase cosmetics that are suitable for them. . In addition, consumers can reduce side effects on cosmetics by selecting products made through research and development of products that can control gene expression by specific genes.

In addition, through periodic genetic testing and skin type testing, it is not only used as a criterion for selecting cosmetics suitable for the current skin, but also records changes in skin condition in the long-term on the Blockchain, providing customized skin care for each season, situation, and life cycle. to help.

A company can use the genome DB to produce cosmetics with new functions, and it can also be used for marketing new cosmetics, such as providing it to the genome DB provider first for testing. When recruiting cosmetic clinical trial subjects, you can first make a proposal to participate by obtaining consent to use additional genome DB from genome DB providers. Competitiveness can be secured.

Information such as cosmetic ingredients and ingredient list and distribution process can be inquired through dApp. In the case of organic cosmetics with high consumer interest in raw materials, the following inquiry is possible.

- Raw material plant origin
- Extracted plant ingredients
- How to store raw materials
- Ingredients table
- Date of manufacture
- date of packing
- storage
- Shipping Information

2-1-6 Research Institute

The Whoz team plans to establish a Global DNA Sequencing Alliance for smooth platform operation. DNA sequencing analysis institutes representing each country plan to recruit proven institutes that have been operating in their countries for several years, and will provide high-accuracy gene analysis results to clients who have requested genetic testing with the Whoz team.

The genome DB of verified institutions cannot be compared with the non-identifying genome DB that is currently unofficially distributed in the bio industry. Research institutes can subdivide the genomic DB with a clear source into regions, gender, disease, constitution, etc., and can be used in various ways depending on the research purpose. In addition, it is possible to reduce the cost of clinical trials and clinical research by collecting various genomic DBs. However, since the genome DB distributed on the Whoz Platform is de-identified, the Whoz team does not provide any clues to the affiliate companies to specify the genome DB provider.

The distribution of the genome DB within the Blockchain-based Whoz Platform guarantees the integrity and security of the DB and prevents the risk of forgery, falsification, and loss of the genome DB in advance. Therefore, research institutes can benefit from both the supply of accurate genome DB from the Whoz Platform and supply through a safe distribution network. The Whoz Platform can be used as a basis for drawing results.

2-1-7 Medical Institutions

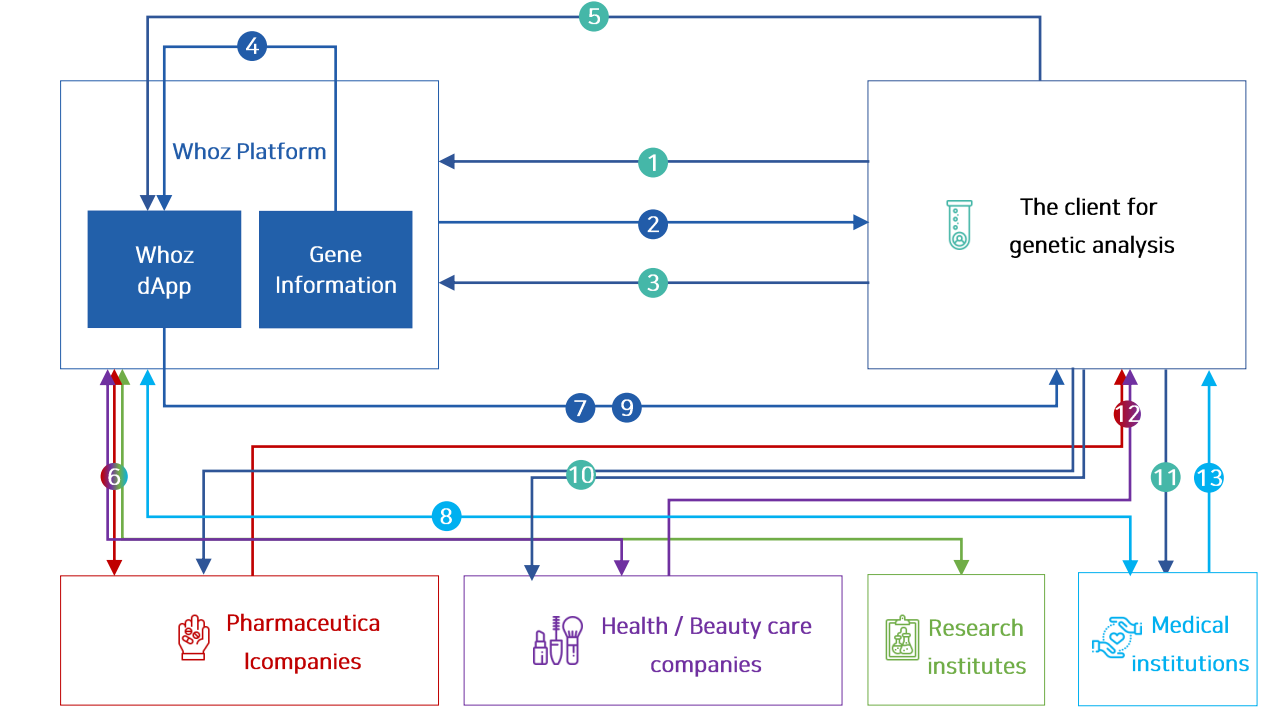
Based on the genetic test results received from the Whoz Platform, the genomic DB provider can request and transmit a detailed test to a medical institution to receive an additional analysis report.

- The genome DB provider checks the genetic test results through the Whoz Platform.
- In the case of a genomic DB provider with a gene suspected of causing a disease (eg BRCA1, BRCA2, etc.), additional tests may be requested to a medical institution affiliated with the Whoz Platform.
(If necessary, the genomic DB provider may collect their own saliva, body hair, etc. again using the sample collection kit.)
- The genome DB provider pays Whoz tokens to medical institutions.
- Medical institutions precisely analyze the genome of the genomic DB provider.
- The medical institution transmits the genetic test results to the genomic DB provider with a medical opinion attached.

Through the above process, genome DB providers can receive medical analysis reports related to their genetic information as well as genetic tests on the Whoz Platform. In addition, if a research facility affiliated with a medical institution needs to compare its own genome DB with other genome DBs, the Whoz token can be used on the Whoz Platform to receive the genome DB from the genome DB provider and use it for research.

2-2 Ecosystem Overview

Whoz Platform's Token Economics consists of:



- | | |
|--|--|
| 1 Request for genetic analysis (payment) | 7 Confirmation of consent to use genetic information |
| 2 The delivery for the genetic testing kit | 8 Token payment from affiliated organizations |
| 3 The delivery for DNA samples (saliva/body hair, etc.) | Transmission of agreed data to use genetic information |
| 4 Save the data in Whoz Content Storage after gene analysis report is prepared, DNA Management dApp transmission | 9 Token reward |
| 5 Check the genetic test report | 10 Request to purchase a company product and token payment |
| 6 Search and select genetic information needed after purchasing Token | 11 Request for additional test result report and token payment |
| | 12 Product delivery 13 end an additional test result report |

Figure 4) Whoz Platform Token Economics

The roles and functions of each member in the Whoz Platform can be described as follows.

- Users pay a certain fee and request a genetic test on the Whoz Platform.
 - Whoz Platform provides users with a sample collection kit for genetic testing and obtains consent for sample collection.
 - The user agrees to the collection of samples for genetic testing (saliva, body hair), collects samples and sends them to Whoz.
 - The Whoz Platform stores the Whoz team's genetic analysis report in IPFS Content Storage and sends it to the DNA Management dApp.
 - Users check the genetic test report in the DNA Management dApp.
 - Affiliated companies (pharmaceutical companies, health & beauty care companies, research institutes, medical institutions) purchase Whoz tokens through exchanges or Whoz Platform. Affiliated companies can request the necessary genome DB through the following process.
 - Affiliated companies search the required genome DB on the Whoz Platform DNA Management dApp search page.
 - Affiliated companies request the necessary genome DB from among the searched genome DBs. Search results are displayed as de-identified data.
 - The DNA Management dApp sends a message asking whether or not to consent to the use of genome DB information to users who meet the request of the affiliated company. The client who agrees to use the information becomes the genome DB provider within the Whoz Platform.
 - Affiliated companies check the genome DBs that can be provided among the genome DBs requested by the DNA Management dApp and pay with Whoz tokens.
 - DNA Management dApp de-identifies the genome DB corresponding to the request of the partner company and transmits it to the partner company.
- DNA Management dApp transmits the Whoz token received from the partner company to the genome DB provider.
- Genome DB providers can purchase products (medicines, diet foods, etc.) from partner companies by paying Whoz tokens.
 - The genome DB provider pays the Whoz token and requests an additional test result report from the medical institution.
 - Affiliated companies deliver products (medicines, diet foods, etc.) to genome DB providers.
 - Medical institutions send additional test result reports to genome DB providers.

