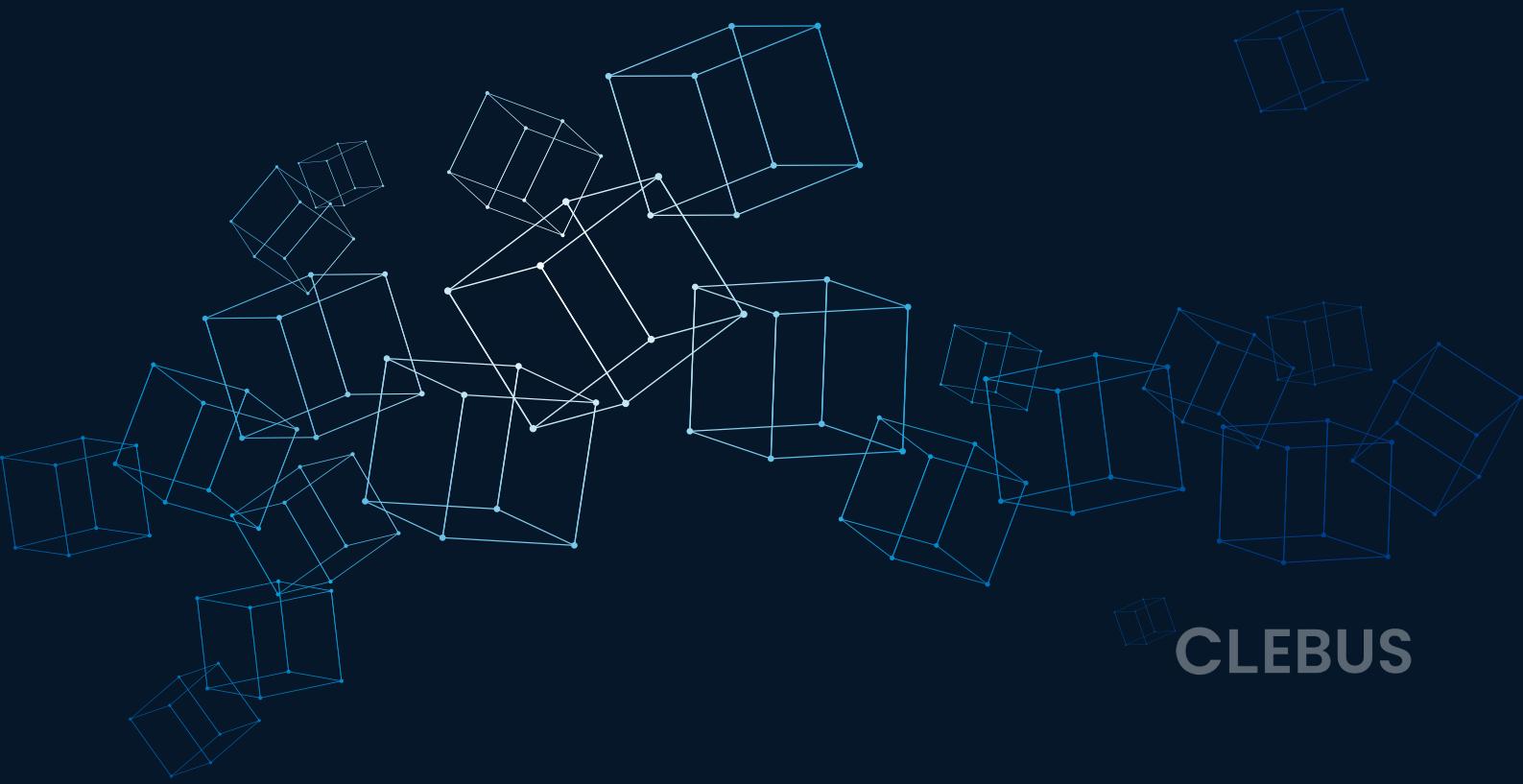




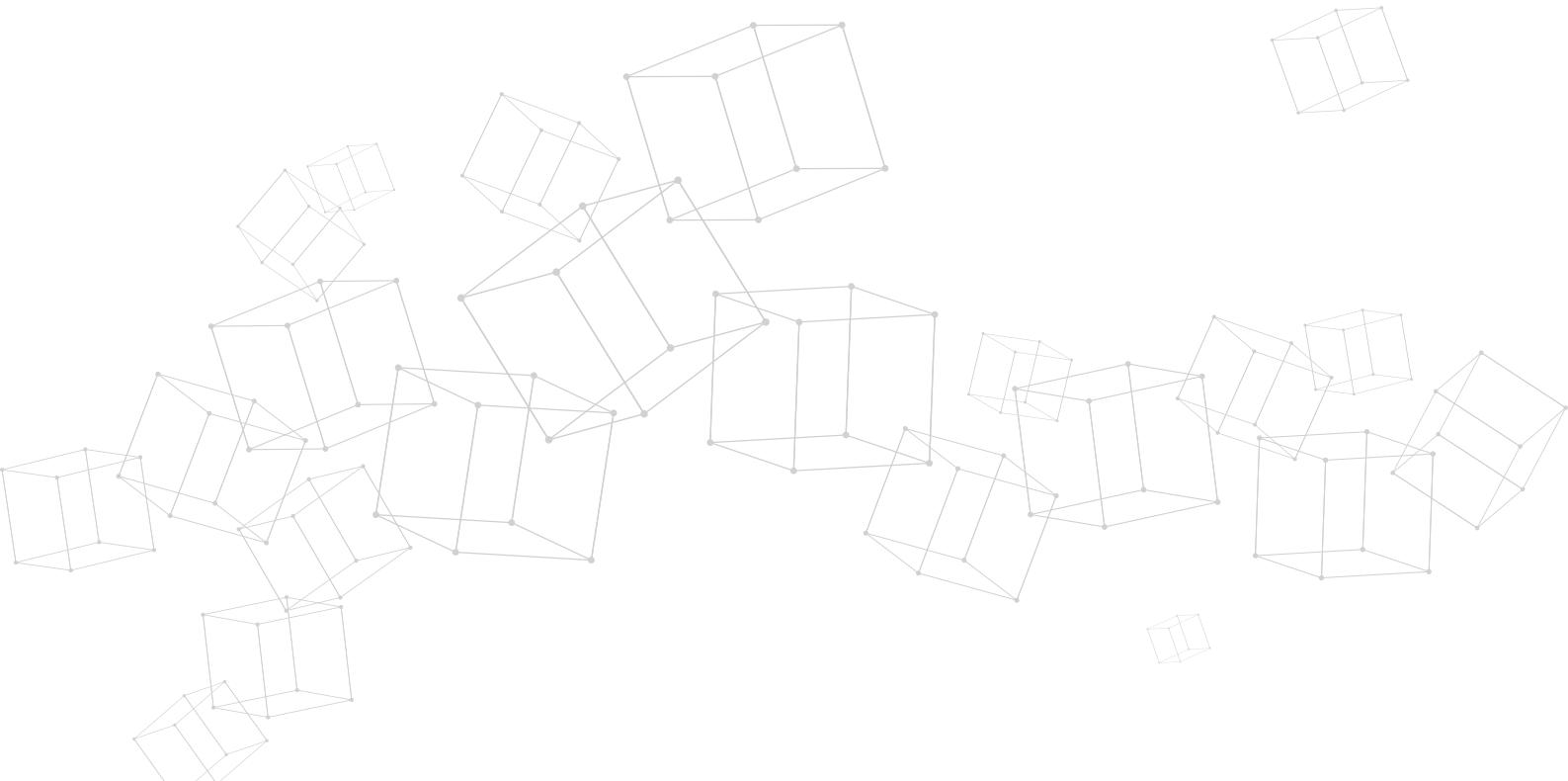
# CLEBUS WHITE PAPER

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# Table of contents

1. Introduction	4. CLEBUS Blockchain
2. Introduction	4-1. CLEBUS Network layer
2-1. Metaverse market	4-2. CLEBUS Blockchain POINT
2-2. Market size	4-3. ClebusX System
2-3. Market problems	5. CLEBUS-META
2-4. Alternatives to metaverse problem	6. CLEBUS-X
2-5. Legal considerations related to NFT	7. CLE
2-6. NFT & Metaverse	7-1. Personal wallet
2-7. P2P Virtual Asset Exchange & Metaverse	8. CLEBUS Roadmap
2-8. CLEBUS Team's mission	9. Legal Notice
3. CLEBUS Network	
3-1. Global payment system	
3-2. Ecosystem transparency	
3-3. CLEBUS Platform	



# 1. Introduction

The CLEBUS' worldview is a metaverse platform using blockchain technologies. This plays a positives' role in lowering the barriers to entry so these users can easily experience a virtual reality and metaverse through the advanced technologies developed on its own. Furthermore, various companies, developers and users build a metaverse ecosystem that leads a smooth virtuous cycle among ecosystem members provided by CLEBUS..

