

**SuperCells Metaverse**  
**White Paper**  
Ver 3.0

# Summary

SuperCells is the world's first membership-based super cell service ecosystem operated on blockchain, creating a metaverse of super cell storage, cultivation, research and development, trading, service, and incubation.

SuperCells has built a four-in-one demand, service, community, and supervision metaverse ecology, it uses the blockchain to economically participate in user behavior, promote the rapid development of the super cell industry value chain and contribute to the cause of human health. Its utility token, SCT, is the BEP-20 on BNB Smart Chain (BSC).

Relying on well-known, large-scale super cell companies all over the world, SuperCells provides health services for members globally and will continue to expand cooperative institutions to further establish an all-round and multi-dimensional strategic partnership to build a super cell universe. It is hoped that in the near future, all human beings can enjoy cheap, safe and effective super cell medical care services.

To promote the rapid development of the stem cell industry chain and jointly contribute to the cause of human health, SuperCells has cooperated with well-known large-scale stem cell companies in Japan, France, China (Hong Kong) and other countries to operate on blockchain technology and use the SCT transaction payments. And will continue to increase cooperative stem cell companies, further establish all-round, multi-dimensional comprehensive strategic partnership, focus on building a trusted digital supply chain platform for stem cell therapy, and realize the application of blockchain technology in the field of stem cell and regenerative medicine.

SuperCells relies on the industry's top biomedical science resources and uses blockchain technology to build stem cell bioengineering and health management, reshaping the stem cell market and industry system structure with the concept of decentralization, anti-counterfeiting and traceability, fairness and transparency, improving trust for global stem cell consumers and obtaining high-quality health management solutions through three major solutions that are the stem cell value circulation media, community-based consensus, and smart contracts. Allowing us to collect transparent and reliable stem cell data, as well as to form a complete stem cell treatment management plan for enterprises, and finally build a sustainable SuperCells ecosystem with long-term economic profits.

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# 1 . Preface

## 1.1 Global stem cell market overview

Stem cells are undifferentiated cells that are capable of dividing and produce other cell types. They have self-renewal and multi-directional differentiation ability, and therefore have a great potential in medical research. Depending on their origin, stem cells can be divided into embryonic stem cells and adult stem cells. Embryonic stem cells are derived from the endoderm of the embryo, while adult stem cells are derived from a variety of tissues of the adult body, such as bone marrow, fat, and blood.

Stem cell therapy is a medical technique that uses stem cells to treat disease and injury. The basic principle of this technique is to transplant stem cells into the patient's body to help repair and rebuild damaged tissue. Stem cell transplantation therapy can be used to treat many diseases such as heart disease, spinal cord injury, diabetes, skin diseases, etc.

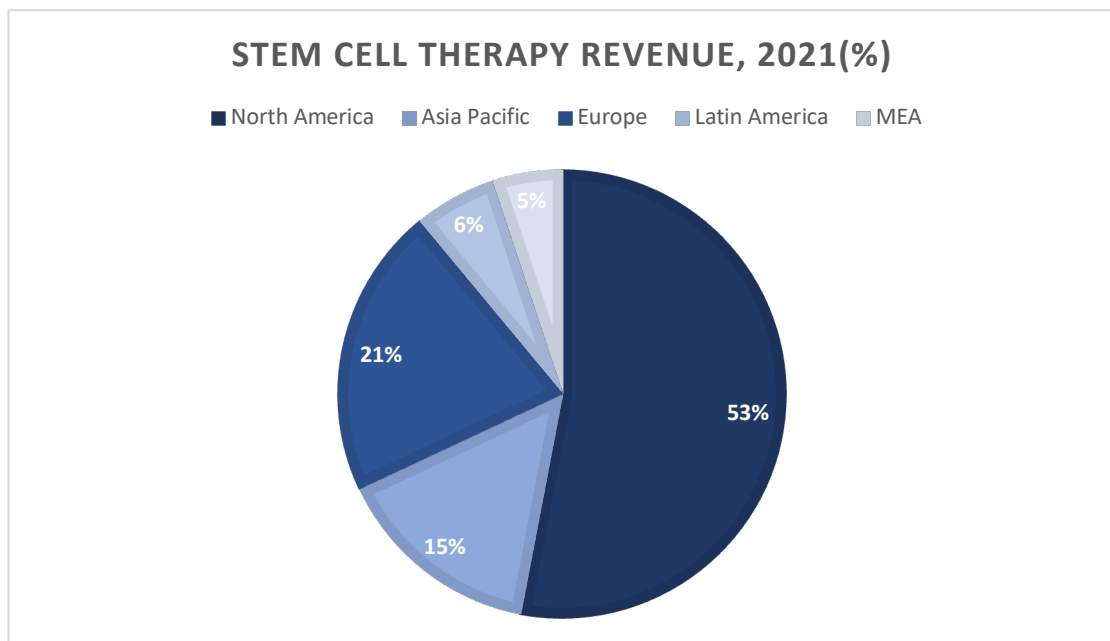
Stem cells are a very interesting and complex subject when it comes to medical research. As research continues, there is a deeper understanding of the role and potential of stem cells. It is hoped that through further research and development, stem cell technology will help cure more diseases. With the continuous development of stem cell technology, the application of stem cells in medicine, biotechnology, cosmetics, and other fields is expanding, which contributed to the rapid growth of the global stem cell market.

The scale of the global stem cell therapy market is maintaining a rapid growth. According to the data released by the global market intelligence agency Precedence Research, the global stem cell therapy market size accounts for 11.22 billion US dollars in 2022 and is expected to reach around 31.41 billion US dollars by 2030, with an expected promising growth of 13.73% compound annual growth rate (CAGR) between the forecast period of 2022 to 2030.



Graph 1 Stem Cell Therapy Market Size, 2021 to 2030 (USD Billion)

Europe, the US, and other regions are the main markets for stem cell therapy market. They have a perfect policy system, the stem cell industry there is flourishing, and multinational companies have successively made arrangements. The global stem cell therapy market is concentrated in Europe, the US, and other places, mainly in North and Central America and Western Europe, accounting for 53% and 21% of the market share respectively; followed by the Asia-Pacific region, accounting for 15% of the market share.

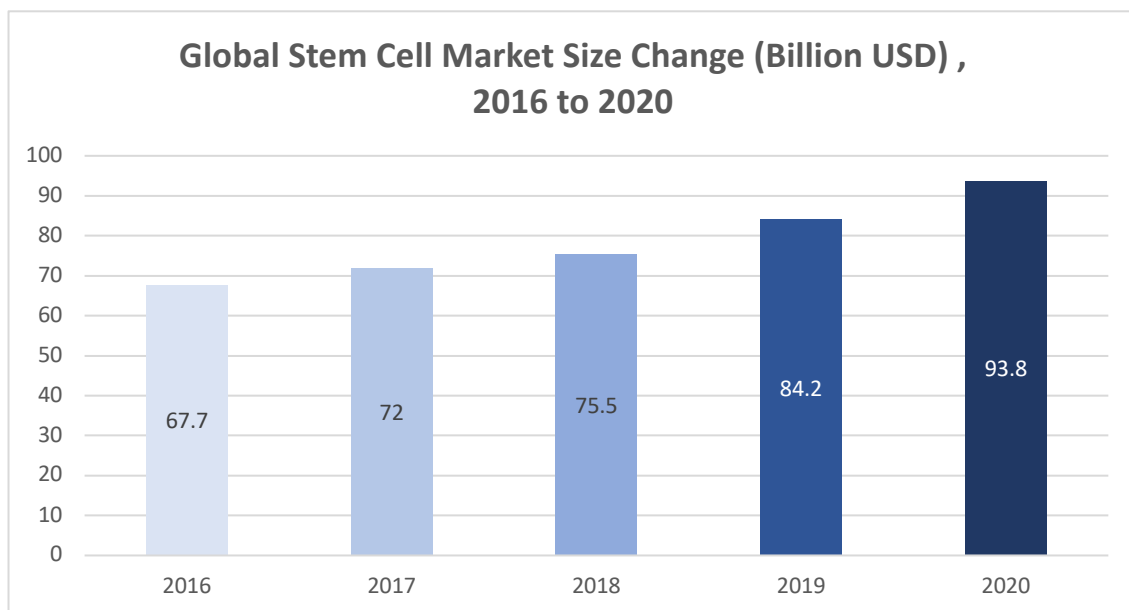


Graph 2 Stem Cell Therapy Market Share, By Region, 2021(%)

## The gradual expansion of the global stem cell medical treatment market

Currently, the stem cell therapy industry is booming, and 15 stem cell products have been approved to hit the market worldwide in the US, EU, Korea, Canada, Australia, Japan, and other countries. Among them, the U.S., EU, and Korea have the highest number of approvals, with four marketed products approved each, while Canada, Australia and Japan have one approved marketed product. According to clinicaltrials.gov, there are nearly 7,000 stem cell clinical research projects registered worldwide, of which nearly 3,000 have completed clinical trial studies, and more stem cell drugs will be approved worldwide in the next few years.