Whoz Platform details

3-1 Whoz Platform Engineering Structure

The engineering structure of Whoz Platform consists of:

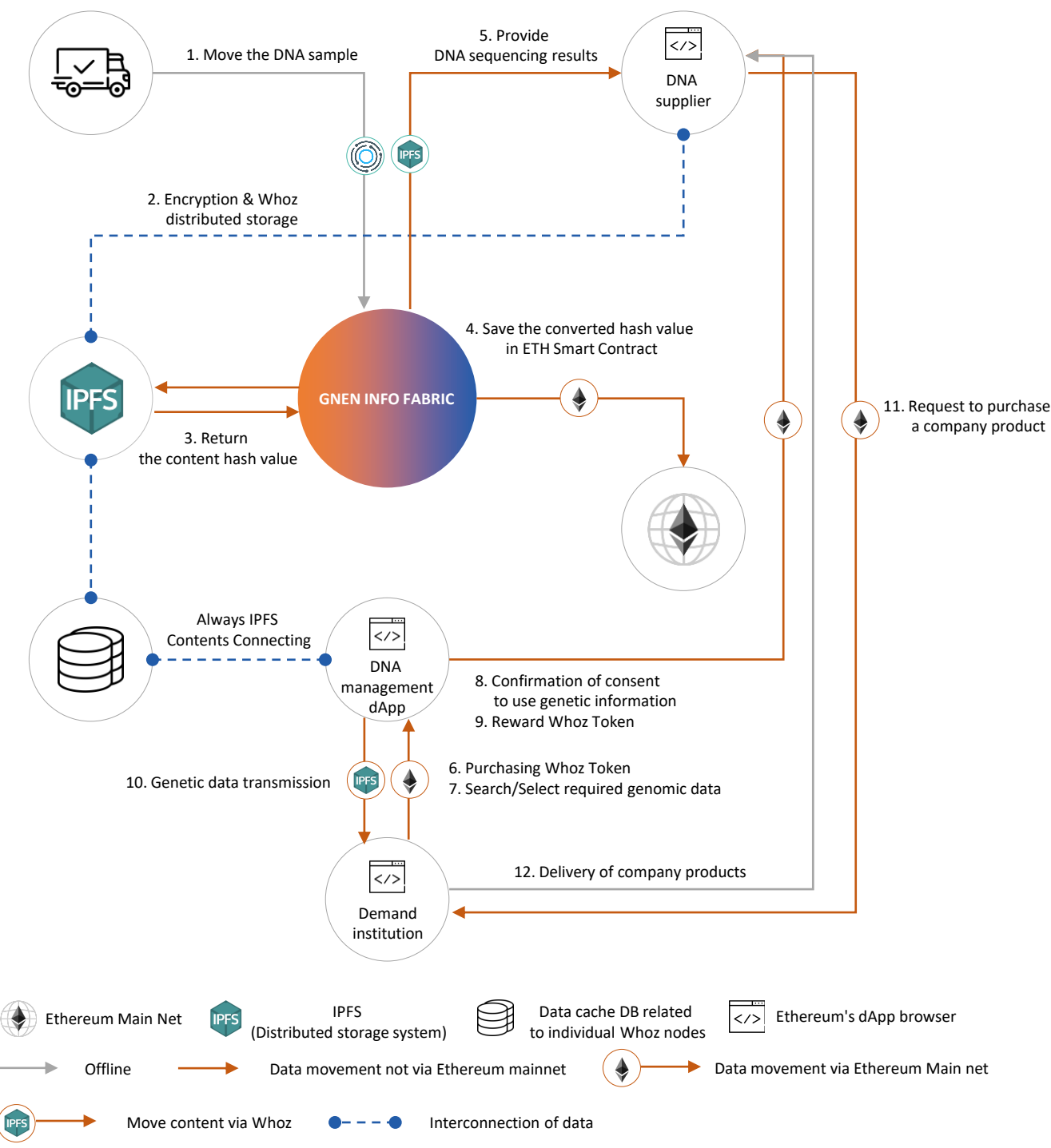


Figure 5) Whoz Platform Engineering Architecture

* There is a possibility of changing the platform structure depending on the future business direction.

3-2 Engineering Components of Whoz Platform

3-2-1 Decentralized file distribution storage system

“Whoz Platform differentiated it from other projects by introducing a decentralized distributed file storage system (IPFS, Inter Planetary File System).”

Blockchain is a decentralized storage technology, which basically decentralizes the ledger. Decentralization of the ledger is, for example:

- The centralized ledger exclusively owns the consumer's payment history.
- However, in the decentralized ledger, all nodes in the ecosystem own the transaction history.
- Due to the decentralization of these ledgers, both users and non-users can access the transaction details.

Decentralized IPFS is a peer-to-peer distributed file system that divides large data and recognizes the divided data as a single address. When specific data is uploaded to the decentralized IPFS, the file is divided into hundreds of files and stored on the storage network, and the divided file is provided with a common hash value different from the actual file name. This makes it possible to identify only certain pieces of data that come from the same file. This is called Content Addressing. This hash value cannot be forged or altered, and if you know the content address, you can find and download the file at any time. With this structure, service providers can share files with users through IPFS and save file management costs.

The Whoz Platform will combine the above decentralized information storage system with the Ethereum blockchain network. The process of applying decentralized IPFS within the platform is as follows.

- In order to receive the results, you can download the DNA Sequencing result document from IPFS by paying a certain Whoz token to the DNA Management dApp.

Through the above process, the Whoz Platform introduced a clear difference from the data storage mechanism designed based on the existing cloud infrastructure environment. It can be said that it is a true Blockchain Platform that not only decentralizes the history, but also decentralizes the content.

3-2-2 Oracle Problem “Oraclize”

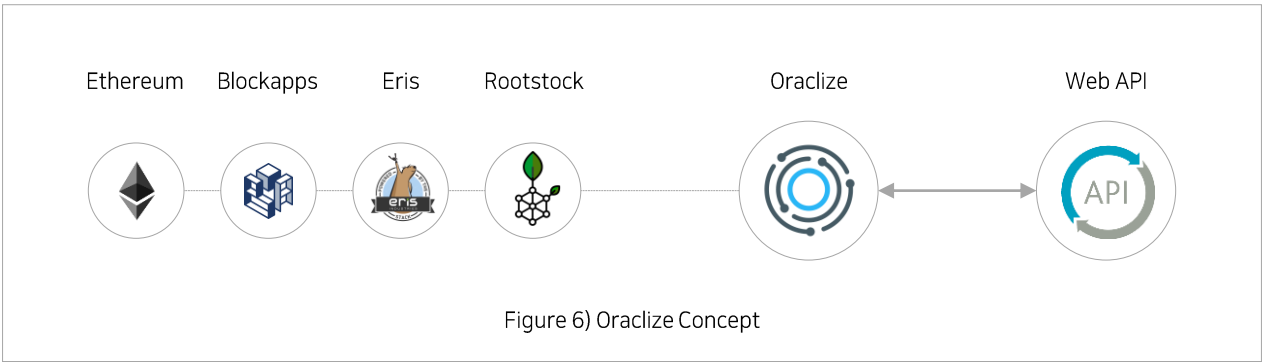
“Oraclize stands for a solution that helps to apply external data as input to a Blockchain network.”

Oracle refers to inputting data outside the blockchain inside, and the data outside the blockchain is called off-chain, and the data inside is called on-chain. It is not easy to forge or falsify data stored in blocks in the blockchain. However, if data is not stored in the blockchain block from the time it is input, or if forgery or falsification issues occur during the process of being stored, the data becomes unreliable data.

The process of entering Off-Chain into Blockchain On-Chain is not simple, and it is of utmost importance that it is entered in an intact state. Off-chain must be entered by someone or automated software to enter the Blockchain network. The Oracle Problem is a trust problem for entities that enter off-chain into the Blockchain network. The Oracle Problem starts with the following fundamental question.

- How to trust the subject (human, software, etc.) entering the off-chain?

As an alternative to the Oracle Problem, which is directly related to the trust problem of data to be stored in the Blockchain, there is a way to utilize Middleware, and Oraclize is a representative middleware. Oraclize refers to Oracle Service that provides an API method after verifying off-chain multiple times through a structured system to blockchain operators who want to utilize Smart Contract, and also refers to the name of the service provider.



Whoz Platform plans to apply Oracleize middleware in the following way.

In general, the method for an individual who is a genome DB provider to deliver physical products such as hair roots, blood, and saliva to the Whoz Platform can be through visits or mail. The Whoz Platform can check the supplier's DNA distribution process in the Logistics System, and you can proceed to the stage of rewarding Whoz tokens to individuals through dApp.

In this process, reliable middleware called Oracleize is introduced to ensure the accuracy and integrity of input values (logistics information values) accepted from the outside (off-chain). For this reason, Whoz Platform can be said to be a complete platform that can guarantee the reliability of external input values, unlike other projects.

Whoz Platform use case examples

4-1 Pharmaceutical Company Use Cases

The use cases of pharmaceutical companies can be divided into a) personal genome DB purchase service for pharmaceutical companies and b) drug purchase service from genome DB provider.