The metaverse industry is expected to expand further in the future. According to the analysis of the global market research firm Strategy Analytics, the size of the global metaverse market is expected to reach \$280 billion (about 315 trillion won) by 2025.

Metaverse is emerging as a new market where people can engage in social activities as in a real life through the virtual world. In other words, it is a more advanced concept than simple virtual reality. By directly participating in the virtual world beyond just viewing virtual reality through a screen, people can create and exchange values as in the real world. In particular, it is attracting attention as space to express the diversity and inclusion, which are important to the MZ generation (those born between the early 1980s and early 2000s).

In order to meet these requirements, the CLEBUS team proposes a metaverse platform based on NFT assets using blockchain technologies. Through this, the CLEBUS team aims to solve various problems occurring in the metaverse industry and creates an efficient virtual world of a new concept. The development direction of the blockchain-based metaverse industry suggested by CLEBUS is as follows:

In order to meet these requirements, the CLEBUS team proposes a metaverse platform based on NFT assets using blockchain technologies. Through this, the CLEBUS team aims to solve various problems occurring in the metaverse industry and creates an efficient virtual world of a new concept. The development direction of the blockchain-based metaverse industry suggested by CLEBUS is as follows:

**■ Providing high quality content :**

Building a public customized virtual space where you can experience various metaverses virtual realities such as sports, games, shoppings, educations, and exhibitions

**■ Ecosystem expansion :**

- 1) P2P virtual asset exchange: Virtual assets can be traded mutually without user's interference in a decentralized way
- 2) NFT Market: A space where various items can be developed, commissioned and traded under a stable ownership profession

## 2. Introduction

### 2-1. Metaverse market

In the era of 5G and cloud, domestic and foreign IT companies are expanding their investment in VR. According to a report from the Institute for Information & communication Technology Planning & Evaluation (IITP), leading global companies such as Facebook, Microsoft (MS), Sony, and HTC have been actively investing in VR in recent years. In the Korean market, a VR ecosystem is being created around the three mobile telecommunication companies.

In 2014, Facebook acquired Oculus, a VR headset equipment maker, and announced its intention to enter the VR market. Sony started to strengthen its VR market dominance by utilizing its position built in the video game market in the second half of 2020. In October 2019, HTC reduced investment in smartphone division and plans to focus both human resources and investment funds on VR. Korea's three mobile telecommunication companies create VR market environment based on 5G infrastructure. VR devices are developing even at this moment, and new VR-related contents are continuously being created and consumed.

Looking around us, you can see that the number of small VR rooms to large complex cultural spaces, VR theme parks, is increasing. The VR industry size announced by a market research institution is also expected to show a rapid growth in the future. The global VR market size, which achieved remarkable growth at a CAGR of 77.87% from 2016 to 2020, proves this. Referring to a three-dimensional virtual world where social, economic, and cultural activities like the real world take place, it was first introduced in 1992, in the novel «Snow Crash» by Neil Stevenson, an American SF writer. Metaverse is gradually attracting attention due to the development of information and communication technology following the commercialization of 5G and the acceleration of non-face-to-face trends due to the COVID-19 pandemic.

Metaverse is a compound word of the English word 'Meta', meaning 'virtual' and 'transcendence', and 'Universe' meaning the universe. It refers to a three-dimensional virtual world where social, economic, and cultural activities like the real world take place. Metaverse is a concept that has evolved one step further than virtual reality (VR, a cutting-edge technology that enables people to experience realistic experiences in a virtual world created by a computer). It is characterized by people being able to engage in social and cultural activities similar to real life using avatars, not just enjoying games or virtual reality.

Metaverse is a concept that first appeared in 1992 when American SF writer Neal Stephenson mentioned it in his novel «Snow Crash». In this novel, Metaverse refers to a virtual world that you can enter only through an avatar. Then, in 2003, the 3D virtual reality-based 'Second Life' game released by Linden Lab became popular, making Metaverse widely known.

In particular, Metaverse began to spread in the context of the commercialization of 5G with ultra-high speed, ultra-connectivity, and ultra-low latency, and the COVID-19 pandemic that hit the world in 2020. In other words, Metaverse is drawing attention as technologies that can implement virtual reality (VR), augmented reality (AR), and mixed reality (MR) have developed along with the commercialization of 5G, and the non-face-to-face and online trend spread due to the COVID-19 crisis.

## 2-2. Market size

The expansion of the metaverse industry is projected through several market surveys. Strategy Analytics, a global market research firm, forecasts the metaverse market to reach \$280 billion (about KRW 315 trillion) by 2025. Also, according to Kyobo Securities' analysis, the VR sector is expected to reach about \$1.92.4 trillion in 2030.

Defining metaverse as a new opportunity for the future, all major tech companies are developing and introducing various platforms and products. As of January 2021, Microsoft acquired ZeniMax Media and released 'HoloLens 2', a virtual reality-related device. NVIDIA has launched Omniverse, a collaboration platform where people can work together in a virtual office. Facebook also released 'Facebook Space' and 'Horizon', which are virtual space social communities. In Korea, Naver recently introduced 'ZEPETO', a platform that allows you to create avatars and virtual worlds using facial recognition and augmented reality, and to make and trade items such as clothing.

Among them, the most representative metaverse platform is Roblox, an American online game company. Roblox is a game platform based on the concept of a virtual world. Roblox is a Lego-shaped personal avatar that allows you to enjoy the game, chatting and calling between users and to make your own games. As of the end of last year, Roblox is very popular with students and children under the age of 16 in the United States with 32.6 million daily active users and 50 million games created within Roblox. Thus, Roblox made its debut on the New York Stock Exchange in March 2021, and became a company with a market capitalization of 45.2 billion dollars (about 51.32 trillion won) upon listed.



## 2-3. Market problem

Within the metaverse, an economic ecosystem due to asset ownership has been established. For example, Roblox, a US metaverse game platform, is selling cryptocurrency 'Robux' to users. Users can use Robux to purchase various items, emotions, and games. They can also work as a creator who creates content within Roblox, and generate revenue for it. However, as the value of the goods traded increases, the proof of ownership of the goods is required. For example, suppose you must purchase a building of great value in a virtual world. Even if you buy a building with real currency in the virtual world, there is no way to prove it. Therefore, users must trust and rely on a centralized platform that will prove and protect their assets. As shown above, proof of ownership of the purchased goods becomes an important issue as the actual transaction amount increases.

## 2-4. Alternative to metaverse problem

On the metaverse platform, although the type is the same as in reality, there will be many crimes that cannot be sanctioned because there is no standard to apply the jurisdiction. Cross-field problems may arise due to technological development, infringement of basic human rights and the right to be forgotten, infringement of intellectual property rights, including violence in the digital world, sex crimes, fraud, and invasion of privacy due to excessive information gathering. In addition, if you immerse yourself in the metaverse excessively, you can feel a sense of separation between me in the real world and me in the virtual world.

Intellectual property infringement issues include copyright, trademark, and recognition of an Avatar's publicity right. All metaverse users are consumers as well as creators. For that reason, content created and developed by users must be copyrighted, which sometimes leads to slightly complicated legal disputes. For example, in 10 days after Gucci released an item, more than 400,000 secondary contents using Gucci IP were created. Generally, in metaverse platforms such as Roblox or ZEPETO, users have the copyright to the creations created by users, and metaverse operators are given a comprehensive license for the 'use' or 'service' of the creations, but there are still many minor disputes.

In addition, there are various problems such as sexual harassment using deepfake technology and problems derived from the development of VR and AR technology itself. In order to respond to these issues, the EU has recently established AI ethics guidelines, and Korea has established AI ethics standards focusing on private self-regulation. It will be necessary to establish a level of regulation that does not impede technological advancement.

In order to solve the above problems, the CLEBUS Team constitutes the CLEBUS metaverse ecosystem by stably and transparently providing the items and contents created in the CLEBUS metaverse through NFT, which cannot be forged or altered.

## 2-5. Legal considerations related to NFT

Due to the novelty of the technology and the inherent nature of various considerations from commercial, legal, and regulatory perspectives, the legal nature and classification of NFTs and the official interpretation of their regulations have not been clearly established in many countries, and NFTs are being reviewed continuously in each country. Since NFTs inevitably have underlying assets and represent rights to them, whether their legal nature corresponds to securities under the existing securities-related laws, or whether they are classified as goods or separate virtual assets, and the application of various related regulations according to the legal classification may be problems. In addition, due to the nature, NFTs can be traded across borders, so it is necessary to pay attention to and review overseas regulations as well as Korean regulations.

The risks related to money laundering, regulations, and security are separate from the issue of reporting virtual asset operators under the Act on Reporting and Usage of Specific Financial Transaction Information when NFTs are virtual assets, and the risk itself of being used as a means of money laundering of NFTs is also a problem. NFTs have a high risk of being used as a means of money laundering due to characteristics such as opacity, anonymity/confidentiality, mobility, and the representation of the value of the underlying asset. Regulators in each country may apply regulatory measures to prevent money laundering risks related to NFTs, so it is necessary to timely identify trends in relevant regulations and strive to comply with them. An example is the notice issued by the U.S. Department of the Treasury's Office of Foreign Assets' Control (OFAC) on October 30, 2020, regarding money laundering risks arising from the trading of expensive works of art.