Due to the broad application prospect of stem cell therapy, the global stem cell industry is developing rapidly, and the market scale is increasingly expanding. In recent years, stem cell research and application have become an important indicator of a country's life science and medical development, and many countries strongly support stem cell research. According to research data from Grand View Research, an international research institute, the global stem cell market size has grown from USD 6.87 billion in 2016 to USD 9.38 billion by 2020.

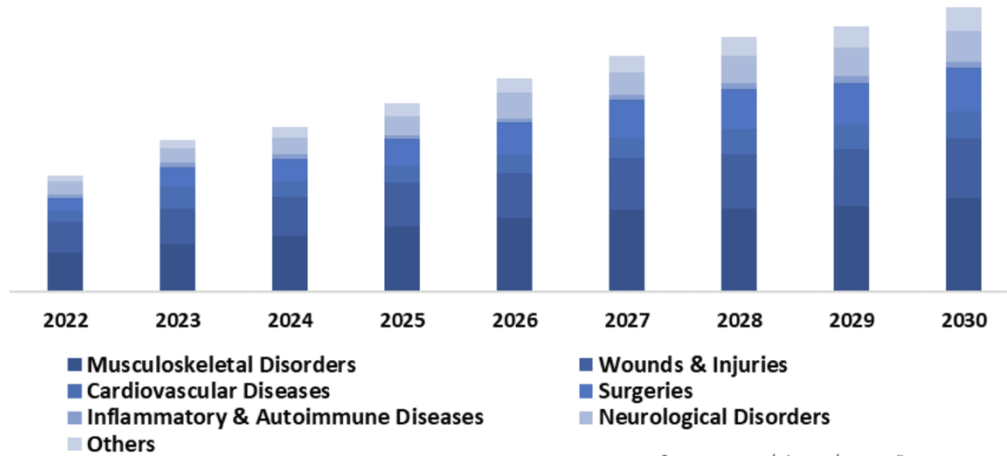


Graph 3 Global Stem Cell Market Size Change from 2016 to 2020

## The global stem cell medicine treatment sustainable rapid growth

With the continuous development and maturation of stem cell technology and clinical promotion and application, the global stem cell medical industry is expected to maintain a compound growth rate of more than 8% in the next few years. According to the forecast data from Grand View Research, the global stem cell market is expected to reach US\$15.63 billion by 2025, with a compound annual growth rate of 10.75% between 2020 to 2025; the global stem cell market is expected to reach US\$18.4 billion by 2028, with a compound annual growth rate surpassing more than 8%.

### Global Stem Cell Therapy Market, by Application, 2022-2030 (USD Billion)



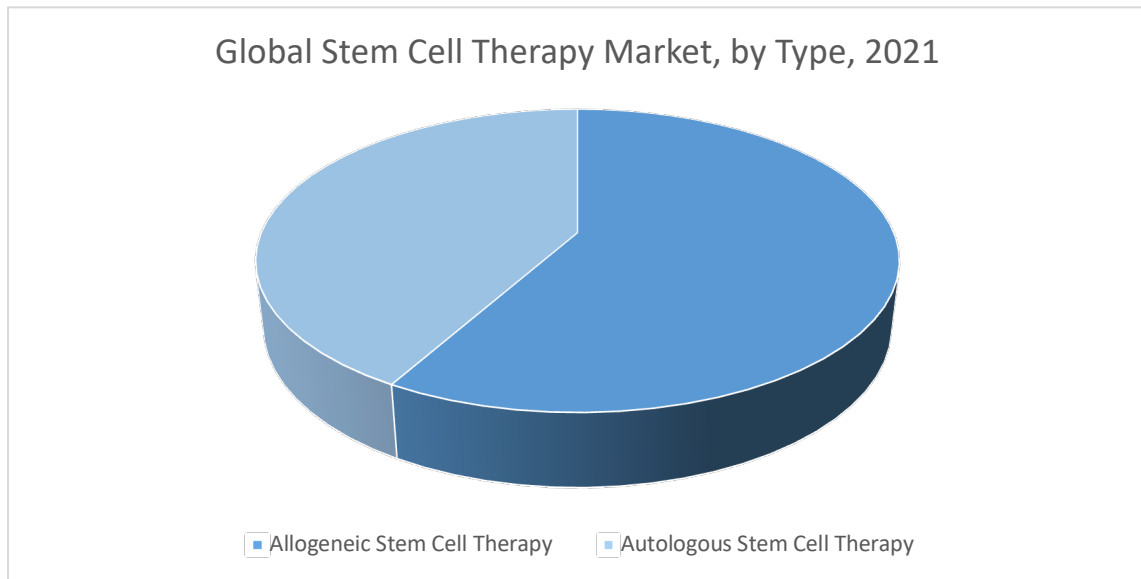
Graph 4 Global Stem Cell Therapy Market, by Application, 2022-2030

### Allogeneic stem cell medicine leads the market

According to international research firm Grand View Research, the global stem cell medical industry market will have the largest revenue share of 58.2% for allogeneic stem cell medicine in 2021; autologous stem cell medicine will have a market size share of 41.8%. Allogeneic cells are widely used to treat cancer because of their graft-fighting-cancer effect. With the help of these effects, stem cells from the donor can kill cancer cells using their immune system cells, the immune system response stimulated by the donor is stronger than that of the recipient.

In addition, these are commonly used to treat different types of cancer, such as lymphoma, leukemia, and myeloma.

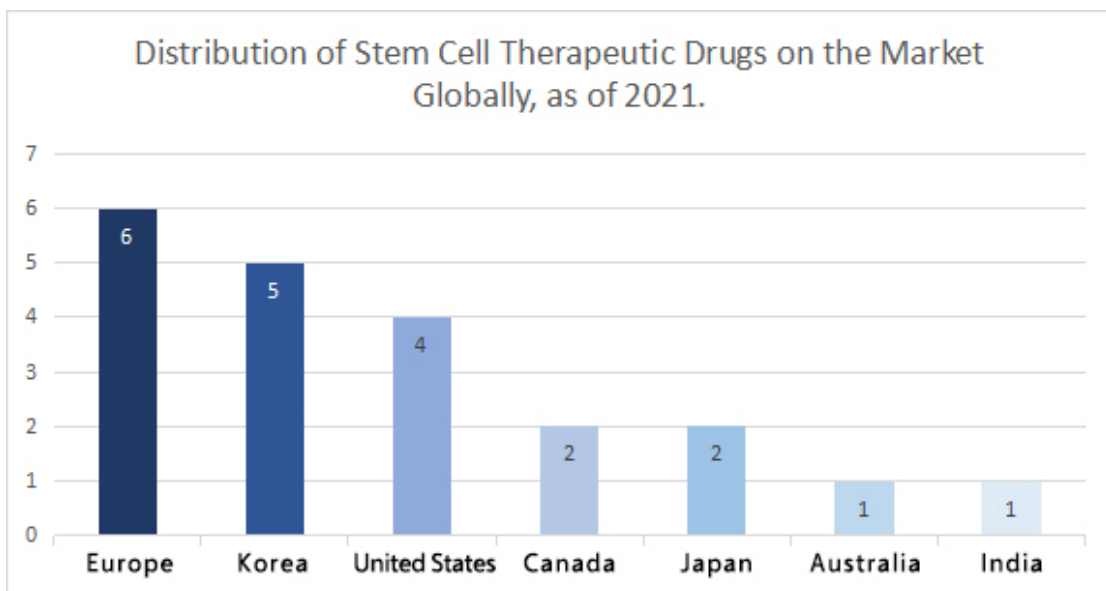




Graph 5 Global Stem Cell Therapy Market, by Type, 2021

### Europe has the most stem cell products in the market

The stem cell therapy industry is currently booming, with 21 stem cell products approved to the market worldwide and distributed around the US, EU, Korea, Canada, Australia, Japan, and other countries. Among them, the EU has the highest number of approvals with 6 marketed products approved. More stem cell drugs will be approved worldwide in the coming years.