a) Genome DB purchase service for pharmaceutical companies

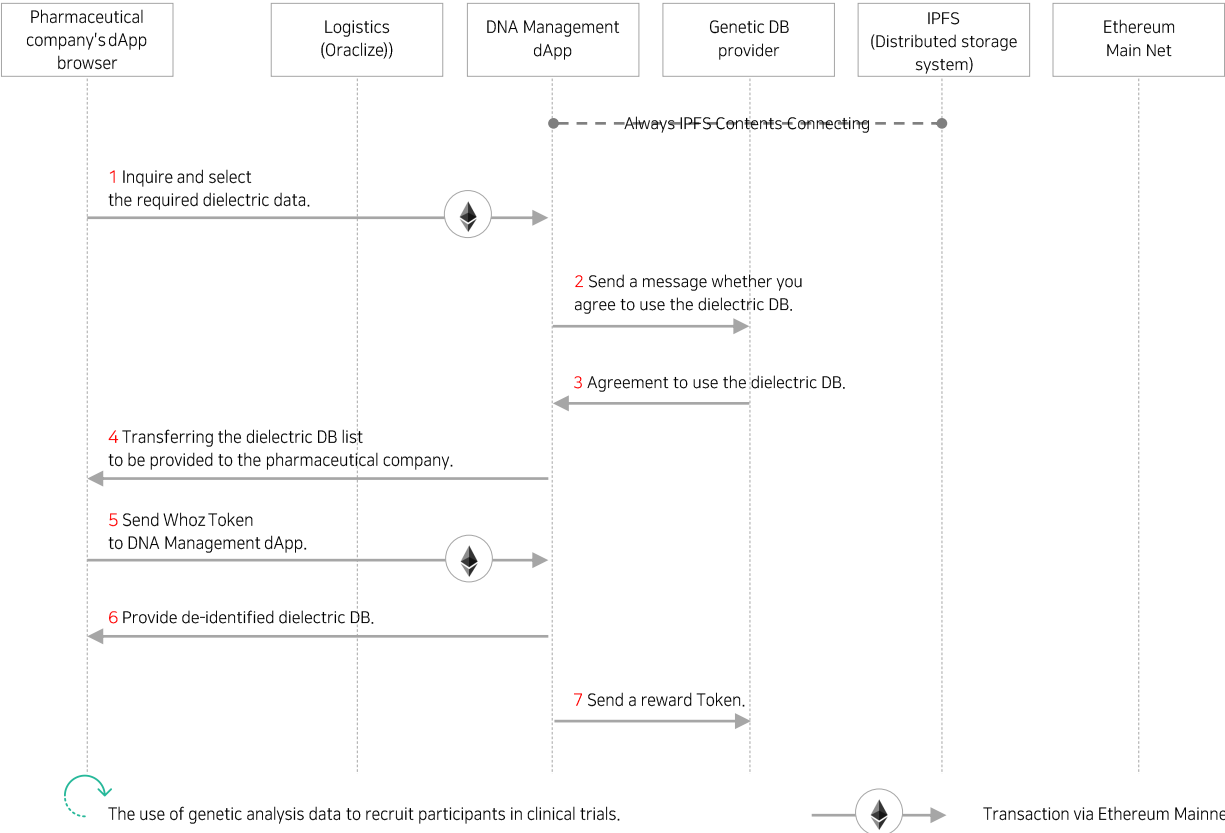


Figure 7) Pharmaceutical companies buy genetic DB Sequence Diagrams

- 1 Pharmaceutical companies search and select the required genome DB in DNA Management dApp.
- 2 DNA Management dApp sends a message to the DNA provider asking whether they agree to use the genome DB.
- 3 The DNA provider agrees to the use of its own genome DB.
- 4 DNA Management dApp sends the genome DB List to be provided to pharmaceutical companies.
- 5 Pharmaceutical companies send tokens to DNA Management dApp.
- 6 DNA Management dApp transmits unidentified genome DB of user information to pharmaceutical companies according to related laws.
- 7 The DNA Management dApp sends tokens to the DNA provider as a reward for using the genome DB.

b) Drug purchase service from genomic DB provider

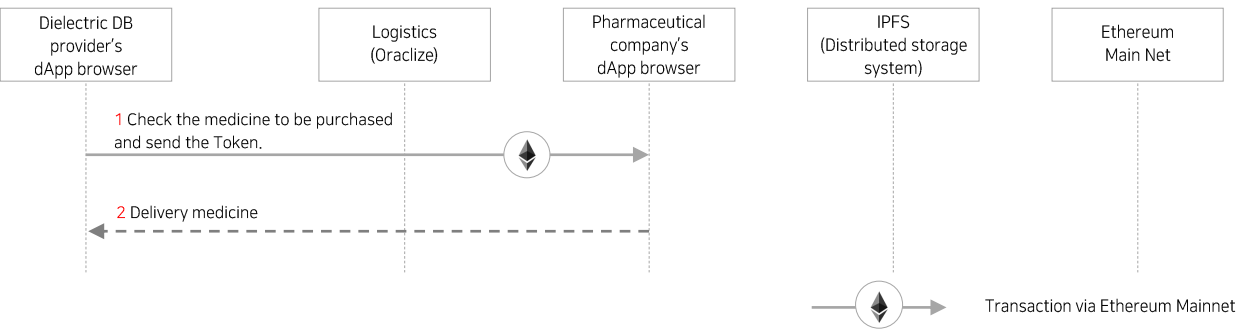


Figure 8) Medicine purchase by a genetic DB provider Sequence Diagrams

- 1. The genome DB provider connects to the pharmaceutical company's dApp, pays Whoz tokens, and purchases medicines.
- 2. The pharmaceutical company ships the drug to the genomic DB provider.

4-2 Health/Beauty Care Company Use Cases

A use case of a health/beauty care company is a) a genome DB purchase service of a health/beauty care company b) a health/beauty care company product purchase service of a genome DB provider.

a) Genome DB purchase service for health/beauty care companies

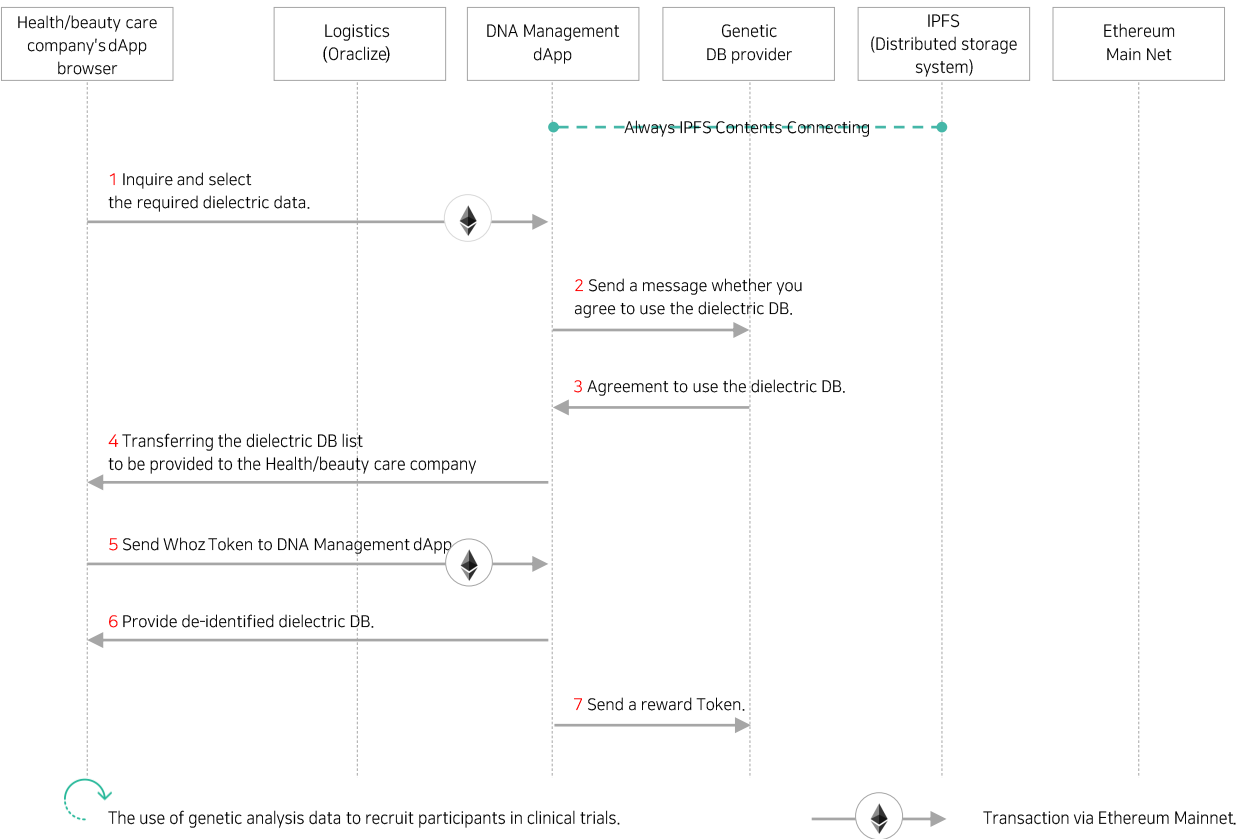


Figure 9) Health/beauty care companies buy genomic DB Sequence Diagrams

- 1. Health/beauty care companies search and select the required genome DB in DNA Management dApp.
- 2. DNA Management dApp sends a message to the DNA provider asking if they agree to use the genome DB.
- 3. The DNA supplier agrees to the use of its own genome DB.
- 4. DNA Management dApp transmits the genome DB List to be provided to health/beauty care companies.
- 5. The pharmaceutical company sends the Token to the DNA Management dApp.
- 6. DNA Management dApp transmits unidentified genome DB according to related laws to health/beauty care companies.
- 7. The DNA Management dApp sends tokens to the DNA provider as a reward for using the genome DB.

b) Health/beauty care product purchase service from genome DB provider

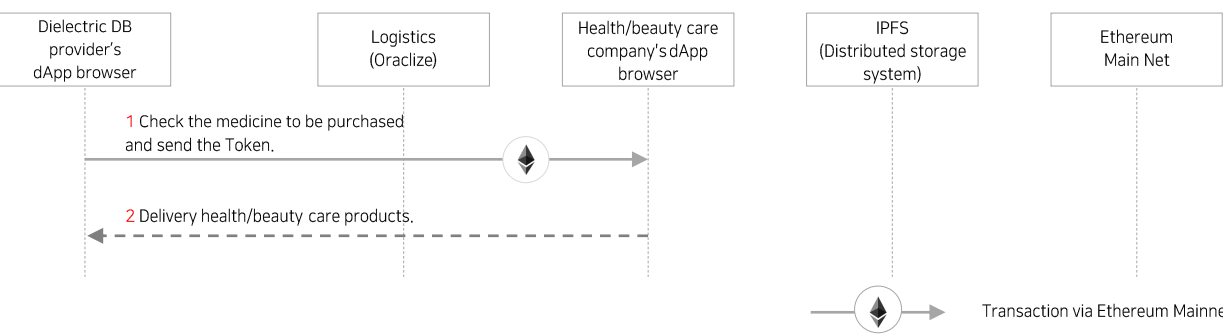


Figure 10) Health/beauty care products purchase by a genetic DB provider Sequence Diagrams

- 1. The genome DB provider connects to the dApp of a health/beauty care company, pays tokens, and purchases medicines.
- 2. A health/beauty care company ships health/beauty care products to a genomic DB provider.