In addition, NFTs have a high risk of becoming a target of cyber crimes. In particular, centralized NFT exchanges are highly likely to induce crimes by storing private keys. Therefore, individuals or companies trying to engage in NFT transactions need to check the security status of NFT-related platforms such as NFT exchanges, and NFT platforms also need to strengthen technical, physical, and administrative security devices.

As other issues (copyright issues for underlying assets), etc., if you want to purchase NFTs, you need to carefully check the content and scope of the rights represented by NFTs. In particular, it is important to note that purchasing NFTs does not automatically acquire the copyright for the underlying asset. In the case of an NFT with a smart contract added, it is necessary to carefully examine whether conditions for copyright transfer are added or the NFT issuer has the right to receive copyright royalties. If you want to sell NFTs, you must be careful not to take any legal responsibility for misrepresentation against the buyer by clearly indicating the contents and conditions of the NFTs you are selling. In many cases, business operators that issue NFTs often issue NFTs by signing contracts with creators or copyrights as well as assets they own directly. In this case, it is necessary to sufficiently discuss the main license conditions to be applied to the NFT and to minimize legal risks by specifying them in the contract to be concluded with creators and the NFT.

The implication is that NFT is a means of representing ownership and property value of basic assets such as various works of art and game items in the digital realm, and has a positive function of pioneering new asset domains and functions and expanding the distribution channels of assets. Companies, as well as individuals interested in capitalizing and monetizing NFTs, can capitalize their existing assets or create new digital assets to establish new types of business models and diversify revenue sources through NFTs. They may also consider NFTs as an investment target. Despite these positive functions of NFTs, the regulatory environment for NFTs is still uncertain, and risks of money laundering and security may be high. Thus, various reviews related to NFTs need to be conducted carefully with external experts.

## 2-6. NFT & Metaverse

With the rapid growth of the NFT market, the NFT trading volume has grown by about 25 times from \$300,000 at the end of 2020 to \$226 million in the first half of 2021. Based on digital scarcity and ownership, NFT, which started with games, is gaining popularity in the trading of art works. Global auction houses Sotheby, Christie, Phillips, etc. have entered the NFT auction competitively. In addition to works of art, NFTs of general creators are also being traded at high prices. In addition to the art field, sports and entertainment agencies have also entered the NFT market, and NFTs are rapidly spreading to various industries such as sports, media, content, and music source.

As the NFT market is showing explosive growth worldwide, operators in various fields are entering the NFT market one after another. Many companies, such as NFT leader Dapper Labs, global cryptocurrency exchange Finance, and DC Comics, have entered the market. In Korea, large companies, as well as Naver, Kakao, game companies, auction houses, content companies, and sports organizations are participating competitively. However, there are still a number of problems that are being derived, and solving them remains a task.

At the beginning of 2022, it will be a meaningful time to check the various applied technologies and cases of NFT and metaverse combination, which are rapidly emerging as the topic of the future economy, through experts, and to predict the success strategy of digital assets and changes in the ecosystem.

## 2-7. P2P Virtual Asset Exchange & Metaverse

Game companies aiming to advance into NFTs are also investing in virtual asset exchanges and seeking synergies in domestic and overseas markets. Generally, they have in mind the form of supporting transactions by turning game items into NFTs, but if they cooperate with virtual asset exchanges, it is easy to support virtual assets as a means of transaction, and their purpose is to quickly absorb users through login linkage, etc.

Recently, the atmosphere of small and medium-sized virtual asset exchanges has also changed. In fact, Huobi Korea recently decided to cooperate with Korea Real Estate Investment & Trust in the virtual asset custody project. At this time, it plans to support all digital assets including NFT.

It is thought that there are various business categories including virtual assets and NFTs. At the time when actual investment becomes visible, we think that the P2P virtual asset exchange will be at the center of the platform, where users of the platform do not receive offers but support transactions between users.

## 2-8. CLEBUS Team's mission

Starting with the P2P virtual asset exchange and NFT market using block chain technology, the CLEBUS Team tries to inspire innovation in the metaverse market by providing the CLEBUS metaverse platform and solving the above problems. As a group of blockchain experts, the CLEBUS Team has business experience such as blockchain-related development and marketing, and virtual asset exchange operation and management for many years. It is currently in the process of signing a business agreement with a company with experience in the metaverse business. Absorbing and integrating it into its affiliates, CLEBUS is the final platform that contains all ecosystems in the metaverse virtual space, allowing users to not only conveniently access and share information, but also use the platforms provided by multiple ecosystems with a single login, and receive rewards. The world view of CLEBUS is that each platform freely composes an ecosystem and enters one world view of CLEBUS. It starts with the P2P virtual asset exchange and the NFT market. We will build the ecosystem of the NFT market within the ecosystem of the P2P virtual asset exchange and support the presentation, distribution, and sale.

To realize this, the CLEBUS Team proposes the CLEBUS Network, a new virtual reality metaverse ecosystem using blockchain technology. In other words, it builds an efficient ecosystem that can receive reliable payment data in Metaverse through the advanced CLEBUS Network from ① developers, ② consumers, and ③ advertisers, and serves as a guide for collaboration. To this end, it eliminates the risk of data forgery and falsification through a network based on advanced blockchain technology. In addition, smart contracts are used to allow CLEBUS Network participants to obtain rewards commensurate with their contributions without a complicated process, thereby laying the foundation for a healthy ecosystem. This allows CLEBUS Network to provide an environment where each participant can focus on their own purpose and build a new interconnected virtual reality world.



## 3. CLEBUS Network

Starting with the P2P virtual asset exchange and NFT market using block chain technology, CLEBUS Network provides a global payment system so that all participants in the CLEBUS metaverse platform can engage in active economic activities in a new virtual world.

Participants can participate in the CLEBUS Network anywhere in the real world and received nationwide services. In the CLEBUS ecosystem, digital asset CLE is issued through TRC-20 based blockchain technology in order to overcome the shortcomings of exchange rate changes between key currencies, slow transfer speed, fees etc. The issued CLE virtual assets are free from fees and exchange rate between countries, and allow both developers and partners to join the CLEBUS Network in the future to join the token ecosystem built on a single blockchain network. This reduces cumbersome payment procedures, and also enables fast transmission. As shown above, the Network uses blockchain technology to lower the barriers to entry so that potential global partners can join, and positive expected effects are expected as a result.



### 3-1. Global payment system

CLEBUS Network can be defined as the underlying network that creates the CLEBUS platform ecosystem. Thus, it includes a payment system that securely protects and transparently records token transactions in the virtual world of CLEBUS Network. Using this system, participants can register and create NFT assets and content, and set the reward rate and economy of tokens. On the other hand, the virtual world of CLEBUS Network provides rewards to participants according to their contribution to the metaverse ecosystem, and guarantees transparency so these participants cannot forge or falsify when receiving them. In other words, it eliminates the risk of data forgery and falsification through a network using block chain, and utilizes smart contracts so these participants can obtain rewards commensurate with their contributions without complicated processes.

### 3-2. Ecosystem transparency

Ownership of items created and used in the new virtual reality metaverse ecosystem of CLEBUS Network is fully protected by smart contracts. In other words, any participant in the CLEBUS Network ecosystem can become a metaverse item producer, have ownership of the item, and will be protected, and continuous profit creation is possible through smart contracts. In other words, any participant in the CLEBUS Network ecosystem can become a metaverse item producer, have ownership of the item, and be protected, and continuously generate revenue through smart contracts. In this way, the utilization of the blockchain using the CLEBUS NFT market platform not only protects the ownership related to item making in order to create a sound market ecosystem related to virtual reality, but also encourages item producers to create more items, leading the virtuous cycle of the entire metaverse industry.

### 3-3. CLEBUS Platform

CLEBUS combines virtual reality metaverse with blockchain technology to enable O2O services in various industries. In other words, it acts as a facilitator in various industrial fields by allowing anyone to participate in F&B, exhibitions and expositions, games, and other contents industries based on the characteristics of a virtual space rather than a real space.

The P2P virtual asset exchange combines a decentralized network that enables value exchange and a centralized system to solve security issues. Thus, all data existing on the block chain is managed in a distributed manner to prevent arbitrary manipulation and ensure a transparency and reliability. As an ecosystem that combines the advantages and technologies of blockchain, CLEBUS is designed to lower the barrier to entry so these users can easily experience the virtual world and protect the interests of participants.

In addition, the NFT market is a space where the purchase of basic contents as well as P2P transactions occur through the P2P virtual asset exchange between users. The CLEBUS Team will provide various basic items that users can use in CLEBUS Meta for free or at low prices. However, since these items are items that can be used by everyone, the number is limited, and transactions between users through NFT will be supported transparently and safely.