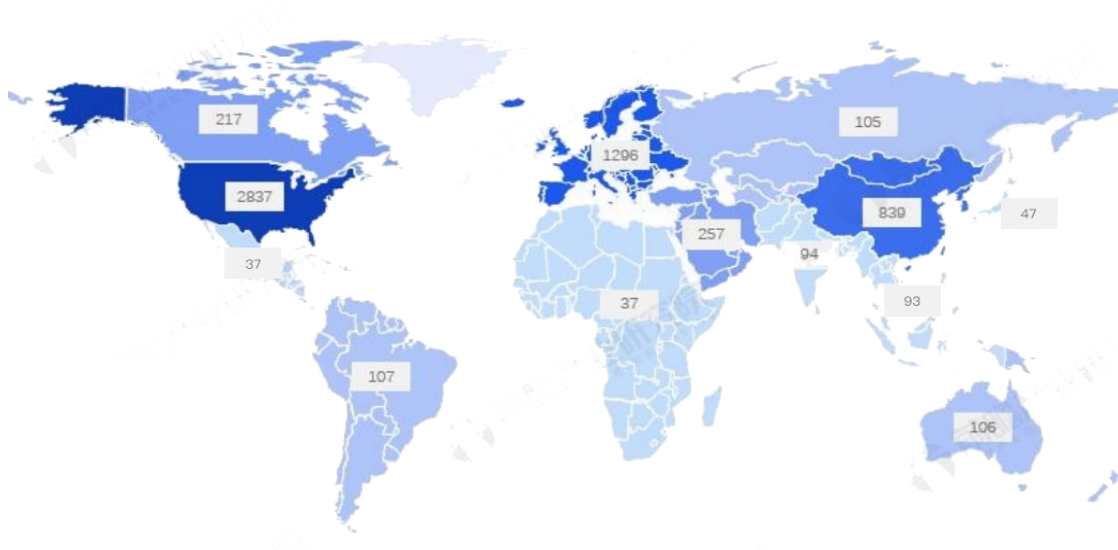


Graph 6 Distribution of Stem Cell Therapeutic Drugs on the Market Globally, as of 2021

### The U.S. leads in stem cell clinical research

According to the clinical research registry system (Clinicaltrials.gov) managed by the National Institutes of Health, as of July 22, 2021, a total of 5,903 stem cell clinical research projects were registered worldwide.

Currently, the global registered stem cell clinical research projects are mainly adult stem cell clinical trials in the fields of hematology, oncology, neurological diseases, cardiac diseases, immune system diseases, etc. Among them, the U.S. maintains the absolute leading position, and as of July 22, 2021, the number of stem cell clinical research projects in the U.S. reached the amount of 2,837; the number of stem cell clinical research projects in China, France and Germany were 628, 364 and 322 respectively.



Graph 7 Heat Map of Regional Distribution of Global Stem Cell Clinical Research, as to 2021

## 1.2 Global stem cell user group analysis

Public data shows that most developed countries around the world are focusing on the stem cell field and have formulated corresponding policies and national plans. In 2021, the global market size of cell therapy has reached hundreds of billions of dollars. The stem cell therapy market is promising, has a huge market potential, and can be applied to the treatment of many diseases in the future.

According to the most populous countries as an example: As of December 21, 2022, the total population of 238 countries altogether in the world is 7,898,236,143, of which China ranks first with 1,447,301,400 people, making it the most populous country in the world. Today, China has approximately 240 million patients with cardiovascular disease, 130 million with diabetes, 94 million with Alzheimer's disease, and 14.6 million with hematological oncology, who are waiting to receive more effective treatment. The industry has reached 52.5 billion yuan in 2017 and 90 billion yuan in 2019.

In the case of diabetes, for example, the number of diabetics in China is close to 130 million, and they need to take medication for life. If a 1,000 yuan per capita per month

is spend on medical drugs, a single person would need more than 10,000 yuan per year. "If cell therapy could help solve the problem of diabetes, this market alone would have an output value of trillions of yuan.

Stem cell therapy is used by a wide range of people, including the following group of people:

- Aging prevention: people who wish to maintain youthful organism and facial beauty.
- People that go through high pressures, constant work stress, and that have a sub-optimal health.
- People with endocrine and sexual dysfunction: People with male/female function decline, hypogonadism, female menstrual disorders, premature ovarian failure, early menopause, sleep deprivation, low mood and so on.
- People whose organism is affected with premature aging and lack of vitality, chronic fatigue, and that experience aging of their tissues and organ functions.
- Degenerative cardiovascular system functions: People experiencing arteriosclerosis, aging, coronary artery sclerosis, stenosis, increased blood pressure, etc.
- Degenerating internal organ functions: people with declining or failing internal organ functions such as the heart, liver, lungs, kidneys, intestine organs, etc.
- Degenerative skeletal-motor system: people with osteoporosis, osteoarthritis pain, degenerative bone and joint, arthritis, degenerative muscles, ligaments, tendons functions, as well as reduced movement and mobility.
- People with regular chronic disease, such as hypertension, diabetes, coronary heart disease, liver cirrhosis, strokes, neurological damage or disease, etc.

## **1.3. The global stem cell market prospects**

### **1.3.1 The global stem cell market pain points**

The global stem cell technology as well as the market scale is booming, and its user base is also increasing. However, there are various existing problems such as stem cell preparation and storage regulation, quality control and stem cells efficacy evaluation standard, strict medical information shielding, exorbitant prices, industry scale restrictions, non-closed loop of biosafety traceability, low efficiency of medical resources utilization, lack of a unified standard and other malpractice within the current existing problems. The level of industry players is uneven and lacks effective popularization program, as well as the lack of trust and other problems have led to the current chaos in the stem cell ecology on the market.

#### **■ Information flow issues**

In the stem cell industry, poor information flow is a pain point.

This refers to the difficulty in communicating and sharing information within

various parties in the industry, such as researchers, medical professionals, regulatory agencies and companies, especially with shielded sensitive medical information.

This can lead to inefficiencies, duplication of effort and slow progress. It can also lead to misunderstandings and miscommunication between parties, which can result in reduced collaboration and trust.

Furthermore, it may also hinder the rapid dissemination of new discoveries and advances and impede the overall development of the stem cell industry. Therefore, improving the flow of information is critical to the growth and success of the stem cell industry.

In addition, it may also hinder the rapid transmission of new discoveries, developments and obstruct the overall stem cell industry growth. Therefore, improving the flow of information is critical to the growth and success of the stem cell industry.

#### ■ **Financing difficulties**

This is because stem cell therapy is still in the experimental stage and requires significant capital investment for research and development.

Also, due to the complexity and uncertainty of the stem cell technology, investors are not highly attracted by investing in stem cell projects. As a result, many stem cell companies are facing difficulties in obtaining financial support, which hinders the growth of the stem cell industry.