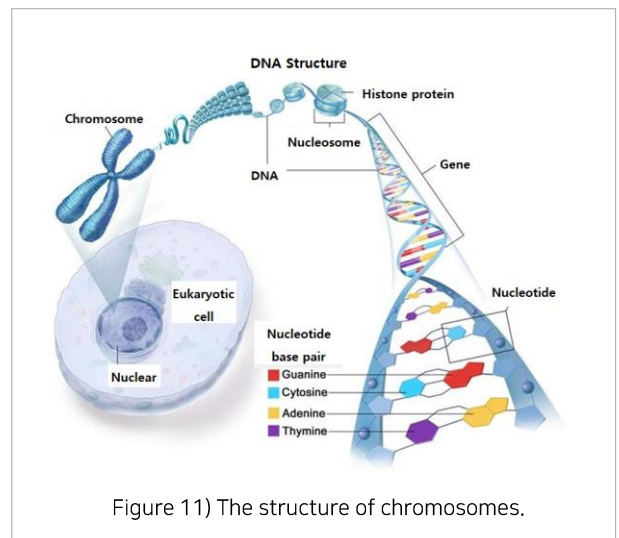
The back side of genetic testing and the necessity of the Whoz platform

5-1 Gene / DNA

"A gene is an individual unit of genetic information made up of a specific sequence in DNA (or RNA in some viruses)."

Humans have about 20,000 genes, inherited from parents and passed on to offspring. A gene is the coding information for synthesizing a specific protein and exists at a specific location in the DNA molecule. Proteins encoded in genes are functional biological molecules that form the skin and bones of our body, and enzymes that control metabolic reactions such as digestion and absorption in the body. Genes are the places that encode and store proteins, which are the most important macromolecules for sustaining life.

A chromosome is made up of DNA containing genes and histones. In other words, what is passed from parent to child are chromosomes, which are chunks of DNA that contain genes. Everyone has a specific gene in the same order on each chromosome, and each gene is inherited in pairs, one from each parent. In humans, there are 23 pairs, or 46 chromosomes, in the nucleus of each cell. A gene may exist in two or more forms that have slightly different nucleotide sequences and express different phenotypes. The various forms of the same gene are called alleles.



For example, the gene that determines the characteristics of human hair includes an allele that expresses whether straight or curly hair is expressed, and an allele that determines the color of hair. Alleles exist side-by-side at a specific locus on a homologous chromosome. Even a small difference in the base sequence of alleles makes human hair look different, and depending on which allele combination you have, it appears as a unique characteristic of each individual.

The term "genome" is a compound word of "gene" and "chromosome", and refers to the entire genetic information of an organism. Genetic information is obtained through analysis of specific genes or genomes, and this genetic information can be used for disease prediction, diagnosis, and treatment.

5-2 genetic testing

The target material for genetic testing is narrowly to DNA containing genes or broadly to proteins, which are products of genes.

is applicable. The purpose of the test is diverse, from individual identification through gene structure analysis to prevention, diagnosis and treatment of disease through functional analysis and disease-related gene mutation detection. Genetic testing, which can confirm the presence or change of genes or genomes, which are important substances in the human body, is the first step into the era of precision medicine, a topic of future medicine.

Genetic testing can be broadly divided into a method of selecting and testing a specific gene and a method of analyzing the entire genome containing the gene. Aside from the type of genetic testing, from a technical point of view, DNA sequencing, which analyzes the structure of DNA, is used. DNA sequencing is the process of confirming the sequence of the DNA base sequence.) refers to any method, technique used to determine the order of In other words, it is called nucleic acid sequencing. The following three methods are mainly used to determine the nucleotide sequence.

- Maxam-Gilbert sequencing

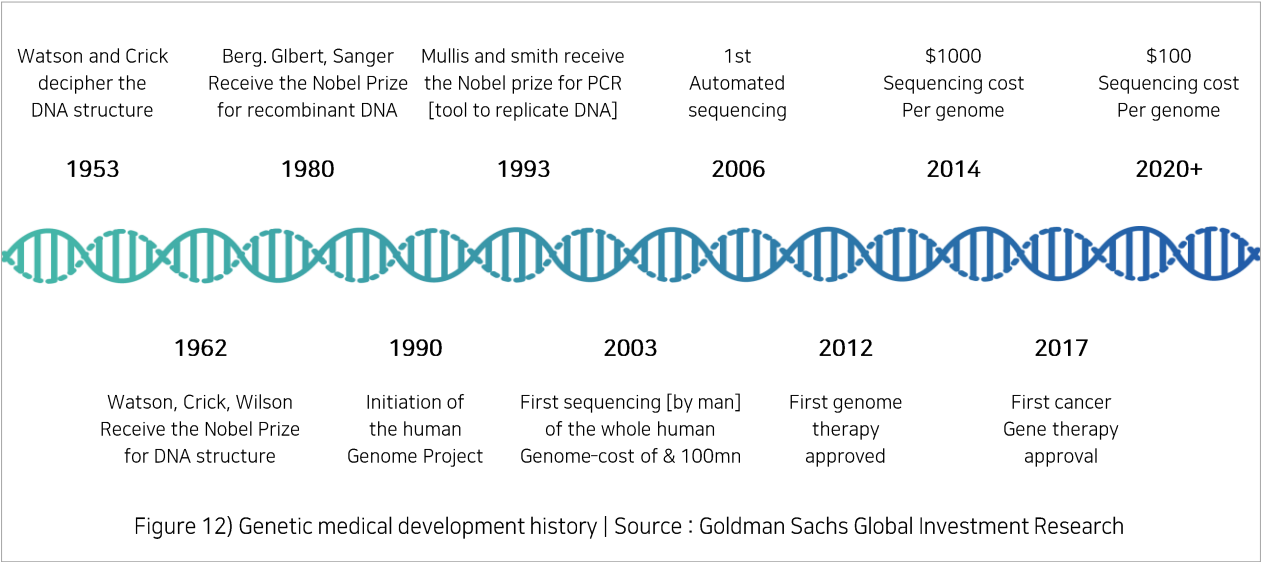
It is called DNA chemical crystallization and uses purified double-stranded

- Chain-termination methods

called Sanger sequencing

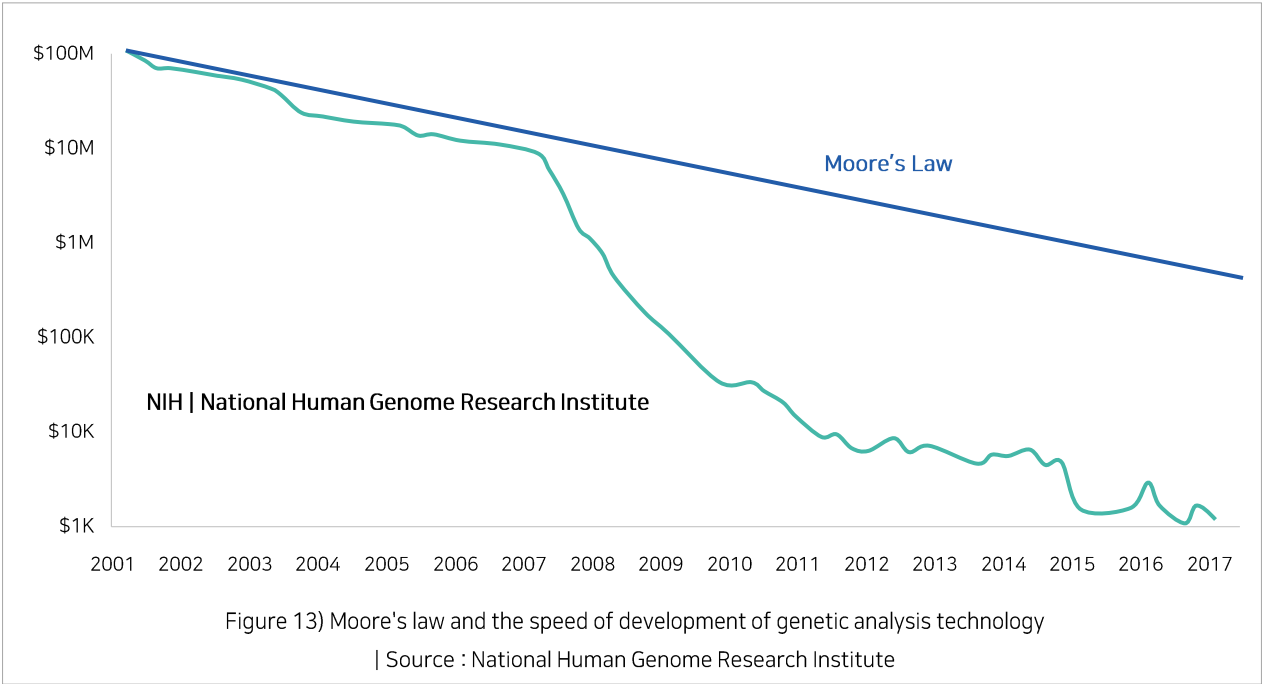
- Next Generation Sequencing (NGS)

A high-speed analysis method for genome sequencing that processes DNA fragments in parallel NGS is divided into two methods: Pyrosequencing, which allows simultaneous DNA analysis, and Illumina sequencing, which has fewer fatal errors for analysis, depending on its characteristics.