# 4. CLEBUS Blockchain

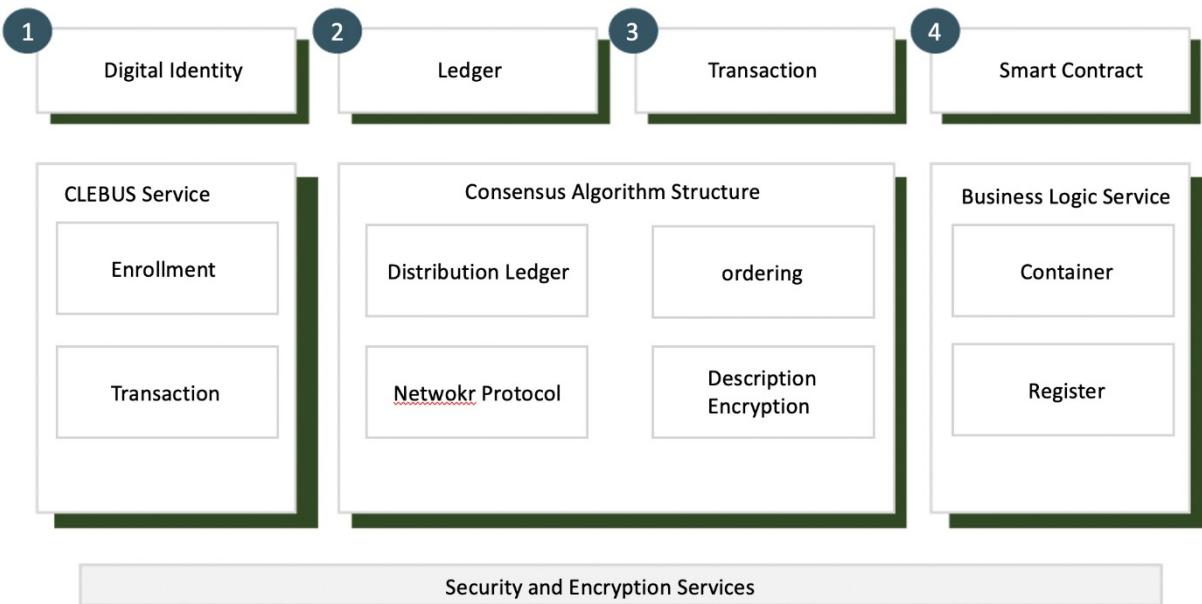
## 4-1. CLEBUS Blockchain

Bitcoin, which is best known for blockchain technology, is based on a Proof of Work (POW) consensus algorithm and generates a block when a number smaller than the hash value is found while the Nonce value is changed through a hash operation. Bitcoin's network method, called mining, is arithmetic using GPUs capable of multi-tasking. In this mining method, resource consumption and environmental problems are gradually becoming an issue. Also, there is a lot of upfront capital, and as Bitcoin's mining halving has passed, mining revenue is gradually declining. The Bitcoin blockchain platform using the main net only supports simple deposit and withdrawal functions, so it is not easy to introduce it to various services. By supplementing these shortcomings of technology and services, Tron equipped with smart contracts that can be used in various services was born, and not only supplemented the existing algorithm, but also led to the activation of DAPP. Tron has the following characteristics:

- 1) A platform with embedded currency and payment methods
- 2) Network environment where users have their own data sovereignty and applications do not steal your own data
- 3) Online service that anyone can access to the open financial system
- 4) A blockchain platform that is not controlled by a specific company or individual and has a neutral and open infrastructure

Tron's currency, Tron, has many of the same features as those of Bitcoin. Tron is fully digitized and can be transmitted instantly to anyone, anywhere. Also, the supply of Tron, like Bitcoin, cannot be controlled by any government or any company. In other words, it is decentralized. People around the world are using this decentralized Tron as a means of payment, as a store of value or as collateral. Unlike other block chains, however, Tron can perform more functions. Since Tron is programmable, developers can use Tron to develop new kinds of applications.

## 4-2. CLEBUS network layer

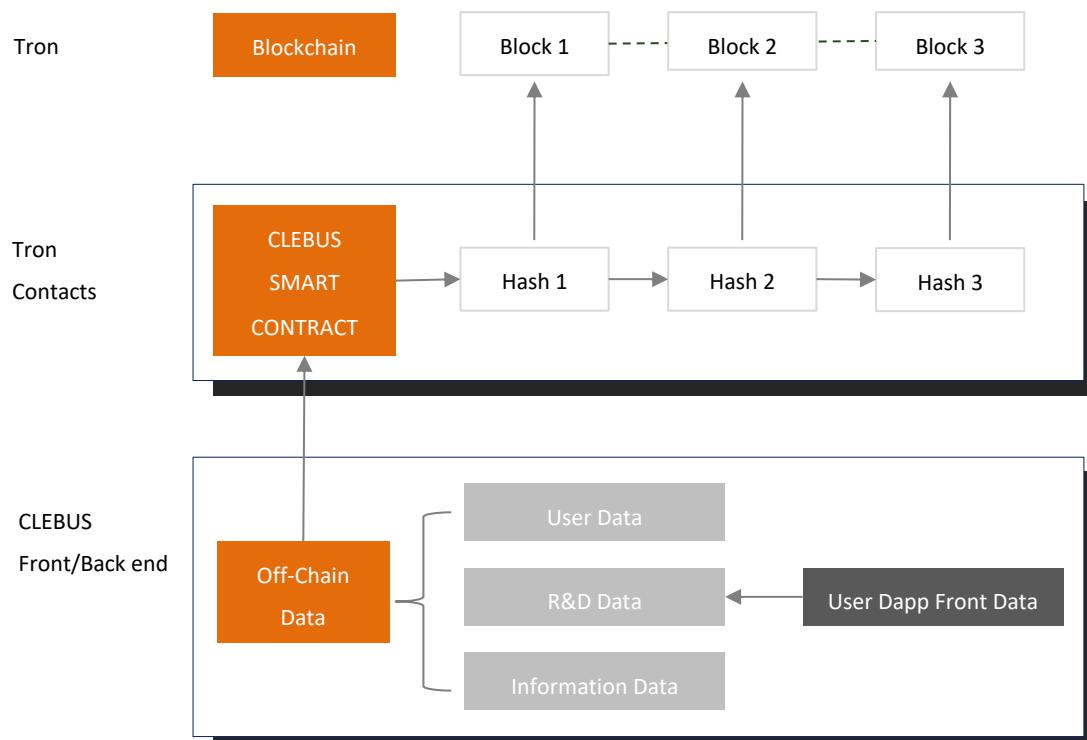


- ① It is an identity verification process layer for securing CLEBUS data. In order to generate a CLEBUS transaction, DID authentication for the user is required. Participants store related data in the distribution ledger so that they can record, edit, and delete it, and provide a function for receiving related certificates.
- ② Ledger. The CLEBUS distribution ledger is a database that manages data to be stored as a basic component of the block chain as a structure that integrates the Tron chain. Ledger's structure consists of functions to manage and process it.
- ③ Component and transaction information layer. There is a distribution ledger service that batch-processes 'Endorsement Validation' to process the transaction in the transaction as a layer that manages the transactions generated in the blockchain service processing, and that creates blocks and branches to all nodes participating in the blockchain network.
- ④ Smart contracts component layer. A smart contract is an important function in the blockchain, and it is a function that implements logic so that the blockchain can be utilized for the services formed by the consortium. Basically, smart contracts support logic development in various languages.

## 4-3. CLEBUS Point

- ① Implementation of various event functions of CLEBUS services into smart contracts
- ② Operation according to its own token issuance policy (metaverse channel operation, subscription fee, product payment, compensation, etc.)
- ③ Individual and institutional network service through on/offline data through collaboration with various developers and TFT
- ④ Secondary security management through multi-signature address channel

In the traditional system, a reliable data institution that manages transaction information in a centralized manner is established, and the trust of the institution is secured and operated as a centralized system, which requires high social costs. On the other hand, in the blockchain-based CLEBUS system, the collected information is distributed in a peer-to-peer (P2P) network, not a central server of a specific institution, to allow the participating members to jointly record and manage it. Therefore, it is unnecessary to input human resources and resources to operate a reliable third party on the Zara platform, and all transaction records are encrypted and disclosed to members, improving data transparency. It is composed of a structure that secures safety in terms of security and an architecture that can maximize the security service of the platform.