#### ■ **Expensive prices**

One of the major challenges for the industry is the breadth of treatments, and although these treatments are very beneficial and provided excellent results for a variety of chronic diseases, including cancer, the associated products and services prices are very high and may be unaffordable for most patients. This is due to the complexity of stem cell technology and the increased cost of production. The stem cell therapy process requires the cells to be extracted from the patient and then processed and re-transplanted, which requires advanced equipment and technology. Also, the cost of producing the drug is high due to the investment in research and development. As a result, the high prices create problems for patients and hinder the popularization of stem cell therapy. To address this issue, more research and investment in stem cell technology is needed to reduce the cost of production so that more patients can have access to stem cell therapy.

#### ■ **Inefficient use of medical resources**

A large amount of resources is wasted in the industry, which reduced the efficiency and economy of stem cell therapy. On one hand, it is due to the lack of standardization of equipment and facilities required for stem cell therapy, and different hospitals have different treatment procedures, standards, resulting in a

waste of resources. On the other hand, since stem cell technology is still in the developmental stage and lacks experience, thus leading to difficulties in actual practice and less efficient use of resources by doctors and nursing staff. To solve this problem, training and research on stem cell technology need to be strengthened and relevant standards and processes need to be developed to ensure efficient use of medical resources. In addition, the lack of awareness of the availability of these treatments in many developing countries will also hinder the market growth in the coming years.

### **1.3.2 Global stem cell market outlook**

However, the demand for stem cell therapy is increasing due to various factors such as technological advancements and growing demand for personalized medicine, as well as other factors. Increase in the number of cases of various chronic diseases and favorable outcomes provided by the treatments are expected to drive the market growth in the coming years.

#### **A greater future demand for allogeneic stem cell therapy**

Due to their easy availability and better manufacturing process, the medical treatment demand for allogeneic stem cell products will be in greater demand. This market segment is expected to grow well due to its wide application in various diseases. In the past, the use of such therapies has generated about 58% of the total market share in terms of revenue, and these therapies are mainly used for the treatment of cancer.

#### **Constant growing demand for neurological disorder treatment**

Stem cell therapy is being used more and more, especially in the treatment of neurological diseases. Neurological diseases cases have been increasing in different countries. As a result, it is expected to generate the largest amount of revenues in this segment, which is expected to grow at the highest compound annual growth rate in the coming years.

#### **Healthcare providers will play a key driving role**

Hospitals have the highest demand for stem cell therapies, and better treatments offered by medical institutions will drive the market growth of stem cell therapies in the coming years.

Hospitals are providing better treatments, particularly with the collaboration with various research institutes that have come up with new therapies that are beneficial for the market growth.

#### **North America to continue to dominate the stem cell therapy market**

North America dominated the market with the highest revenue share of 53% in 2021. North America has many market players, most of whom are committed to developing stem cells in various therapeutic applications, and the availability of advanced

infrastructure in the North American healthcare industry is contributing to the growth of the market. The U.S. government is also taking initiatives to increase research activities and these favorable policies and supportive market reforms will continue to drive the market growth in North America in the coming years.

### **Asia Pacific will experience fast growth in the near future**

Growing population and increasing number of chronic diseases in Asia Pacific will drive the market growth of the stem cell therapy market in the coming years. Governments in Asia Pacific have taken various initiatives to support R&D activities in this field and these organizations have also realized that these therapies can be used to treat various chronic diseases and the efficiency in treating such diseases will drive the market growth of stem cell therapy or treatment in Asia Pacific over the forecast period.

## **1.4. Stem cell and the SuperCells metaverse**

SuperCells stands for super cells and it is used to describe human cells that have special biological functions. These cells could repair, regenerate, and re-renew human tissues and organs, that is why they are called super cells.

The development of the global stem cell industry was filled with challenges; stem cell technology is complex and requires significant research and development funding. In addition, stem cell therapies are still in the experimental stage, with high uncertainty and require further research and proof of their effectiveness and safety. Meanwhile, the regulatory policies of stem cell industry are not uniform, and different countries have different regulations on the use and research of stem cells. All these factors have hindered the development of the stem cell industry and made it challenging. Facing the challenges and opportunities, Supercells' metaverse was born, building a four-in-one ecology of the demand side, service side, community side and supervision side. Creating a metaverse of super cell storage, culture, R&D, trading, service, incubation, that promote the rapid development of the super cell industry chain and contribute to human health.

# 2. The Supercells Metaverse

## 2.1 The SuperCells metaverse overview

The SuperCells metaverse is the world's first blockchain-based super cell membership service ecology, through technology and informatization methods, it constantly expands the scale and depth of life sciences, extending life sciences from a simple laboratory to a whole community, a platform, a factory and other diversified areas, to achieve the transformation of life sciences from the exploration to the realization. The application of life sciences in the Internet era is to combine cutting-edge technology and information technology with life sciences to promote its breakthroughs and innovations. The underlying logic of life sciences is to reach a comprehensive dimensional improvement through innovative methodologies and to enhance the value evaluation criteria of life sciences through information barriers, creating an all-in-one super cell metaverse with super cell storage, culture, R&D, trading, services and incubation.

**The development of the SuperCells metaverse can be divided into three phases:**

### ■ The Platform Phase

The first phase of the SuperCells metaverse is a platform phase based on the new generation of Internet technology, with the application matrix as the core, which includes applications such as APP, DAPP, smart contract, Dex/Cex, NFT market, etc. The application matrix integrates resources from users, service providers, joint labs and audit monitors to provide services to users, reflects the concept of platforming.

### ■ The Community Phase

The second phase of the SuperCells Metaverse is a community phase based on blockchain technology, converting the application matrix of the first phase into a decentralized DAPP-network, and building a group of trusted, secure and private DAPP based on mature public chain technology of BSC and other identity encryption technologies. In this stage we introduce the concept of nodes, including citizen nodes, service nodes, audit nodes and pledge nodes, and the whole community is accomplished through the interaction between the nodes.

### ■ The Web 3.0 Phase

The third phase of the SuperCells metaverse is the Web3.0 phase with citizen identification as the cornerstone, with the new application public chain, SuperCells Chain, as the core solution, we solve three major problems, the meta-ecology building, citizen identification, and basic chain (convenience and security, smart contract, cell storage and GAS, human rights encryption).

The SuperCells' metaverse brings a revolutionary change to the stem cell industry and creates a stem cell bioengineering and health management digital economy based on blockchain technology. Relying on the industry's top biomedical science resources, it is reshaping the stem cell-related market and industry system structure with the concept of decentralization, fairness, transparency and through the three major solutions of stem cell value circulation medium, community-based consensus and smart contracts, users in the global stem cell field can improve their quality of life, life cycle and gain access to high-quality health management solutions.

## **2.2 The SuperCells' metaverse ecomap**

SuperCells' Metaverse has built a four-in-one metaverse ecology of the demand side, service side, community side, and supervision side, which includes the meta of the SuperCells metaverse, SuperCells metaverse's Infrastructure, SuperCells metaverse's Foundation, SuperCells metaverse's nodes, SuperCells metaverse's identity, and the SuperCells metaverse's economic system, which are interlinked and overlapped with each other, and use the blockchain to economize the participation of its users, forming expanding, long-term economic benefits, as well as sustainable development of the SuperCells ecosystem, and promoting the rapid development of the SuperCells industry chain.

### **2.2.1 The meta of the SuperCells metaverse**

One ideology of Meta is "beyond", which stands for surpassing and comprehensibility, symbolizing that there is an endless supply of things to create and an infinite future; another ideology of Meta is "about", that is standing for the meta itself.

In the SuperCells metaverse, there is also these two ideologies: first, it points out that the SuperCells metaverse has an endless supply of things waiting to be developed and created, with an infinite future and room for upward evolution; second, it points out that the SuperCells meta-universe will reach a meta-state in the future, namely the Meta-state, which is a discrete and interrelated network of nodes.