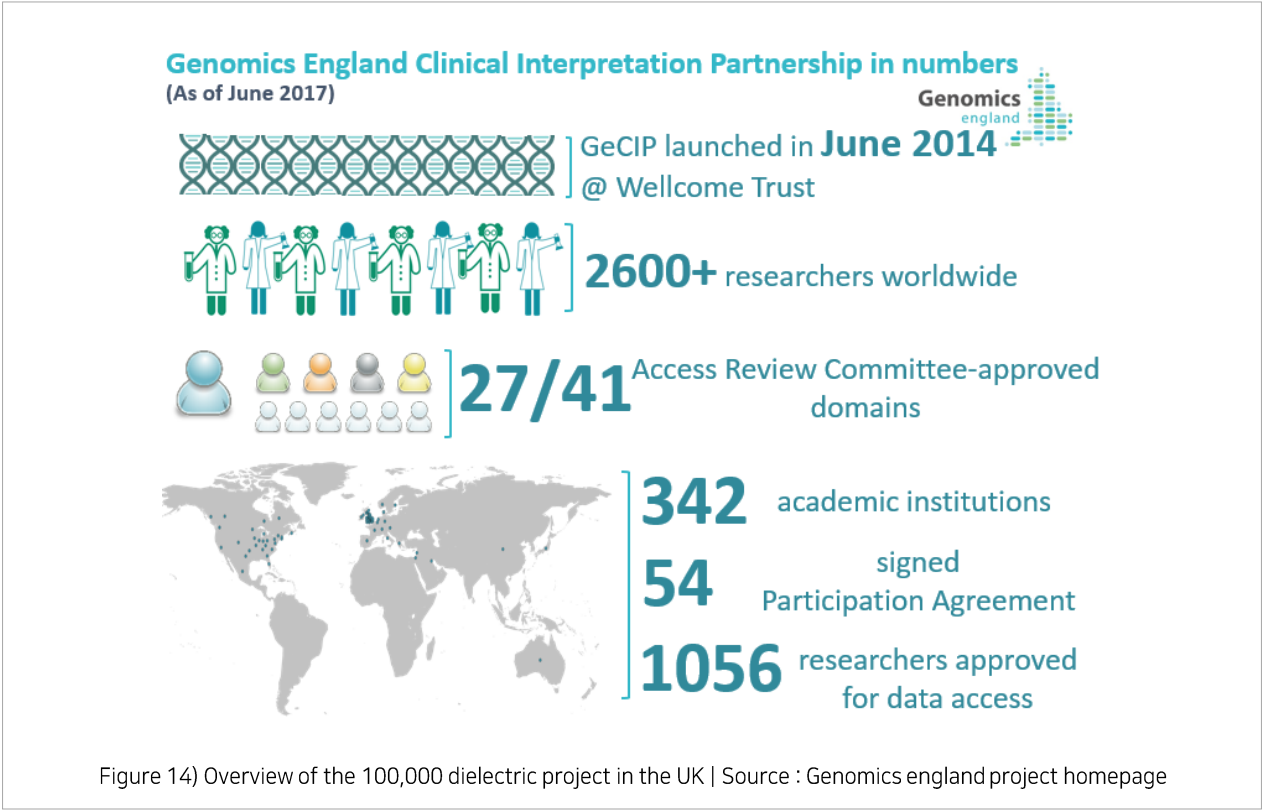


The first gene analysis technology was invented in the 1980s and did not show much technological development until the mid-2000s, but after entering the era of next-generation genetic analysis in 2006, the gene analysis industry has achieved the fastest technological growth in human history, at least until now. field. According to the announcement of the National Human Genome Research Institute in the United States in 2014, when comparing the speed of development of genetic analysis technology to Moore's Law, which symbolizes the overwhelming performance improvement

of semiconductor technology, From around 2008, the cost of sequencing, a genetic testing method, fell at a rate that surpassed Moore's Law, and the analysis time was shortened concomitantly.



A representative genome analysis project is the 100,000 Genome Project in the UK. Currently, the 'Genomics England Clinical Interpretation Partnership (Ge CIP)' has been formed to decode the entire genome of a patient derived from 13 genome centers. BAM/VCF files of data are being provided/cooperated with researchers around the world.



To date, the GeCIP Consortium has more than 2,600 researchers and more than 300 research institutes from 25 countries. In addition to partnerships with researchers and research institutes, partnerships with various genomic analysis and pharmaceutical companies are underway. In particular, it has attracted approximately KRW 73 billion of investment from Illumina, and is also working on partnerships with various business fields, such as receiving donations of their genome analysis pipelines and analysis tools from 5 genome companies. In addition, 13 global pharmaceutical companies (AbbVie, Alexion, AstraZeneca, Biogen, Dimension Therapeutics, GlaxoSmithKline, Heromix, Roche, Takeda, Verge, Boehringer Ingelheim, etc.) participated to commercialize new drug development. I am doing it.

5-3 Consumer Directly Requested Genetic Testing

“The size of the global DTC genetic testing market was 80 billion won in 2015, and it is expected to increase by 25.1% every year and exceed 400 billion won by 2022.”

The rapid technological development of the scientific and medical fields related to the extension of human lifespan continues to appear in the media, and as social and cultural interest in well-being spreads, individuals' interest in their own health is increasing explosively.

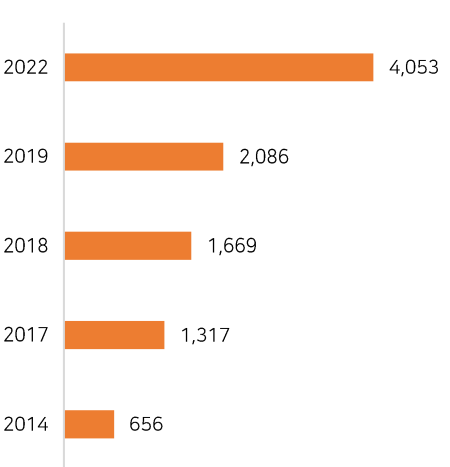
A variety of health check-up related services are provided in the interest of health and disease prevention, one of which is DTC (Direct To Consumer) genetic testing. DTC is a genetic testing service in which consumers directly request a genetic test or genome analysis from a genetic testing institution or genome analysis company without going through a medical institution. The difference from the health-related services so far is that consumers do not visit medical institutions such as hospitals or health check-up centers, but directly send their own samples to a genetic testing institution (non-medical institution) of their choice and request a genetic test. It is a service that receives results directly.

While it has the advantage of being helpful in personal health management through information on specific diseases by simplifying a lot in terms of time and procedure, technical and legal aspects because it handles special and sensitive information such as genetic information The disadvantage is that limitations may occur in.

Status of DTC genetic test regulation by country

Korea	Disease risk prediction test is not allowed There are limited items allowed for disease prevention test.
The US	Designating prohibited items for inspection. Other than that, there is no limit to the negative system.
China	A test can be freely inspected without regulation.
Germany	DTC is considered a medical scope and is not allowed.
The UK	Genetic test precautions and medical staff counseling are recommended.

Figure 15) Global DTC Genetic Test Market Size (Unit, Million won)



Controversy over DTC genetic testing regulation

Agreement	Division	Opposition
oo much regulation, which is a obstacle to the market.	Expansion for test items	It is questionable whether it is a necessary test.
Need to expand the options for consumer health.	Relaxation of regulation	Concerns about unnecessary abuse of genetic testing.
After testing, data are discarded to ensure security.	Personal medical data	Concerns about information leakage in the name of building big data.

Due to the introduction of a different type of DTC genetic test from the existing diagnostic test, different regulations are being implemented in each country. The main issues of the regulation implemented as above are that there is no intervention by a medical institution even though it is a disease-related test among health-related test items, and that the KIT for sample collection provided by consumers is similar to existing in vitro diagnostic medical devices. In this regard, active discussions are ongoing according to the current situation of each country. The regulations regarding DTC inspection in each country are as follows.

- USA: Genetic testing of about 30 items is possible. Examination is allowed mainly for serious diseases
- UK: few regulations
- China: Genetic testing of about 300 items available (including serious diseases such as Parkinson's disease and Alzheimer's)
- Japan: Genetic testing of about 260 items is possible (including serious diseases such as Parkinson's disease and Alzheimer's)
- Korea: Only 46 genes in 12 items 1) can be tested (not including serious diseases)

In direct-to-consumer genetic testing, consumers only need to send their samples (saliva, body hair, etc.) to the DTC genetic testing facility. The method of sending can be done by visiting an inspection agency or simply by mail. Consumers can receive additional services such as their own genetic test analysis report and health information based on individual genetic test information, as well as reports that can help with recommended food and constitution management.

According to a research report published by Global Market Insights published in December 2018, the wide availability of direct-to-consumer genetic testing for the early detection and prevention of oncology and other genetic diseases, as well as the global potential for genetic diseases and rare The growth of the DTC genetic testing market is expected to be driven by the increase in the discovery or expression of the disease in the future. In addition, as awareness among patients for early diagnosis of disease increases, it is expected that early diagnosis of disease will be activated, resulting in a decrease in mortality due to disease by receiving timely treatment. However, in the DTC genetic testing market, innovation in technology that can provide the accuracy and precision of genetic testing and reliability in the analysis results of genetic information will be a necessary element to further enhance business growth during the forecast period. .