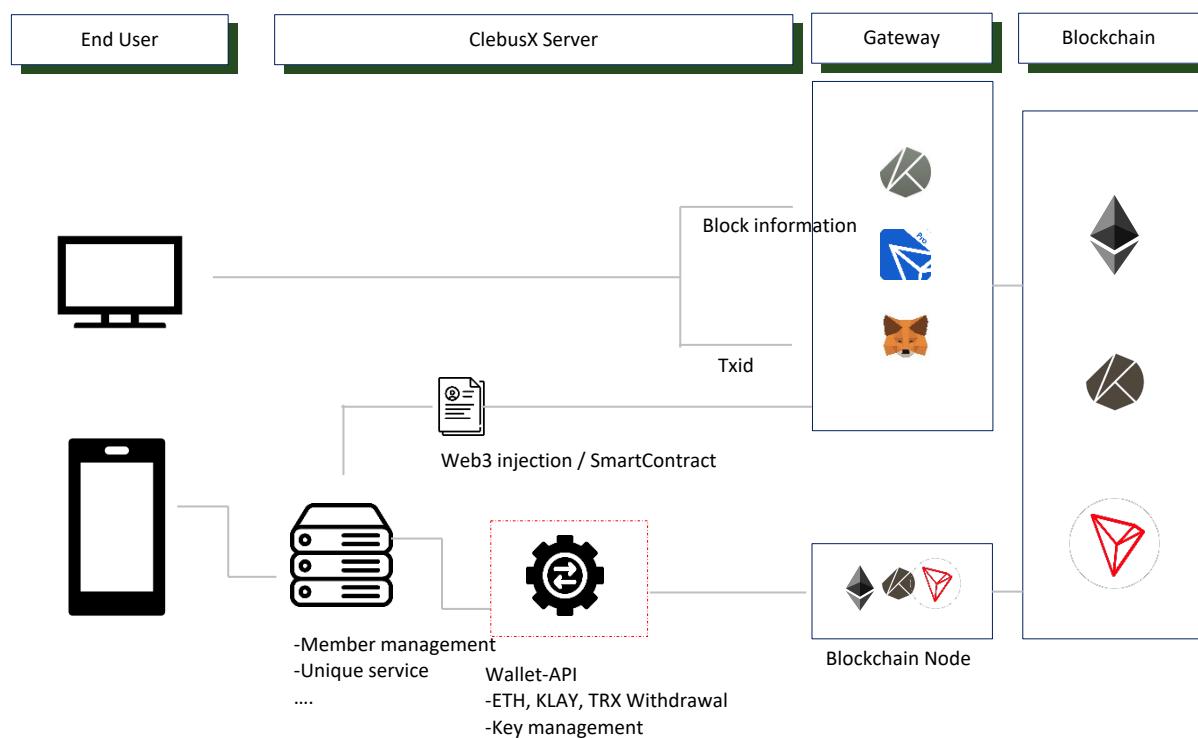


## 4-4. Clebus-X system

Important key points in ClebusX's system that supports P2P trading and NFT marketplaces are:

- 1) Deposit and withdrawal support and asset storage in the hybrid system
- 2) System security
- 3) NFT related technology

Deposit of virtual assets in ClebusX's system is made through the linkage of Metamask, Kaikas, Tronlink, etc. of personal wallet (Dapp). The assets stored in the personal wallet are transferred to the Wallet of the ClebusX system through Web3 injection. Virtual assets deposited through the wallet are moved to the storage wallet that manages the key in the main system. The transferred virtual assets are used as a means of exchange and trading. The main system includes unique service engines such as P2P transaction engine, SWAP, and staking. When withdrawing, the assets in the storage wallet are either withdrawn to each personal wallet (Dapp) or withdrawn to the desired input address.



System security is divided into firewall policy and network security. A firewall is the most basic and essential element in systems and networks. An appropriate firewall policy not only strengthens the security element of systems and operating networks, but also blocks illegal access significantly. In addition, VPN (Virtual Private Network) is used to provide in-depth system configuration for security and access through internal access authentication and leveling.

Software firewalls exist in various forms on the market, but ClebusX's entire platform is based on the OS's own firewall.

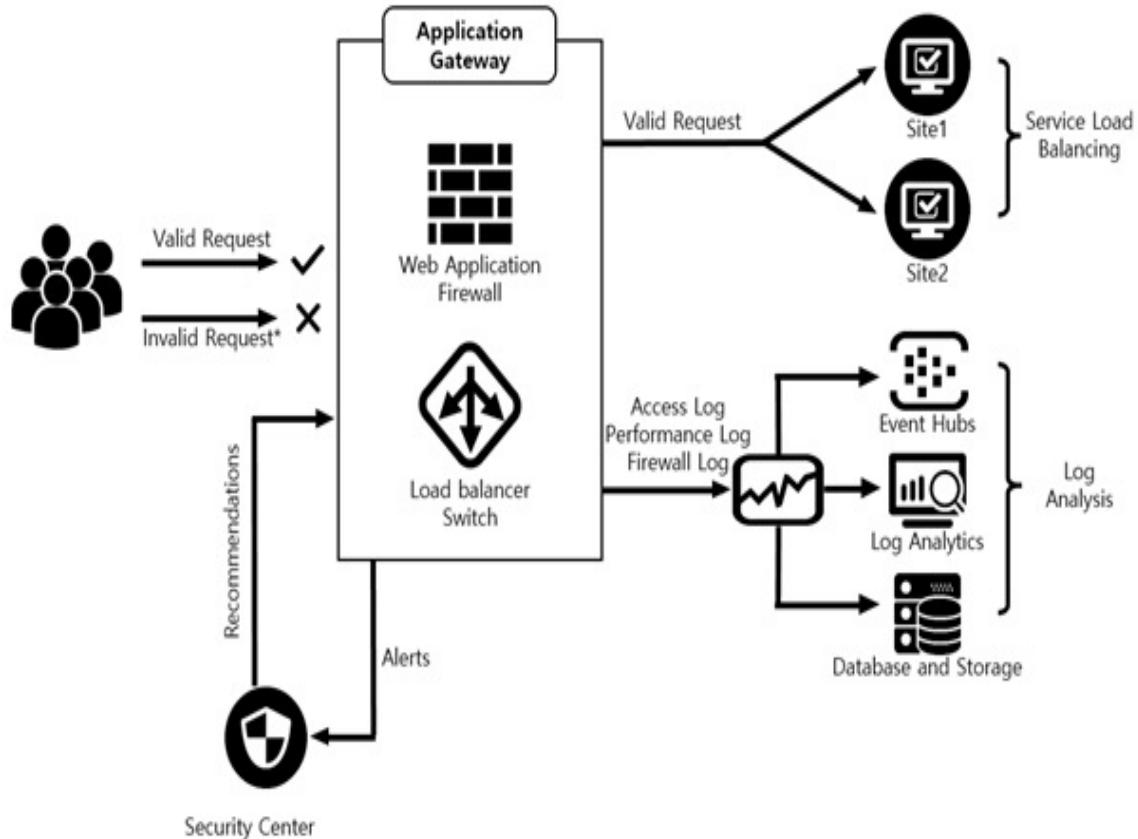
The hardware firewall flexibly operates the firewall ports of switch devices installed in the system and network, and introduces additional operating systems such as ACLs (Access Control Lists), improving the ease of platform management.

### Internal security management using VPN

All system administrators and operators use their assigned unique VPN accounts to access servers and systems. Therefore, in the event of a security issue, they can check who has accessed and in what path the operation problem was caused, and take immediate action.

### Response to attacks against the web or Structured Query Language (SQL) injection

ClebusX is divided into a blockchain-based distributed processing platform and a P2P and NFT trading platform. A well-known basic attack against this structure is DB (Database) Injection attack using web and SQL. To defend against this, we establish a policy for developing, setting, and maintaining programs within a limited allowed range.



Various attack issues (Invalid Requests) are generally blocked immediately upon discovery, and valid requests are properly distributed and managed on an internal web server to provide services to users. When an issue occurs in ClebusX's control system (Application Gateway), the security center suggests a check issue. When the suggestion is delivered, the internal security expert analyzes the log loaded in the control system, tracks the event, finds out security issues, and responds according to the policy.

## ClebusX NFT

NFTs can be issued in ClebusX's system. The original source of published content is stored in the IPFS(InterPlanetary File System) distributed file system. NFTs are issued through the ClebusX internal management wallet, and the assets in the exchange wallet of the copyright holder who requested the issuance are deducted as gas fee. The issued NFT edition is created in the collection of the copyright holder, and the right to sell it belongs to the copyright holder. You can also use the ClebusX NFT Market. However, the issuer's information recorded on the blockchain is provided by ClebusX. In the future, the management system will be updated so that the on-chain copyright holder can access the personal wallet and issue NFTs.

## 5. CLEBUS-META

It is a virtual reality platform operated by ERC's blockchain. Users can make and experience content and applications and create profit. The land in CLEBUS-Meta is permanently owned by the community, giving the community full control over its creations. Users claim the ownership of virtual land on a blockchain-based parcel ledger. Landowners control the content posted on the land part identified by a series of Cartesian coordinates (x,y). Content ranges from static 3D scenes to interactive systems such as games. Land is a scarce, non-fungible, transferable digital asset stored in ERC smart contracts. It can be obtained using TRC-20 tokens called CLE. CLEBUS-Meta can also be used for global purchases of digital goods and services. People are spending more and more time in a virtual world for leisure and work.