#### **■ SuperCells Metaverse's Shared Community**

In the platform phase of the SuperCells metaverse, we emphasize on the sharing community, which provides life sciences from professional to industry to widely share knowledge and information, forming an interactive, collaborative and communicative knowledge community, linking users to users through word-of-mouth transmission, digital marketing, and shared win-win to achieve a virtual home based on value and demand. It brings together the industry's leading life science experts, research scholars and medical institutions, forming a powerful life science ecosystem. The core value of the community is to accelerate the development of human health science and technology and promote social progress through the sharing of quality scientific knowledge and technology. The community has the unique advantage of resource



integration, aggregating enriching life science resources and building a comprehensive life science ecosystem. Based on the membership system, the community provides efficient and convenient life science services so that every member can enjoy a professional life science experience.

In the platforming phase of the SuperCells metaverse, SuperCells builds a B2B2C service platform focusing on user needs to achieve a new ecology in the industry. The top-level design is human-centered to reach the tipping point through innovative technology and differentiated experience. The underlying logic is data-driven, using multi-dimensional collaborative expansion to empower the product. The delivery value is centered on convenience and transparency to provide a superior experience for users. Attribution analysis of transparent transmission is used as a closed-loop evaluation standard, and carrier experience measurement is used as a starting point to improve the system.

SuperCells focuses on platforming to build an industry-leading platform with diversified combinations. We use digital marketing to directly establish the connection between users and service providers to eliminate brokers, increase the market exposure of the SuperCells platform, to make accurate delivery to the target audience, increase the frequency of reach, maximize the promotion effect, and convert the tracking to promote the development of the industry.

The SuperCells metaverse service's platform is a full chain service platform for the stem cell industry, which meets the needs of users and members for stem cell-related services by integrating different types of resources, while supporting the needs of stem cell research institutions for funding and human and brain power. In addition, the legitimacy and transparency of the platform are ensured through the establishment of a monitoring mechanism to support the sustainable development of the platform. Therefore, SuperCells metaverse service's platform has the following important implications for integrating the stem cell industry and promoting the development of the industry:

- **Supply and demand matchmaking:** An important role of the SuperCells metaverse service platform is to help matchmaking the supply and demand, to connect producers of stem cell products with customers who need to use these products, making it easier and more efficient for both parties to find each other and thus complete transactions. In this regard, the platform can provide enriching information resources, such as detailed information of stem cell products, certificates and certifications of producers, pricing quote and procurement needs of customers, etc., thus making the supply and demand relationship in the stem cell industry more transparent and smoother. At the same time, the platform can also provide transaction services for both parties, such as payment settlement and transportation, to simplify the process and reduce the risk of transaction. In these ways, the platform not only helps to improve the efficiency of the stem cell industry, but also brings a better experience to the users of stem cell products.

- **Information pooling:** The SuperCells metaverse service's platform helps stem cell industry experts, researchers, physicians, investors and companies to pool information on the platform to better understand the latest developments and technologies in the stem cell industry.
- **Communication and cooperation:** SuperCells metaverse service's platform helps all parties in the stem cell industry to communicate with each other, to work together, as well as to promote the development of the industry, so that the industry sectors that originally had no opportunity to reach out to each other can communicate and collide to derive more services and other cooperation.
- **Funding access:** The SuperCells metaverse service platform helps companies in the stem cell industry in seeking investment opportunities and helps investors find companies with investment value.
- **Technology trading:** The platform helps companies and research institutions in the stem cell industry to trade technologies, and thus promoting technological progress and development in the industry.

### ■ **SuperCells Super Cell Metaverse Co-Governance Community**

When it comes to the community phase, SuperCells metaverse uses the leading imitation GPT interaction model to build a decentralized SC community, providing composite scenes such as sharing, inviting, chatting, live streaming and trading, breaking the traditional community model, binding identities and services, actively matching services for users and finding funds for research institutions. It also establishes a semi-centralized (the audit nodes need to confirm the service autonomy and capability of the service nodes offline) NFT trading market, which can provide unrestricted trading based on unbound (unbinding) NFT service warrants, NFT can be exchanged with SCT on APP freely, and will be hosted by SCC (SuperCells Chain) in the next stage.

### ■ **The SuperCells metaverse virtual community**

In the web 3.0 stage, the SuperCells metaverse virtual community is closer to the state of Meta, supporting the creation of citizen identity-based virtual community, the bottom layer based on citizen identity and SuperCells public chain can realize community autonomy, the middle layer based on the economic system and super cells bank can realize ecosystem construction, and the top layer based on virtual technology and scene reproduction technology can achieve communication and interaction.

## **2.2.2 The SuperCells metaverse infrastructure**

SuperCells' metaverse infrastructure is a distributed system for building the ecology of the supercell industry. It provides digital asset management, governance, voting, and smart contracts to achieve rational use and equitable distribution of stem cell resources. SuperCells' metaverse infrastructure consists of three categories:

technology infrastructure, resource infrastructure, and relationship infrastructure.

## ■ **Technology Infrastructure**

In the platforming stage, SuperCells mainly relies on the new generation of Internet technology to build the platform. Internet infrastructure is the core part of the Internet and consists of several components whose main purpose is to provide stable, fast, and secure Internet services to enable users to conduct information retrieval, communication, and business activities on the Internet. The Internet infrastructure needs to be continuously improved and upgraded to accommodate the rapid development of the Internet and the growing user needs. At this stage, the platform infrastructure is built with the application matrix as the core, including SC data centers, cloud servers, network equipment, Internet service providers (ISPs), smart contracts, etc.

In the community stage, in order to build a more secure, reliable, equal and open environment, SuperCells tries to propose a decentralized Internet infrastructure and discusses its architecture and the design of each layer to analyze the feasibility of the system. The DII architecture contains 3 layers: the bottom layer uses distributed ledger technology to build the basic decentralized capability; the middle layer builds a decentralized and trusted management mechanism for Internet namespaces such as IP addresses and domain names and supports secure and trusted inter-domain routing and domain name mapping systems; and the top layer is an open application layer that supports and promotes innovative and trusted decentralized Internet applications. To enable two nodes that are distant and do not know each other to communicate trustworthily and reliably, SuperCells provides the corresponding infrastructure, including border gateway protocol (BGP), domain name system (DNS), public key infrastructure (PKI), data storage, contract development, etc.

In the Web 3.0 stage, SuperCells will be built into a virtual world that is detached from the real world, but parallel to and interacting with the real world, and always online. Capable of providing users with an immersive stem cell experience and content community complex. The SuperCells metaverse infrastructure in this stage is focused on four directions, interoperability system, value settlement system, information infrastructure, and content production system.

## ■ **Resource Infrastructure**

### – **SuperCells Bank**

The SuperCells metaverse relies on citizen identity to establish the super cell bank (SuperCells Bank), which is important for the health protection of the patients and the preparation for the future of medical treatments, and in the future the super cell bank has an even more important financial significance for trading, research, incubation, and voting.

### – **SuperCells Labs**

The Supercells lab is a leading-edge driver of life sciences, empowering patented cell technologies and service research with platform-based standards

to achieve rapid lifecycle response and drive deeper discoveries in the life sciences.

– **SuperCells Factory**

The SuperCells factory is an efficient bio-manufacturing platform with technological upgrading and precise production as its core. Through digital design and intelligent optimization of big data, it realizes the whole collaborative manufacturing process of life science products, creating significant industrial value and injecting strong powers into the life science industry.

– **SuperCells Scientist Brain Bank**

SuperCells has a strong global talent pool of scientists with not only excellent scientific knowledge, but also with a high level of innovation and commitment to continuously improve the technology of the platform.

It not only brings to the SuperCells metaverse's development technological breakthroughs, but also creates more opportunities for success and is an important driving force for future development.