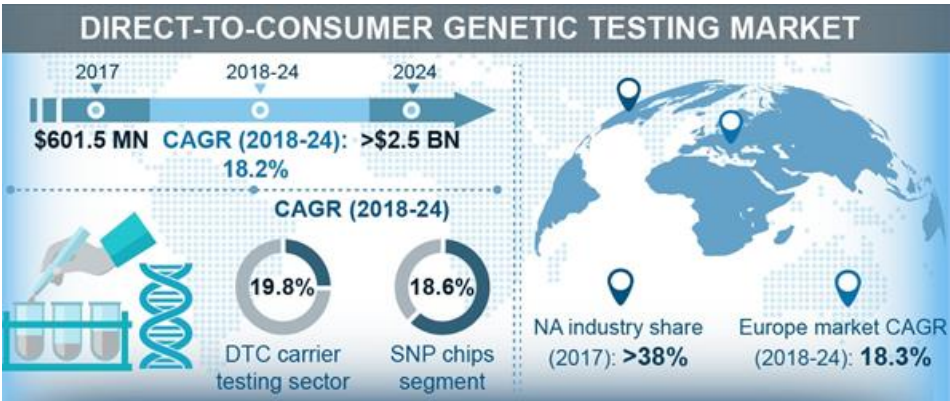


Figure 16) The current status of the genetic testing market requested by consumers themselves

| Source : Global Market Insights

1) 12 categorie (There are seven items, including Body mass index, Triglyceride level, Cholesterol, Blood sugar, Blood pressure, Vitamin C level, Caffeine metabolism and five items, including Pigmentation, Hair loss, Hair thickness, Skin aging, Skin elasticity.

5-3-1 Representative DTC Market

- North America: The North American DTC genetic testing market accounted for more than 38.0% of the global market in 2017, and is expected to show a similar trend in the future. This high growth is attributed to the increased incidence of genetic disorders including cancer, neurofibromatosis, spinal muscular atrophy syndrome, and Turner syndrome in the region. The development of new tests for potential allergy prediction, drug response and risk of cardiovascular and other diseases will increase the demand for DTC genetic testing. Also, increasing people's interest in health, along with favorable regulatory changes for DTC genetic testing, will propel the market growth in the near future.

- Europe: The European market is expected to show a lucrative CAGR of 18.3% CAGR (Compound Annual Growth Rate) due to the increase in the incidence of several types of cancer. Hereditary cancer is the main cause of metastasis and mortality in cancer patients. For this reason, the DTC test, a direct-to-consumer genetic test in Europe, is being used to identify genetic causes, including cancer.

5-3-2 Competitive Market Share

Companies that are prominent in the genome-related market include 23andMe, Foundation Medicine, and Pathway Genomics. Industry leaders are primarily focused on strategic expansion through mergers, collaborations and acquisitions to strengthen their position in the market and strengthen their existing product portfolio. For example, in August 2017, Pathway Genomics signed an agency agreement with Medikonia, allowing them to sell their products in Hong Kong through Medikonia, a Hong Kong-based solutions-based service provider.

Among them, the main business of 23&Me, a popularly successful company, is expected to continue to expand into Personal Genome Service Genetic Health Risk. The following is a representative DTC-related announcement in the United States.

- 2017. 04 | 23andMe: Acquired FDA approval for DTC inspection service for 10 diseases including Parkinson's, Alzheimer's, celiac disease, type 1 Gaucher's disease, and hereditary thrombosis
- 2017. 11 | US FDA: Product-specific review of regulations on DTC service providers for genetic testing that can predict disease risk
announced a policy to simplify screening by company
- 2018. 03 | U.S. genetic analysis company 23andMe: BRCA breast cancer gene DTC (Direct-to-Consumer) Request) inspection service, first approved by the US FDA

- Consumers order directly online, spit saliva (saliva) into the collection tube delivered by courier, register the container with a bar code, and send it to the laboratory
- Analysis of saliva samples usually takes 6-8 weeks, and the analysis results are checked online
- Provided in the form of analysis included in the existing health disease analysis service (Health + Ancestry Service)

Figure 17) 23andMe's saliva collection kit for family use | Source : 23andme homepage



The demand for DTC is expected to increase due to the growing interest in health and medical care around the world. Accordingly, the DTC industry is expected to achieve rapid growth.

5-4 Current and Future of Genome Testing Market

“The global genome market is expected to grow at a CAGR of 10.6% from \$18 billion in 2019 (about KRW 20.1 trillion) to \$26.96 billion (about KRW 30 trillion) in 2023.”

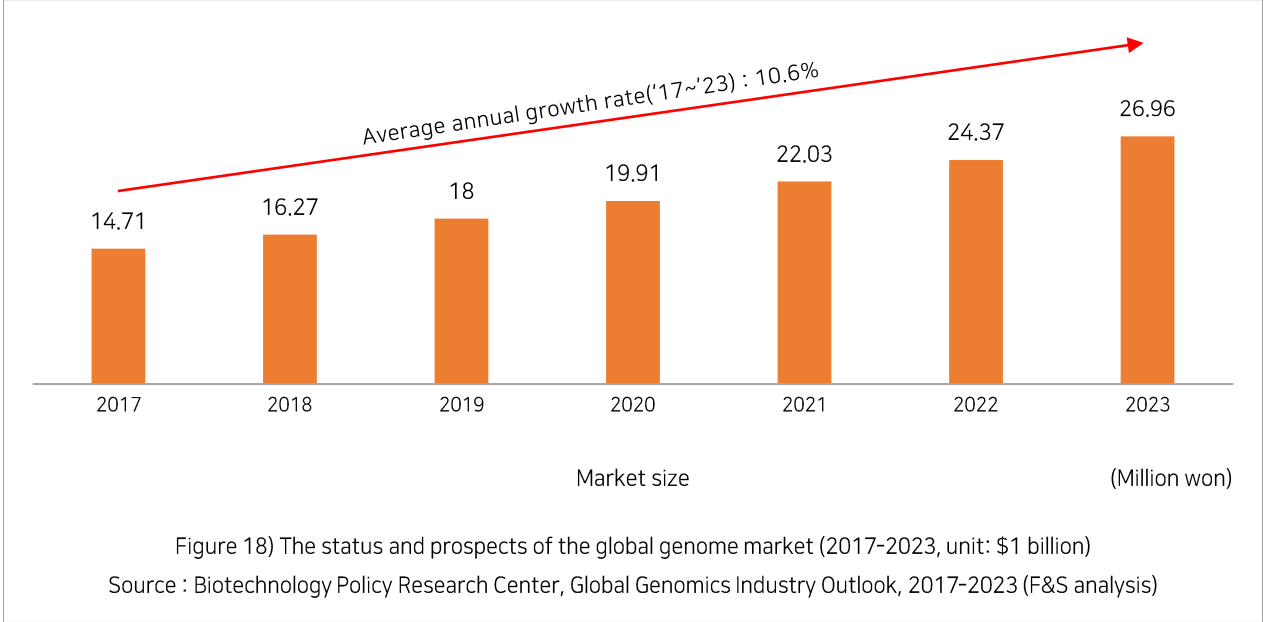
Genomics refers to the study of the genetic material and genome of an organism that can understand its structure through DNA sequencing and mapping.

With the advent of next-generation sequencing, or NGS, the cost of analyzing one genome at the time of the Human Genome Project in 2000 has drastically reduced to about 1 million won now. In addition to the cost, the analysis time is also rapidly decreasing, and the demand due to this is estimated to be more than 1 billion people by 2025, and the size of the related genome-related market is expected to increase by more than 100 trillion.

Year	Main agent	Technology	Lead time	Cost
2000	Human Genome Project	Sanger sequencing	10 years	\$3 billion
2000	Celera Genomics	Sanger sequencing	4 years	\$300 million
2007	Craig Venter Institute	Sanger sequencing	4 years	\$70 million
2007	Baylor College of Medicine	Roche 454 (James Watson)	Several months	\$1 million
2007	Beijing Genome Institute	Illumina, Solexa	Several months	\$500,000
2009	Stanford University	Helicos, Heliscope	Several months	\$48,000
2009	Genetic Medicine Research Institute at Seoul National University of Medicine	Illumina, Solexa, Macrogen	Several months	\$30,000
2010	Complete Genomics	Complete Genomics	Several months	\$4,400
2011	Life Technology(ABI)	SOLID5500, NGS (2 nd generation)	48 hours	\$3,000
2012~2013	The Ion PGM™	Next-NGS (3 rd generation)	8 hours	\$2,000
2014 ~	Oxford Nanopore(TBD)	Nanopore (4 th generation)	15 minutes.	\$1,000

Table 1) Developer of sequencing technology | Source : Medigate

The genome market is growing at an average annual rate of more than 10% due to the increase in expectations and demand for personalized medicine, increase in government investment and subsidies/funds, and technological advances related to genomics and the increase in use in diagnosis due to the decrease in DNA sequencing analysis cost. Analytical reports predict that



Accurate diagnosis, effective treatment, and disease prediction and prevention by utilizing genomic data obtained through nucleic acid sequencing are expected to not only improve the quality of life of individuals but also contribute to more effective health care management and reduction of medical expenses. is becoming As a result, innovative treatments are being actively developed, and the global genome testing market is growing rapidly every year with the expectation that diseases with high genetic probability can be diagnosed at an early stage.

In the regional genome market, North America is expected to occupy the largest size from \$4.96 billion in 2017 to \$8.74 billion in 2023, while Europe is showing the fastest annual growth rate of 12.7%, and the Asia-Pacific region is relative with 9.6%. is expected to show a low growth rate.



In particular, as the size of genome data increases, the data analysis-related market is expected to grow rapidly. Recently, as the importance of big data grows, the demand for the utilization and analysis of the secured genomic data as big data is expected to increase, and issues related to data security and efficiency are also expected to be raised.