It mainly occurs in 2D interfaces such as web and mobile phones. However, traversal 3D worlds enable the physical cluster of communities by adding the adjacency to immersive components and other contents. Unlike other virtual worlds and social networks, CLEBUS-Meta is not controlled by a centralized organization. No single agent has the authority to modify software rules, land content, currency economy, or prevent others from accessing the world. CLEBUS-Meta provides an infrastructure that supports a shared virtual world, also known as metaverse. It consists of a distribution ledger for land ownership, a protocol describing the contents of each land parcel, and a P2P network for user interaction.

The development of large, proprietary platforms like Facebook has enabled hundreds of millions of users to collect, interact, share content and play games. Their network effect has helped nurture vast online communities and game companies. Controlled by a centralized organization, these platforms not only manage the rules and content flow on the network, but also generate significant revenue from the community and content creators driving traffic to the platform. CLEBUS-Meta aims to build a network where content creators can own and capture all the value they contributed to.

New land division must be adjacent to the existing division. This adjacency allows the spatial discovery of new content and the creation of zones dedicated to a particular subject or topic. Each web domain can have an unlimited number of hyperlinks to other contents, but CLEBUS-Meta's parcels have a fixed amount of adjacency. You can also view the contents of adjacent divisions from a distance. If a zone is set, content creators are provided with the access right to target traffic. End users can search for theme experiences. Users can travel around the neighborhood and interact with applications they stumble upon. This discovery by adjacency conflicts with having infinite land. In this scenario, users will have a hard time finding relevant content through traveling. Developers who lack land can acquire users by purchasing land in high-traffic areas.

It will allow you to develop secondary markets around land ownership and leasing. The next version of CLEBUS-Meta, the Iron Age, creates a social experience with an economy driven by existing layers of land ownership and content distribution.

You can create applications on top of CLEBUS-Meta, distribute them to other users and make a profit. Iron Age will implement P2P communication, a scripting system that enables interactive content, and a fast cryptocurrency payment system for in-world transactions. The communication layer is essential for social experiences that provide positioning, posture, voice chat, and more. CLEBUS-Meta achieves this through a P2P network. A scripting system is a tool those landowners will use to describe the behavior and interaction of 3D objects.

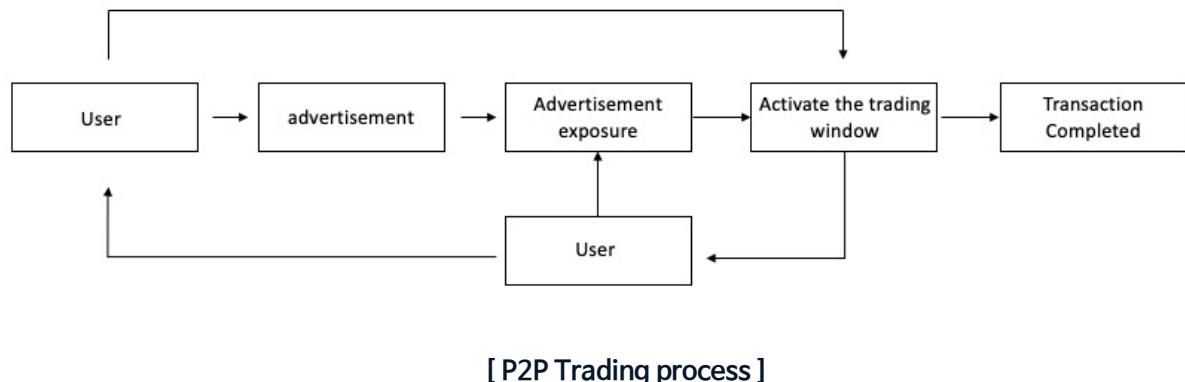
## 6. Clebus-X

The final platform of CLEBUS is Metaverse. By containing all ecosystems in a virtual space, users can not only conveniently access and share information, but also simultaneously use the platforms provided by multiple ecosystems with a single login, and receive rewards.

The world view of CLEBUS is that each platform freely composes an ecosystem and enters a world view of CLEBUS. It starts with the P2P virtual asset exchange and the NFT market. The P2P virtual asset exchange provides services under the official brand of CLEBUS-X, and the service content is to build an NFT market ecosystem within the ecosystem of the P2P virtual exchange and support the presentation, distribution, and sale.

The advantages of decentralized exchanges are that anyone can freely trade virtual assets without restrictions on platform users, users can trade with each other transparently and quickly. In terms of security, the platform introduced Layer 2 as an integrated virtual asset exchange that merges and provides two provisional methods of exchanges that safely support virtual asset transactions, increasing user satisfaction in processing speed.

It supports transaction liquidity by applying a fee discount as an incentive reward policy based on the user's transaction amount to reduce the burden on users.



1) NFT's first LAYER2 (STAY PENDING -Hybrid decentralized system)

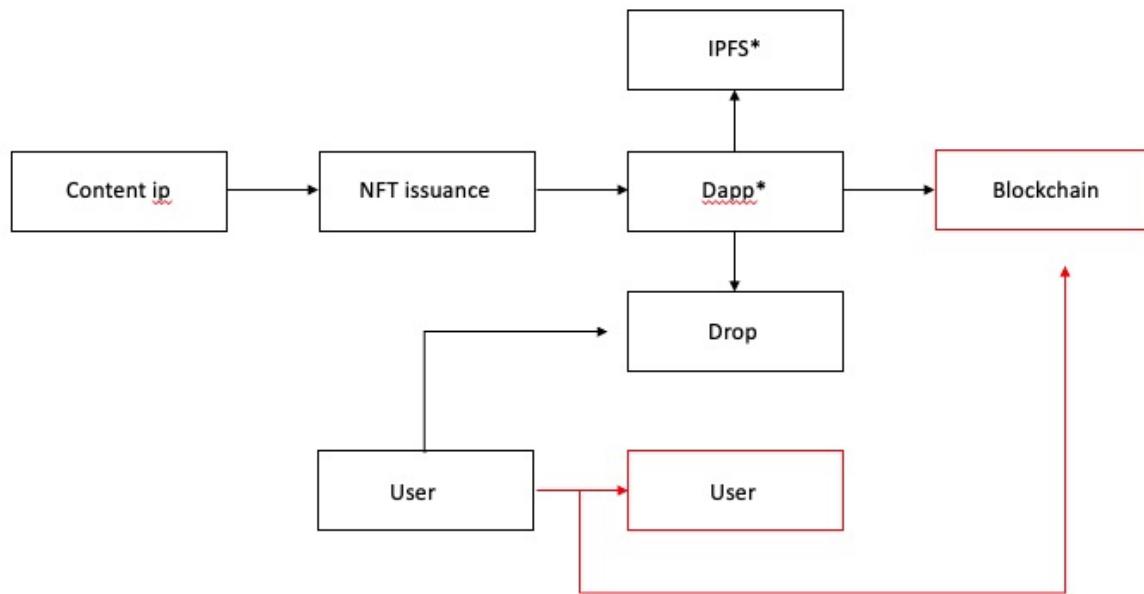
The 'hybrid decentralized system', which went one step further from Layer 2 for gassing cost and processing speed, solves the gas cost generated in each transaction process through the 'STAY PENDING' technology, thereby dramatically reducing gas cost and providing the gas cost for a reasonable transaction environment.

## 2) Direct communication with creators by adding SNS function

Providing a trading environment optimized for NFT that introduces the creators of NFT creator's writer, work, profile, etc. and provides a window to directly communicate with the creator through SNS

## 3) Premium auction service

Providing copyright rights and high-value NFT works by operating an open market where creators and consumers trade freely, and a premium market that showcases rare and valuable NFT works of artists selected through a thorough verification process for works through collaboration with a professional appraisal association



[ NFT Trading process ]

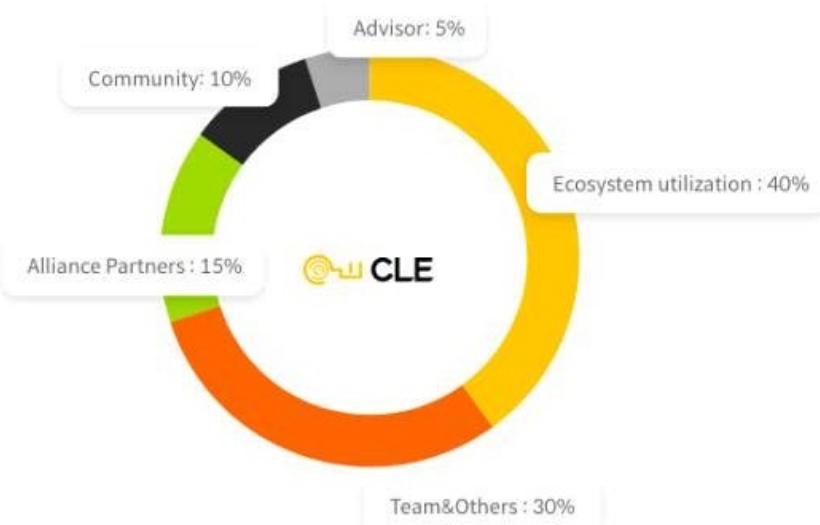
Distributed by the smart contract if there is a code that makes a transaction with other users for the NFT held and returns the sales revenue on the record code in the block chain for the transaction details to the issuer