■ **Relationship Infrastructure**

The interplay of multiple relationships between users, service providers, communities, technical parties, operators, consumers and supervisors within SuperCells forms the basis of a complex relationship. In this system, there is a close partnership and interdependence among different players. Between users and service providers, mutual communication goes through mechanisms such as NFT; between communities and service providers, they need to be certified by audit nodes to achieve cooperation; the technical side is responsible for providing technical support, the operator is responsible for operation management, the user is the main consumer of the platform, and the supervisor is responsible for monitoring the operation of the whole platform. The composition of all these basic relationships constitutes the economic system of SuperCells metaverse.

### **2.2.3 The SuperCells metaverse foundation**

The SuperCells Foundation (SCF) is responsible for the issuance and supervision of SuperCells Token and is a crucial part of the SuperCells metaverse platform stepping from a simple service platform to a comprehensive platform of R&D and patented results. As the parent fund, SCF focuses on supporting the research of pathological super cells based on the market situation and current research results and sets up a special research sub-fund to support and manage them, and issues sub-tokens, aiming to promote the R&D and application of super cells with a new crowdfunding model of innovation and sharing.

The SuperCells sub-fund aims to promote the R&D and application of super cells with a new crowdfunding model of innovation and sharing. Using the demand to lead to capital, the fund model, crowdfunding model, blockchain model and research model

are connected and reshape the industry chain of stem cell production, research and transportation, and provide stem cell services accurately, quickly and affordably.

The sub-foundation members initiate different patent research according to different specialties such as diabetes, dermatology, regenerative stem cells, etc., to attract and expand further our cooperation with professionals, laboratories, hospitals and non-profit organizations around the world with the influence of the platform, so that the platform can have more partnerships and develop more patented items. The sub-foundation creators can invite Nobel scholars, R&D institutions, medical institutions, stem cell therapy users, blockchain eco-builders, communities and other groups to collaborate to help special industry research and develop the platform's patented items.

The SuperCells metaverse foundation builds research results on the blockchain, enabling stem cell users to see the source of inviolable and traceable stem cell data on the chain, which will provide a deeper understanding of the security, traceability and other advantages of the platform's research results to the users and promote user confidence in its use. The SuperCells Foundation makes the following settings for the sub-funds:

- 1) A pathological super cell program that can be accredited by the SCF council through registrations.
- 2) Members who pledge 1,000,000 SCTs may initiate the establishment of a sub-fund.
- 3) The top 10 sub-funds in quarterly pledges will receive 1:1 funding from the SCF mother fund.
- 4) Additional SCTs issued by the parent fund are as well pledged into the accounts of the sub-fund.
- 5) Tendering of the top ten projects, selection of the commissioners and signing of cooperation agreements.
- 6) Gradual unlocking of the SCT rewards and award them to the entrusting parties according to the milestone reward plan.

### **SuperCells Foundation sub-fund interests**

SCF will provide partner status, technical R&D support, strategic investment and other interests to sub-funds and owners based on R&D results.

- 1) 1 founder, 1 other voter (can run for the election), 1 SCF representative, commissioner representative, and 1 fund management representative (professional manager) form the fund board and decision-making committee
- 2) The founders and voters are entitled to dividends and access priority.
- 3) Issuance of 1:1 sub-token based on the number of SCT pledges, SCT1\SCT2\SCT3..., airdropped to pledgers as ownership certificates, corresponding to 100% equity of sub-funds and entrusted projects.
- 4) The sub-token airdrop obtained by SCF will be locked until all the milestones of

the partnership agreement are completed and after that it will then be unlocked. Of which 40% of the token will be gifted to the principals (20% for the lab and 20% for the management team), 10% will be gifted to the creator, and 50% of the Token will be attributed to the SCF.

- 5) The owner will have one free super cell service package SC NFT for every 100,000 SCT sub-Tokens, only 100,000 integral multiples will be registered, the remaining number will not be counted.
- 6) SCT sub-token is transferable and tradable, SC NFT is transferable and tradable.
- 7) The profits of the sub-fund and super cell service will be shared proportionally with profit dividend based on the number of SCT sub-Tokens held each year.

## **The SuperCells Foundation eco-governance**

### **On-chain Governance**

#### **■ Super Nodes**

SuperCells Foundation adopts a dual-chain structure, divided into a transaction chain and a contract chain. The super nodes provide infrastructure such as network, storage and computing, and are responsible for the SCT transaction verification, transaction bookkeeping, block packing and validation and other types of operation.

To ensure higher transaction security and superstability, the contract chain is implemented through community voting to elect super nodes to realize the on-chain governance.

#### **■ Distributed model community**

SuperCells Foundation adopts a distributed community model, where SuperCells Foundation members self-organize, implement self-governance, and where each sub-foundation can campaign for super nodes.

#### **■ Community Charter**

Although the blockchain world promotes the concept of a "code as a law", the governance of the sub-foundation is a process in which community members reach consensus on subjective issues, many of which cannot be achieved through code algorithms.

In order to achieve community governance under certain rules, SuperCells will bind a special protocol on the blockchain, namely the "community charter" of the SuperCells Foundation community.

The "community charter" defines the rights and obligations of the users, as well as other important rules, and any user will be subject to the community charter.

When the Community Charter was first developed, it was drafted by the council in consultation with a panel of expert advisors. When the "community charter" is revised, the following process takes place:

- Community members propose to revise the "community charter" and submit it to the council for voting, each of them has one vote, and if the number of votes in favor exceeds 2/3 of the total votes, it will be deemed passed, and then enter the community voting session.
- In the community voting session, all members of the community vote, voting does not consume tokens. The number of votes is allocated according to the number of tokens held before the voting begins. If the number of votes in favor exceeds 3/4 of the total number of votes, it is considered passed.
- The node reflects the change of the community charter by modifying the source code and announces the hash value of the new charter to the blockchain network.
- All ordinary nodes will be upgraded within a week, and nodes that have not been upgraded to the new code will be automatically shut down. The specific details and operating procedures of the community governance rules , node election and voting are subject to the latest official information as a standard.

## **Off-chain Governance**

The off-chain governance of the SuperCells Foundation is led by the council, which is responsible for making decisions on major matters, the leader team, as the executive team, is responsible for the daily operations of the sub-foundation, including but not limited to technology development, marketing, and investment, and receives professional guidance and supervision from an expert advisory board.

### **■ Council**

#### **1) Council Composition**

The SuperCells Foundation council shall consist of 3 directors, including 1 honorary director appointed by the SuperCells Foundation and 2 non-executive directors, who will initially be the top 2 candidates in the sub-foundation leader election.

After the white paper is completed, the community votes on the non-executive board members on a quarterly basis. At the end of each quarter, the board members will be replaced based on the votes cast, with a maximum of 2 non-executive board members to be replaced each time. Voting procedures and methods are separately defined and are subject to the official announcement of the SuperCells Foundation as a standard.

#### **2) Rights and responsibilities of the council**

The council shall have the following rights and responsibilities:

- To hear and review reports from the sub-foundation leaders, the opinions of expert advisors and the community.
- To vote for general matters such as community opinions and the development direction of the Foundation.
- To vote on major matters.

#### **3) Scope of material matters**

Significant matters as described by the Board shall include matters

such as:

- Significant changes in the development of the sub-foundation blockchain.
- Matters related to the establishment of the management organizations of the sub-foundation.
- Matters concerning the establishment of the basic system of the relevant management organizations of the Sub-Foundation.
- Impeachment and election of the executive president matters.
- Any other matters that are considered significant by a two-thirds majority of all members of the council.

#### **4) Procedural Norms**

- The council shall comply the following procedural norms:
- The Council shall meet at least once a month and notify all members and expert advisors 10 days before the date of the meeting.
- The Council shall be held only with the presence of at least half of its members.
- The Council shall adopt the one-person-one-vote system for resolutions, and when the matters to be voted on are related to the personal interests of the members of the Council, the relevant members shall not participate in the voting.
- General matters must be passed by at least half of all council members, and important matters must be passed by two-thirds or more of all council members.
- Community groups representing more than one tenth of the voting rights, more than one third of the council members or expert advisors will be able to propose the convening of a temporary council meeting.
- A record of resolutions, etc. formed by the council, which shall be signed by the present council members.
- A proposal to impeach the executive president requires/shall include at least 2 council members to present it at the same time.
- In the event that the executive president steps down or is impeached, the council shall vote to elect an executive president successor internally, and the one who receives at least 3 votes shall become the executive president successor.