In 2016, IBM's artificial intelligence (AI) computer, Watson, successfully diagnosed cancer. Founded, announced plans to create the world's largest next-generation sequencing lab and security database with the goal of creating an ecosystem of consumer-oriented genome applications using big data. Finally, in 2018, a business plan was announced for a service that fuses individual genomic data with block chain technology, where the buyer who needs the data pays the price to the individual, and the individual safely provides encrypted genomic data. Nebula Genomics, LunaDNA, and EncrypGen are some of the companies that use this block chain encryption technology to share genomic data as a business model.

Among cutting-edge IT technologies, expectations for blockchain are rising, and this can be seen in a healthcare-related report conducted by IBM in 2017. According to the research report, in 2017 alone, 16% of about 200 healthcare-related companies announced that they were preparing a data sharing service using blockchain technology. If security is strengthened by applying blockchain technology to individual genetic information, which is sensitive information among personal information, 23andme of the United States and GlaxoSmithKline (GSK), a global pharmaceutical company, which became a big issue in the genome industry in 2018,) companies using genomic data to jointly develop new drugs, the controversy over privacy infringement will not occur.

5-5 Genetic Analysis Market Limitations and Challenges

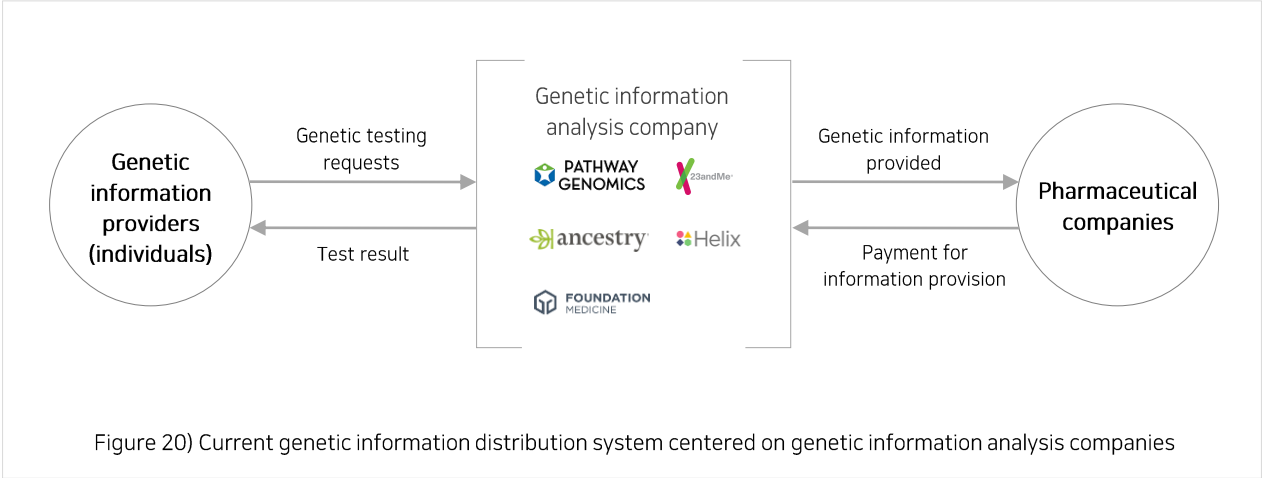
"Personal genome data, called the 21st century crude oil, will accelerate the realization of precision medicine. However, if genomic data is used only for the benefit of a specific company, it will act as a hindrance to proper market growth."

As can be seen from the genome market trends and forecast statistics presented so far, the growth of the genome market is accelerating the development of medical technology and genetic engineering as well as related application technologies. In addition, the genome market and individual genome analysis fields are considered as an approach and tool to advance the era of precision medicine.²⁾ Therefore, in the future, Whole Genome-seq, Transcriptome-seq, and Epigenome It is predicted that precision medicine will become a reality through large-scale research such as sequencing (Epigenome-seq). As precision medicine becomes a reality, it is expected to bring innovation to the treatment of incurable diseases and the development of new drugs. However, these innovations will not only come from advances in sequencing techniques, but will also come from the smooth acquisition of genomic data from patients or clinical trial participants. The corporate value of 23andMe, which has more than 4 million individual genome analysis results, was valued at approximately KRW 3 trillion (USD 2.5 billion) in 2018³⁾ can be viewed as a representative model showing the industrial value of personal genome analysis data.

2) Auffray C, Caulfield T, Griffin JL, Khoury MJ, Lupski JR, Schwab M. From genomic medicine to precision medicine: highlights of 2015. *Genome Med.* 2016;8(1):12.

3) <https://pitchbook.com/news/articles/scoop-23andme-is-raising-up-to-300m>

Individual genome data analysis companies such as 23andMe, Foundation Medicine, and Pathway Genomics are making huge profits by providing the analysis data accumulated in the process of collecting and analyzing the genome information of millions of people to world-class pharmaceutical companies and research institutes. In addition, in the process of collecting and analyzing genomic information, individuals are forced to give up their rights and entrust them with ownership and control of genomic analysis information. This can be interpreted as a single device made for selling/distributing the personal information collected by DTC companies to multiple consumers (pharmaceutical companies, etc.) Pharmaceutical companies, etc.) can be interpreted as taking profits by incurring unnecessary social costs in the intermediary role.



If we want to continue the development of precision medicine based on high-quality genomic data, we will soon reach a limit in the genomic data distribution environment as above, and a governance structure such as an information distribution system for specific companies will be formed. The data sovereignty of the genomic information provider must be returned to the individual, and a new concept of ecosystem that can directly provide information to pharmaceutical companies and research institutes that want to use genomic data to develop new drugs and improve treatments for incurable diseases must be created. will do Therefore, it is necessary to introduce a voluntary and active network system in which individuals who provide information, not specific companies, can directly manage access rights and control of their biometric data and genomic analysis data, and sell or donate them directly to demanding organizations. .

5-6 Genome Data Distribution and Blockchain Technology

“It is necessary to create a new ecosystem based on blockchain technology to directly connect the providers and consumers of genomic data.”

As described above, the current genomic data distribution structure is a distribution structure that collects individual genomic data under the leadership of a genetic information analysis company, receives entrustment of management and access rights from the individual, and resells it to pharmaceutical companies and demanding companies. I have it. In terms of economic structure, it can be seen that genetic information analysis companies are taking huge brokerage fees despite their role as intermediaries using genomic information as a medium. If information is exchanged through a P2P network system that can directly connect the information provider and the consumer, and the consumer directly and actively pays and compensates the information provider, the above inefficient and unreasonable structure can be improved. there will be

Blockchain technology makes it possible to build such an active information sharing system based on a decentralized network system. Various stakeholders participating in the block chain network respond directly to the requirements of the requesting organization for biometric data, including the genome data of the information provider, based on an active decision-making structure to safely store information from the risk of information forgery/falsification and theft. It will be possible to exchange information between stakeholders by using cryptocurrency (Token, Coin, etc.) a reward system can be built

Global Sequencing Alliance Strategy

“Whoz Platform is a DNA Sequencing Data Sharing project for people all over the world. Anyone in the world will be able to access the Platform anytime, anywhere and use the Platform’s resources.”

6-1 Establishment of Global Sequencing Alliance

The Whoz Platform is based in Gene Information Ltd, UK (hereinafter referred to as the ‘Whoz Team’), a sequencing headquarter in the United Kingdom, to establish a global sequencing alliance so that anyone around the world can actively analyze and identify their genome information. to do. Through the Whoz team, we will establish business alliances and alliances with sequencing specialists distributed around the world so that anyone around the world will be able to freely analyze their genome information and receive the results. The UK has the most favorable legal, economic and geographic environment in the DTC-GT (DTC Genetic Testing) area among the developed countries in the global genetic field. Therefore, we plan to establish a systematic and safe information management system by setting up the headquarters of the Federation of Worldwide Sequencing Institutions in the UK and establishing partnerships and work procedures with specialized agencies in charge of branch offices and representative branches for each continent. All relevant information management tasks and partnership system business promotion will be carried out on the Whoz Platform. The detailed plan for establishing the Sequencing Alliance is as follows.

- Sequencing HQ (sequencing headquarters) is established in the UK, and an MOU is signed to establish a business partnership system with DTC specialized organizations distributed in Europe and around the world.
- By designating a representative DTC institution for each continent (EU, Africa, CIS, Central Asia, East South Asia, North America, and South America for a total of 7 continents), we establish a business partnership system with DTC institutions in each country.
- Each DTC institution will be classified according to the size that can be accommodated (the number of sequencing analyzes that can be processed at one time) for each DTC institution, and will manage the goal so that it can respond to information requests of more than 5,000 people on each continent at the same time.
(Class A for less than 1,000 people, Class B for less than 3000 people, Class C for less than 5000 people, Class D for more than 5000 people)



Figure 21) Global Sequencing Branch establishment plan

The alliance stages of the Sequencing Branch “DTC-GT” by major global bases are as follows.

Step	Activities
HQ Establish	Establish GI(Gene Info Limited) in the UK
Research & Organize	It summarizes the information of DTC institutions distributed around the world.
Contact & Propose	GI will be hosted to present the vision of the Whoz platform and propose to participate in the Alliance.
Negotiation & Contract	The MOU is concluded by evaluating the ratings of each institution and discussing the distribution rate of sequencing costs (sales) and details of Token distribution.
Marketing & Etc.	In order to promote sequencing work, each country promotes Whoz platform promotion work and practice.

Table 2) Alliance stage of sequencing branches "DTC-GT" by major global bases.

6-2 Legal environment analysis and response strategies related to the distribution of personal genetic information

As the global genetic testing market for consumers develops, the regulatory environment is being established as related laws and regulations are revised centering on advanced countries in the medical and genetic fields.