# 7. CLE



<b>Token Name</b>	CLE COIN TOKEN (CLE)
<b>Algorithm</b>	TRC-20
<b>Decimals</b>	6
<b>Total Token Supply</b>	10,000,000,000 CLE

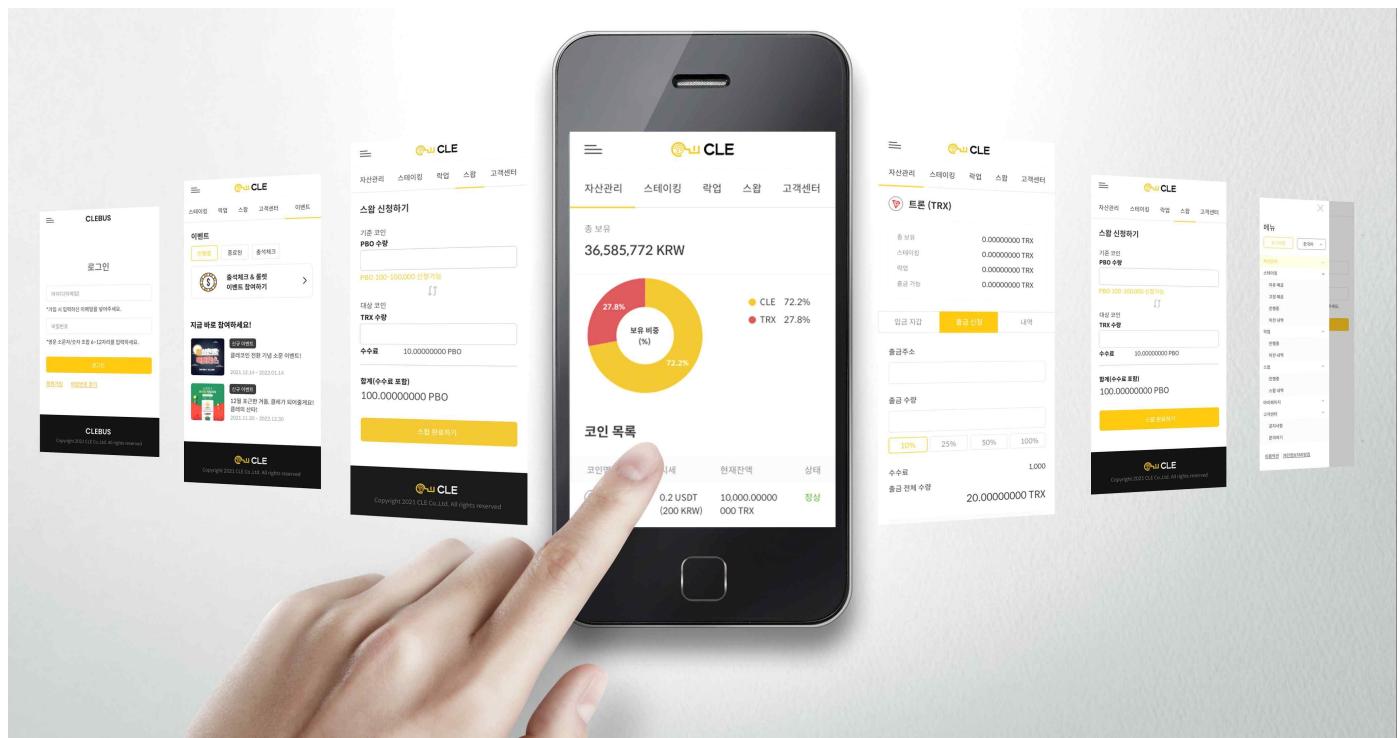
Starting with the P2P virtual asset exchange and NFT market using block chain technology, CLE provides a global payment system so that all participants can engage in active economic activities in a new virtual world on the virtual asset-based metaverse platform. Participants can participate in the CLEBUS Network anywhere in the real world and received nationwide services. The CLEBUS ecosystem overcomes the shortcomings of exchange rate changes between key currencies by country, slow transfer speed, and fees. The issued CLE virtual assets are free from exchange rate between countries and fee issues, and allow both developers and partners to join the CLEBUS Network in the future to join the token ecosystem built on a single blockchain network. This can reduce cumbersome payment procedures, and also enables fast transmission. As shown above, the Network uses blockchain technology to lower the barriers to entry so that potential global partners can join, so it is used as a key asset for the expansion of the world view according to CLEBUS.



- (1) Alliance Partner : Provided to Alliance Partners.
- (2) Community: Provided to the community of CLEBUS PROJECT.
- (3) Advisors: Provided to advisors of the CLEBUS Foundation who participate in CLEBUS PROJECT.
- (4) Team & Others: Provided to CLEBUS PROJECT team members
- (5) Ecosystem & Utilization : Used for the adjustment of distribution volume and ecosystem.

## 7-1. Personal wallet

Users have a personal wallet and a private key to access the personal wallet through the authentication process. Using this personal wallet, users can engage in various activities within the CLE wallet platform. First, you can freely transfer CLEs that have not been CLE Forced Up from your personal wallet to an external or someone else's wallet without commission. In this case, since CLE utilizes the TRX blockchain, there are no fees for individual transactions including deposits and withdrawals. Second, you can purchase CLE through an external exchange and transfer it to your personal wallet, then CLE Force Up. This allows you to check your assets within the CLE wallet platform. Finally, CLE in a personal wallet can be transferred at any time from an external exchange. In addition, CLE can be rewarded through attendance check and other various events.



## 8. CLEBUS Roadmap

<b>2021</b>	<b>3Q</b>	<ul style="list-style-type: none"><li>- Planned CLBUS</li><li>- Issued CLE, Developed wallet</li></ul>
<b>2022</b>	<b>1Q</b>	<ul style="list-style-type: none"><li>- Opened CLEBUS website</li><li>- Configured CLEBUS community</li><li>- Planning and primary development of Clebus-X (P2P Virtual Asset Exchange, NFT market)</li><li>- Formed CLEBUS partners</li></ul>
	<b>2Q</b>	<ul style="list-style-type: none"><li>- 1<sup>st</sup> listing of CLE on Virtual Asset Exchange</li><li>- Completed development of CLEBUS-X (P2P Virtual Asset Exchange, NFT market)</li><li>- Introduced ISMS-certification</li><li>- Planned CLEBUS-Meta</li></ul>
	<b>3Q</b>	<ul style="list-style-type: none"><li>- 2<sup>nd</sup> listing of CLE on Virtual Asset Exchange</li><li>- Opened CLEBUS-X (P2P Virtual Asset Exchange, NFT Market) Beta Service</li><li>- Primary development of CLEBUS-Meta</li></ul>
	<b>4Q</b>	<ul style="list-style-type: none"><li>- Participated in the 2022 KPGA Korean Tour as a sponsor</li><li>- Officially opened Clebus-X (P2P virtual asset exchange, NFT market)</li></ul>
<b>2023</b>	<b>3Q</b>	<ul style="list-style-type: none"><li>- Opened CLEBUS - Meta 1<sup>st</sup> development beta service</li></ul>

# 9. Legal Notice

Please read carefully all of this legal notice and disclaimer. If you are unsure about your future actions, we recommend that you seek the advice of other experts, including law, finance, tax, etc.

## 1. Legal Notice

(a) As of the time of writing, this white paper was distributed for general reference purposes only in relation to the CLEBUS Project and may be reviewed and edited. Please note that this white paper reflects the latest information as of the date of the cover and is not the final version. After that date, the information described in this document, such as CLEBUS token business operation and financial condition, may change. This white paper may be updated on an occasional basis.

(b) No one is obligated to enter into any contract or legally binding pledge in relation to the sale of CLEBUS Tokens (CLEBUS TOKEN) and shall accept or receive any funds based on this white paper. The sale of CLEBUS tokens is made through the CLEBUS platform, and related details will be announced separately from this white paper.

(c) This white paper shall in no way be construed as CLEBUS token issuer/distributor/enterprise's offer to sell or purchase tokens, and the presentation of this document or the document itself shall not serve as a basis for any contract or investment decision or shall not be relied upon.

(d) CLEBUS tokens are not intended to constitute a unit of securities, business trusts or collective investment schemes, and each definition follows the definition set out in the equivalent regulations of the jurisdiction in which the business is located. Therefore, this white paper is not provided as a business plan, business prospectus, proposal, etc., and shall not be construed as an investment proposal or solicitation, such as securities, units of business trusts, units of collective investment plans, etc. in any jurisdiction.

(e) CLEBUS tokens shall not be understood, interpreted, classified or treated as an opportunity for purchasers to participate in connection with the CLEBUS service or to receive return on investment/income/payment/profit or any portion thereof.