#### **5) Rights and duties of the council members**

- The directors shall fulfill the following obligations and benefit relevant rights:
- Council members shall attend the meetings of the council and diligently perform the duties assigned by the council.
- Council members can propose to lead the development of modules in the public chain by themselves, and propose corresponding incentive plans, which will be submitted to the council for consideration and voting, and the development task should not be changed even with the council member's departure.

### **Expert advisory board**

#### **1 ) The composition of the expert advisory board**



The SuperCells Foundation's expert advisory board is composed of world-renowned industry technology elites, Nobel Prize scholars, patent technical specialists and renowned investors.

## 2) Expert advisor's rights and responsibility

- Promote the healthy development of the sub-foundation project.
- - Carry out external supervision of the foundation's construction in accordance with these rules.
- Propose motions on important issues related to the Sub-Foundation, and the council must review and make resolutions in response to the proposals formed by one-third of the members of the advisors.
- The number of expert advisors

The initial number of expert advisors is determined by the Foundation's ecology. After the first calendar year following that decision, the Foundation will organize a community vote each year to decide whether to increase the number of expert advisors or not. For the avoidance of doubt, in the event of a vote to increase the number of expert advisors, the number of advisors may not be increased by more than 50% of the original number of advisors for that year.

## 3 ) Employment and dismissal of expert advisors

- After the status of the expert advisor is determined, a contract will be signed with the entity designated by the Foundation to determine the rights and obligations.
- In case of incompetence or breach of contractual obligations, the expert advisor will be dismissed by the subject designated by the Foundation.

### ■ Executive team

#### 1) Executive Team Setup

The executive team is responsible for the development and construction of the Foundation and the daily operation of the sub-foundations, with several sub-teams in charge of different business lines. There are 6 sub-teams under the executive team:

- Technical team: responsible for the technical architecture construction, technical upgrade, code audit, etc. of the SuperCells Foundation, and actively explore technical solutions to improve the performance of the chain according to the business requirements to ensure the stable operation and sustainable development of SuperCells.
- Sub-foundation team: responsible for the design, related implementation of each sub-foundation layer, and iteration of stem cell therapy according to the business development.
- Research team: responsible for tracking regulatory policies and making research as well as judgment on industry development.
- Business team: responsible for the external business cooperation, public image establishment and maintenance of SuperCells, as well as to promote SuperCells to gain market recognition and more external resources support.

- Community operation team: Responsible for community construction and operation, communicating with community members on the development of SuperCells, understanding their opinions and suggestions, and organizing community activities such as SuperCells Foundation super node campaign.
- Integrated function team: The integrated function team is responsible for the legal compliance, financial budget, internal personnel management and administrative affairs management of the foundation.

## 2) Duties of the executive president

- Reporting to the council.
- Organizing the development and maintenance of the executive team and the day-to-day management of the executive team.
- Designing and/or leading the design of technical routes.
- Elaborate the basic management system of the executive team and submit the plan to the council for approval.
- Attending the council meetings.
- Performing other authorities given by the council.

## 3) Duties of the executive team

- The executive team members sign a contract with the designated subject to confirm the rights and obligations of the executive team members during the development and construction.
- Carrying out system development according to the requirements of the executive president.
- Performing system maintenance under the guidance of the executive president.
- Perform other obligations as the one agreed in the contract.
- Others

The executive team members must make an application to the executive president and can only withdraw after the executive president agrees and releases the contract signed when joining the executive team. The change of the executive president does not affect the rights and obligations of the executive team members under the contract.

## 2.2.4 The SuperCells metaverse nodes

The SuperCells metaverse uses SCT as the core token, any behavior, any gain, any decision is made with the power of the owned amount of SCT. At the same time, it opens up pledging system, establishes citizen nodes, service nodes, pledge nodes and audit nodes, as well as serves the ecology, and establishes the prototype of the SuperCells economic system.

### ■ Citizen Nodes

The SuperCells metaverse allows users to have more control and privacy protection on the blockchain network, and to exchange digital assets (including SCT, SC NFT and SCT sub-tokens) without the restrictions of centralized services. In the peer-to-peer SuperCells metaverse, citizens have completed autonomous rights, including wallet

management, data management, permission management, resource management and other various root permissions, etc., fully realizing true decentralization and complete control of your own digital identity and digital assets, including your own life passcode.

## ■ **Service Nodes**

The SuperCells metaverse contains a series of service nodes, with Japan as the core, up to now SuperCells has signed up with Japan, France, China (Hong Kong) and other countries to comply with well-known large stem cell service companies, and will continue to expand cooperation, further establish a comprehensive, multi-dimensional and complete strategic partnership to provide more professional services for users and members, in order to promote the rapid development of the stem cell industry chain, and jointly contribute to the cause of human health. The SuperCells service nodes provides the following services:

### **1) SuperCells Consulting Services**

We provide clients with professional consulting services on stem cell therapy, covering all aspects of stem cell therapy, such as indications, treatment process, treatment effects, related costs, etc. The professional consulting team of SuperCells contracted institutions will provide objective, professional and authoritative advice to help clients make informed decisions according to their specific conditions.

### **2) SuperCells Bank**

The SuperCells metaverse relies on the block identity to establish the SuperCells Bank, which stores healthy and viable cells in advance in an ultra-low temperature environment and can be used for anti-aging, health care in the future and can be taken out from the cell bank when diseases occur, which is important for the health protection of patients and the preparation of treatment in the future:

- Preparing for future treatments: stored supercell samples can be used as materials needed for treatment if the user needs supercell therapy in the future.
- Preserve a biological backup: supercell storage can help patients maintain a biological backup to be prepared for unexpected events and expand the supercell bank at a macro level
- Avoiding difficulties in subsequent cell collection: stored supercell samples can come in handy if a user needs stem cell therapy later but can no longer collect the cell samples.

In the future, the super cell bank has a more important financial significance. SuperCells members store their cells in the supercell bank, has cells as equity, has cells as revenue, and can be used for trading, research, incubation, and voting in the future.

### **3) SuperCells Service Package**

The exact process may vary from one contracted institution to another, but the general

stem cell treatment process includes:

- Initial diagnosis: a detailed consultation with the client to determine suitability for stem cell therapy.
- Examination and treatment planning: conducting the necessary medical examinations and developing a treatment plan.
- Stem cell collection: collection of stem cells through blood collection, adipose tissue collection, etc.
- Stem cell processing: processing the collected stem cells and screening the best quality stem cells.
- Stem cell transplant: transplant of the processed stem cells into the patient.
- Follow-up treatment: performing the necessary follow-up treatment and examination to ensure the treatment effect.

See Appendix 1 for more details on the directory of our partner institutions.

#### **4 ) SuperCells Lab**

The Supercells lab is a leading-edge driver of life sciences, empowering dedicated cell research with platform-based standards to achieve rapid lifecycle response and drive deeper exploration in life sciences. The Supercells metaverse has set up its own super cell lab, with different research directions in different regions, to lay the foundation for future special research subjects and to promote the development of patents. Through these efforts Supercells hopes to contribute to the industry and bring more help to more people. Currently, the following have been opened:

- **Tokyo SuperCells laboratory:** The research is toward signal regulation of adult stem cells and cancer occurrence, organoid models and targeted therapy of tumors, hematopoietic stem cells and leukemia, lineage tracing and cell fate plasticity, etc.
- **Guangzhou SuperCells laboratory:** The research is mainly toward the signaling network and mechanism of cellular activity, in order to elucidate the components, interrelationships and regulatory mechanisms of basic life activities such as cell proliferation, differentiation, apoptosis and motility and their molecular regulatory networks, as well as the relationship with diseases.