Under the European Data Protection Act (GDPR), Europe requires that genetic information and biometric data be included in a list of sensitive information that uniquely identifies a natural person and managed. In the United States, the “HIPAA Privacy Regulations” enacted in 2002 define measures to protect personal genetic information for all organizations that handle personal medical information, and in particular, purchase insurance and use medical services based on genetic information. In Korea, the “Bioethics and Safety Act,” which has been in effect since 2005, strictly regulates the conduct of testing and distributing personal genetic information. . On the other hand, in Japan, there is no special legislation related to genetic testing, and there is no regulation that mentions DTC. However, it is recommended to be included in the general regulations on the handling and handling of personal information.

Whoz organized an advisory group composed of top experts in the field of genetic law to analyze the global regulatory environment and researched the optimal location to build a platform for sharing genetic information that people around the world can trust. We promote a business strategy by establishing a business alliance network with genetic testing institutions.

. Whoz Platform will notify the details of information provider's request for sequencing (sequencing) through the platform's official website and application service (dApps) to be released in the future, as well as the storage and management of gene information analysis reports. After obtaining explicit consent for information use from the provider, related tasks will be carried out. In addition, when a specific individual's genetic information is distributed (inquired, read, copied, transmitted, etc.) to a third party institution or individual, the information that separates personal identification information and personal health information is de-identified and anonymized, and finally We intend to maintain a reliable information protection system for information providers by distributing them after passing through the individual's consent to use information.

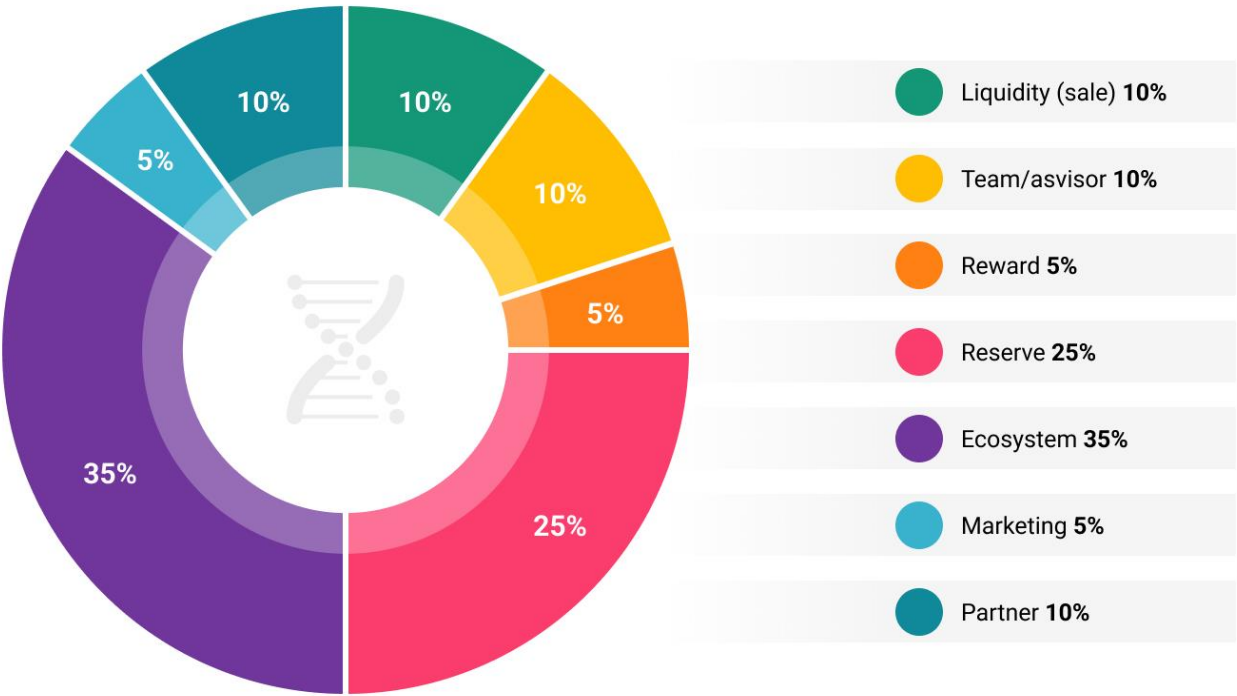
4) GDPR(General Data Protection Regulation) official website.; <https://eugdpr.org/>
5) Department of Health & Human Services (US) [homepage on the internet]. Washington, D.C.; [updated 2006 May 16; cited 2006 June 21]. Available from: <http://www.hhs.gov/ocr/hipaa>

Milestone



Figure 22) Whoz Platform Milestone

Allocation



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Buyers are deemed to be clearly aware of the following risks in the sale and holding of Whoz tokens:

1. **Blockchain risk:** Transactions may be processed late or invalidated due to congestion in the blockchain system. In particular, the Ethereum blockchain may cause a user's transaction to be canceled or delayed.
2. **Personal Information Risk:** User's personal information is necessary for distribution and control of Whoz tokens in the Whoz token purchaser's electronic wallet. Therefore, if personal information is leaked, the Whoz token in the buyer's e-wallet may be leaked. Moreover, due to the leakage of the buyer's personal information, a third party may access the buyer's e-wallet and steal the Whoz token.
3. **Ethereum Risk:** The smart contract responsible for the issuance and distribution of Whoz tokens is based on a technology called the Ethereum blockchain. Blockchain systems are still in the early stages of development and have not been sufficiently verified. The fact that there will be no errors in the development process of Whoz token is not guaranteed. The Ethereum protocol may have weaknesses and vulnerabilities, and various bugs may occur, including a bug in which the Whoz token is lost. In addition, these problems with the Ethereum blockchain may cause material damage to the purchasers of Whoz and Whoz tokens.
4. **Security Risk:** Like all virtual currencies, Ethereum is vulnerable to mining attacks such as 'double-spend attack' or '51% attack'. Hackers or other groups with malicious intent can attack Whoz or Whoz tokens with the above attack methods, and if such a block chain attack is successful, Whoz token transactions and Whoz tokens can be severely damaged.
5. **Electronic wallet compatibility risk:** To purchase or store Whoz token, you must use an electronic wallet that is technically compatible with Whoz token. If you use another wallet, you may not be able to access and view the Whoz token you purchased.
6. **Token transaction risk:** Whoz tokens are designed to be used only on the Whoz Platform and are not optimized for secondary token transaction platforms or external use. Also, Whoz token is not recognized as a commodity, and Whoz token has a great risk that its value may drop to zero.

7. Non-current asset risk: The Whoz token may have no value within the Whoz Platform, and there is no guarantee for the liquidity of the Whoz token. Please note that Whoz does not take any responsibility for the market value, transferability, liquidity, and value of Whoz tokens in external organizations or within the Whoz Platform.

8. Uninsured loss risk: Whoz token and blockchain system are not insured unlike bank accounts or institutional financial institutions. At this time, we would like to inform you that there is no insurance company that compensates users for loss of Whoz token and loss due to Whoz token depreciation.

9. Market Competition Risk: Whoz believes that other similar platforms and applications, as well as unauthorized open source code or open source protocols, may adversely affect Whoz or Whoz tokens.

10. User risk: Even if the Whoz Platform is completed and released, there is a possibility that the Whoz Platform will not be used by many users or only a few will use it. A lack of interest in these markets could affect the potential value of the Whoz and GIF ON projects.

11. Development and maintenance risk: Whoz Platform is still under development and may undergo major changes over time. Whoz will endeavor to develop and maintain the Whoz Platform as it is written in the white paper, but changes may occur in the details of the Whoz token and Whoz Platform for various reasons such as legal reasons, design, technology, and regulation. Please note that the above changes may differ from the expectations of Whoz token purchasers or prospective purchasers.

12. Project failure risk: All information written in this white paper has not been verified for a long time. Whoz projects may not be completed or implemented due to reasons such as lack of public interest, failure to raise funds, lack of commercial value, and leakage of key personnel. In the case of the above, the Whoz project may be dissolved without a refund of the Whoz token.

13. Risk of uncertainty in the regulatory framework: Regulations on virtual currency and blockchain technology have not yet been established in many countries, and it is also very difficult to predict future regulations. These regulations may be negatively established and act on the Whoz Platform in the future. In this case, Whoz may suspend the development of the Whoz Platform, and may suspend services under governments that prohibit these activities legally or commercially.

14. Medical industry risk: Due to the nature of handling medical information that is sensitive personal information, the medical industry has more legal regulations than other industries. Genetic information of DNA suppliers distributed on the Whoz Platform is also very important and sensitive information under relevant laws. Depending on the nature of the Whoz business model that handles such sensitive information, Whoz token buyers should understand that the Whoz project may be partially restricted or completely banned due to medical industry regulations in each country.

15. Licensing and licensing risks: Although there are currently no legal requirements for Whoz token sales such as licenses and approvals, there is a possibility that such restrictions will arise in the future. However, even if such regulations arise, Whoz will operate Whoz projects in accordance with the conditions of those licenses and accreditations. However, Whoz may suspend the sale of Whoz tokens and suspend the Whoz project if it determines that it is impossible to change the relevant laws within a suitable time and budget.

16. Taxation risk: The taxation system for virtual currencies is still unclear. Whoz token buyers must find out the taxation system for the acquisition, disposal, holding, and use of Whoz tokens themselves within their nationality, residence, or country of residence, which may have adverse consequences for Whoz token purchasers.

17. Other Unforeseen Risks: Virtual currency (Token), including Whoz token, is a new technology that has not been sufficiently verified. In addition to the risks listed above, many unforeseen risks may arise from purchasing, holding and using Whoz tokens. These unexpected risks or the risks listed above may appear suddenly without notice.