(f) This document shall not, in whole or in part, be reproduced, distributed, or disseminated in a jurisdiction where the token issuance method specified in this white paper is regulated or prohibited.

(g) If you wish to purchase CLEBUS Tokens, you shall not understand, interpret, classify or treat CLEBUS Tokens as follows: (1) currencies other than cryptocurrencies; (2) bonds and stocks issued by any institution; (3) rights, options, and derivatives for these bonds and stocks; (4) rights under contracts for difference and other contracts with the purpose of, or impersonating for the purpose of guaranteeing investment returns or avoiding losses; (5) units of securities such as collective investment plans, business trusts, or derivatives

## 2. Restrictions on distribution and dissemination

(a) Distribution or dissemination of this White Paper in whole or in part may be prohibited or restricted by the laws or regulatory requirements of any jurisdiction. If restrictions apply, you shall be aware of the restrictions that may be applied by possession of this white paper, seek legal advice, and comply with them, and the foundation, executives, employees, agents, and affiliates operating the CLEBUS project (hereinafter 'affiliates' etc.) are not responsible for this.

(b) If you have read or possess this white paper due to distribution and dissemination, you shall not, for any purpose, share this white paper or its contents with others, such as distribution, duplication, etc. in any other way nor allow or cause this to happen.

## 3. Exclusion of liability

(a) The related services provided by the CLEBUS Foundation and its affiliates are provided 'as is' and 'as available'. It is stated that the CLEBUS Foundation and its affiliates do not make explicit/ implicit guarantees or representations about the accessibility, quality, suitability, accuracy, adequacy, completeness, etc. of CLEBUS tokens and related services, and assume no responsibility whatsoever for errors, delays, omissions in this regard or actions taken in reliance on them.

(b)The CLEBUS Foundation and its affiliates do not represent, guarantee, promise or assert the authenticity, accuracy, or completeness to any entity or individual in any form, including the information contained in this white paper.

(c)The CLEBUS Foundation and its affiliates are not legally responsible for contractual or tortious acts for any indirect, special, incidental, or consequential losses (including but not limited to loss of investment returns/income/profits, loss of utilization and data, etc.) in connection with your acceptance or reliance on all or part of this White Paper, which applies to the fullest extent permitted by applicable laws and regulations.

#### **4. Warning Statement on Forward-Looking Statements**

(a)Certain expressions specified in this white paper contain forward-looking statements about the future, future events, and prospects of the project. These contents are not statements based on historical facts, and are identified by expressions similar to words such as 'predicted,' 'estimated,' 'belief,' 'expected,' 'foresee' and 'scheduled'. In addition to this white paper, such forward-looking statements may also be included in other public materials such as presentations, interviews, videos. The forward-looking statements contained in this white paper include, but are not limited to, future results, performance, and achievements of CLEBUS Foundation and its affiliates.

(b)Forward-looking statements include various risks and uncertainties. These statements do not guarantee future performance, and therefore you should not rely on them too much. When risks and uncertainties become reality, the actual performance and development of CLEBUS Foundation and its affiliates may be different from the expectations set by forward-looking statements. Even if these circumstances change in the future, CLEBUS Foundation and its affiliates are not obligated to provide updates on forward-looking statements. If you act on the basis of forward-looking statements contained in this white paper, CLEBUS Foundation and its affiliates' homepages and other materials, you are solely responsible for the non-realization of the forward-looking statements.

(c) As of the date when this white paper was written, the CLEBUS Project is not completed nor fully operating. Although the explanation was written on the premise that the CLEBUS Project would be completed and be fully operating in the future, this should not be construed as a guarantee or promise for the completion and full operation of the CLEBUS Project.

#### **5. Potential risk**

(a)Before deciding to purchase and participate in CLEBUS tokens, we recommend that you read the following carefully and thoroughly analyze and understand the relevant factors and risks. Risks include, but are not limited to: (i) Risk of buyer negligence related to storage, such as restriction of access to CLEBUS token due to loss of identification information and loss of essential private key related to digital wallet storing CLEBUS tokens; (ii) Risk of change in value after issuance of CLEBUS tokens due to global market and economic conditions; (iii) Risks related to the CLEBUS Foundation's failure to support the funds necessary for the development of the CLEBUS token ecosystem due to the uncertainty of the value of CLEBUS tokens or changes in the political, social and economic environment of CLEBUS tokens in the intended direction, changes in the stock or cryptocurrency market environment, changes in the regulatory environment in the countries in which the CLEBUS Foundation and its affiliates operate this business, and changes in the ability of the CLEBUS Foundation and its affiliates to survive or compete in this environment

Certain jurisdictions may apply existing/new regulations related to blockchain technology that are unfavorable to CLEBUS tokens, which may result in significant changes to the CLEBUS token ecosystem and projects, such as abolition/loss of CLEBUS tokens.

(iv)Risks related to changes in the future capital needs of the CLEBUS Foundation and its affiliates and changes in the capital and financing possibilities to meet them. Lack of funds may affect the development of the CLEBUS platform and the use and potential value of CLEBUS tokens.

(v) The CLEBUS project may be suspended, disbanded, or may not be launched due to various reasons such as adverse fluctuations in the value of CLEBUS tokens, business relationship failure, or a competitor's claims for intellectual property rights during development/operation, etc. This may adversely affect the CLEBUS token ecosystem, CLEBUS tokens, and the potential use of the CLEBUS tokens.

(vi) Lack of interest in companies, individuals, and other organizations in the CLEBUS project and services, risks associated with limited public interest in the creation and development of distributed applications, and the lack of such interest may result in restrictions on financing or affect CLEBUS project development and the utilization and potential value of CLEBUS tokens.

(vii) Risk of applying major changes to the CLEBUS token or major functions and specifications of the CLEBUS Project before launching or implementing the CLEBUS Project and the CLEBUS token ecosystem. CLEBUS intends that the CLEBUS token and CLEBUS function will be consistent with the contents of the white paper, but these changes may nevertheless be applied.

(viii) Competition risk with other platforms that could have a potential adverse effect on the CLEBUS tokens and the CLEBUS platform. (e.g., when a competing project has prevented commercial success or the outlook is gloomy)

(ix) Risk of interfering with the CLEBUS project infrastructure and utilization of CLEBUS tokens by third parties or other individuals intentionally or unintentionally inserting hazardous or malicious code into the CLEBUS project. Since the blockchain used in the CLEBUS project is also vulnerable to such attacks, it acts as a risk to the operation of the CLEBUS project and related services.

(x) In the event of a catastrophic event such as force majeure and natural disaster, the business operations of the CLEBUS Foundation and its affiliates and other factors beyond our control may be affected. Mining attacks, attacks by hackers or other individuals, etc. may result in theft or loss of CLEBUS token sales proceeds, theft or loss of CLEBUS tokens, and impairment of CLEBUS token ecosystem development capabilities.

(xi) CLEBUS tokens and other cryptocurrencies are new technologies that have not yet been tested and are constantly evolving. The full function of CLEBUS tokens is not yet completed and there is no guarantee of completion. As technology advances, development of encryption technology and methods, changes in consensus protocols and algorithms, etc. may pose a risk to CLEBUS tokens, the sale of the CLEBUS tokens, the CLEBUS project, the CLEBUS token ecosystem, and the use of the CLEBUS token.

(xii) In relation to the CLEBUS project and the CLEBUS ecosystem, the CLEBUS token does not grant any decision-making authority to other entities. All decisions, including suspension of CLEBUS token ecosystem, CLEBUS products and services, additional creation and sale of CLEBUS tokens used in CLEBUS token ecosystem, sale and liquidation of CLEBUS, etc. are made at the discretion of CLEBUS PLATFROM.

(xiii) The tax and accounting methods of CLEBUS tokens are uncertain and may vary by jurisdiction. The purchase of CLEBUS tokens may have a negative impact on tax processing, and we recommend that you seek independent tax advice in this regard. In addition to these stated risks, there are other risks that the CLEBUS Foundation and its affiliates cannot predict. There may also be risks of unexpected combinations and variations.

(b) If the above risks and uncertainties develop into actual situations, the business, financial condition, operation results, and the outlook of the CLEBUS Foundation and its affiliates may be actually and negatively affected. In this case, you may lose some or all of the value of CLEBUS tokens.

## **6. No additional information or update**

With regard to the CLEBUS Foundation and its affiliates, related businesses and operations, no one has the right to provide information/explanation other than those contained in this white paper, and even if such information/explanation is provided, it shall not be construed as being authorized by or on behalf of the CLEBUS Foundation or its affiliates.

## **7. No advice**

No information in this white paper shall be regarded as business, legal, financial or tax advice for CLEBUS Token, the CLEBUS Foundation or its affiliates. We recommend that you seek the opinions of other experts such as law, finance, tax, etc. for CLEBUS tokens, CLEBUS Foundation and affiliates, and related businesses and operations. The financial risk of purchasing CLEBUS tokens may apply indefinitely.