#### **5 ) SuperCells Factory**

The SuperCells Factory is an efficient bio-manufacturing platform with technological upgrading and precise production as its core. Through digital design and intelligent optimization of big data, it realizes the whole process collaborative manufacturing of life science products and injects strong power into the life science industry.

The Super Cell Factory Research Institute is committed to developing and introducing core technologies related to the "reading", "writing" and "storage" of cells, establishing a world-class high-throughput single-cell multinominal reading platform, cell engineering platform and new cell storage technology platform. As well as, to explore and design landmark scientific research achievements (special albums) and industrial application demonstrations of cell "reading", "writing" and "storage"

technology platforms in major strategic directions such as "life-death staining" and anti-aging, as well as international and domestic industry standards, exporting important technologies related to "reading", "writing" and "storing" to create a significant industrial value.

## **6) SuperCells Business Center**

The SuperCells business center will spread all over the world, using the O2O model to promote the rapid development of the whole industry chain and resources to allow the whole ecology to land, achieve cell storage, member service, docking resources, carrying dreams, legal compliance, and related functions. It includes a commerce department, operations and maintenance department, member service department, etc. It includes a commerce, operation and maintenance, membership department, etc., There are member service centers in Tokyo, Japan, Seoul, South Korea, Zhuhai, China, and we are in the process of having other countries and regions to join us.

### **■ Pledge nodes**

#### **1) Sub-fund pledge**

Members who are approved by the SCF council through registration in SuperCells Foundation and pledge 1 million SCTs can initiate the formation of a sub-fund and become a pledge node. The top ten sub-funds pledging each quarter will receive 1:1 funding from the SCF parent fund, and additional SCTs issued by the parent fund will also be pledged in the sub-fund account. The top ten projects will be tendered, principals will be selected and cooperation agreements will be signed. SCT awards will be unlocked gradually according to the milestone award program and eventually awarded to the principals. So, essentially, a pledge node is a member who pledges 1 million SCTs.

#### **2) Service Node Pledge**

The service node pledge means that service nodes in the SuperCells metaverse must pass the approval of audit nodes and pledge 10 million SCTs to become a valid service node, only approved nodes can provide services in the network and release their own NFT pools, which are unpledged by the destruction of NFTs.

#### **3) Super node pledge**

Based on pledge, super nodes provide infrastructure such as network, storage and computation, and are responsible for SCT transaction verification, transaction bookkeeping, block packing and confirmation, etc.

### **■ Audit Nodes**

Supercells metaverse has two types of auditing nodes, one is the supervisory body embedded in the Supercells metaverse, SuperCells Foundation and its associated voting committee, etc., which supervise the internal operation of the system, to ensure its safety and legality, and also provide users with a transparent and fair operation mechanism; in the initial stage, the review nodes are mainly provided by the project

parties to ensure the smooth operation of the platform, and as the platform develops more nodes can contribute to the development of the platform by pledging SCT to certify their review node qualifications.

Another category is the third-party review institutions, such as third-party financial institutions, third-party legal institutions, third-party independent review institutions, etc. By independently evaluating the financial and legal aspects of the project, it provides a higher guarantee for the authenticity and feasibility of the project, thus attracting more users to participate. The credibility of the SuperCells metaverse is further improved through internal and external review nodes and monitoring mechanisms.

## **2.2.5 The SuperCells metaverse citizen identity**

### **■ The SuperCells metaverse users**

During the SuperCells metaverse platforming stage, the metaverse identity exists with the concept of users, it is the core of the SuperCells metaverse service system. In order to ensure sustainable development, all services are designed and provided around the user's needs, the user's needs are the driving essence of the platform services. At present, the SuperCells platform integrates three major categories based on market research: health care and standard-type packages, pathological packages, and family VIP customized packages. They bring actual benefits and contributions to the platform by using the platform's services and products. The SuperCells package service catalog is shown in the Appendix 2.

### **■ SuperCells metaverse membership**

In the SuperCells metaverse community stage, the metaverse identity evolves into a membership concept that uses the SC wallet as the unique authentication mark to build a personal identity tree around a BID, where members are able to take full control of their digital identity and digital assets with a decentralized identity. The service is the key to linking members to the SuperCells metaverse, but is not the only node. Members of the SuperCells metaverse also benefit of the right to govern, suggest, and members that meet the requirements can even join the special results research of SuperCells, contributing to the SuperCells metaverse, and receive the corresponding benefits. The core role of the SuperCells users and members is reflected through the following aspects:

1) **DAO Governance:** Using smart contracts as the basis for rules and processes, SuperCells enables transparent, decentralized decision-making and management to increase efficiency and trust. Members participate in decision-making on the platform and provide their opinions and suggestions, including:

- Defining governance rules through smart contracts, including governance structures, decision-making processes, and permissions.

- Giving members voting rights through a token authorization mechanism to determine the platform's strategy and development direction.
- Making decision-making more transparent, democratic and verifiable by running a procedural governance process.
- Regular audits and monitoring to ensure compliance with predefined rules.

Through the above, it is possible to make the decision-making and management of the entire SuperCells metaverse more democratic, transparent, and effective.

2) Dividend and access priority: In the SuperCells sub-fund, members who meet the requirements to be creators and voters are entitled to dividends and access priority privileges.

3) Community building: The SuperCells shared community shares knowledge and information widely for life sciences, from professionals to the whole industry, forming an interactive, collaborative and communicative knowledge community, linking users to users through word-of-mouth transmission, digital marketing, and shared win-win to achieve a virtual home based on value and demand. It brings together the industry's leading life science experts, research scholars and medical institutions, forming a powerful life science ecosystem. The core value of the community is to accelerate the development of human health science and technology and promote social progress through the sharing of quality scientific knowledge and technology. The community has the unique advantage of resource integration, aggregating enriching life science resources and building a comprehensive life science ecosystem. Based on the membership system, the community provides efficient and convenient life science services so that every member can enjoy a professional life science experience.

### ■ Citizen of the SuperCells metaverse Web 3.0

By the Web 3.0 stage, the WEB3 citizen is the cornerstone of the SuperCells metaverse. Citizen identity is a fundamental right, but is composed of several elements; citizen identity nodes represent the absolute control, citizenship CELLS represent real security, and the citizenship image represent the virtual world. These elements together make up the WEB3 citizen identity. The SuperCells metaverse firstly proposes the concept of complete WEB3 identity based on the implementation of super cell technology, and each citizen is a super cell in the SC Meta-Universe.

#### - Citizen Nodes

The SuperCells metaverse allows users to have more control and privacy protection on the blockchain network, and to exchange digital assets (including SCT, SC NFT and SCT sub-tokens) without the restrictions of centralized services. In the peer-to-peer SuperCells metaverse, citizens have complete autonomous rights, including wallet management, data management, permission management, resource management and other various root permissions, etc., fully realizing true decentralization and complete control of your own digital identity and digital assets, including your own life passcode.

### - **Citizen Image**

The SuperCells metaverse supports a range of virtual creation technologies based on AI, life sciences, computer technology, big data, VGA, AR/VR, virtual scenes, virtual objects, etc. This includes technology or NFT mechanics with virtual humans as citizen images. Virtual human technology is a digital, non-physical presence that can be a virtual character, intelligent agent or virtual service/research institute for the user. Bringing virtual worlds to life.

### - **Citizen DNA 'C**

The SuperCells metaverse supports the fourth generation of biological authentication model based on DNA'C (DNA\_Cells) lock, the first generation are the account and phone verification code of the Internet model; the second generation is the fingerprint and face biometric model; the third generation is the encryption algorithm model of random number verification; for the fourth generation we will materialize the ultimate authentication, a life verification code --A stem cell based DNA life verification code.

Deoxyribonucleic acid, abbreviated as (DNA), is one of the four biological macromolecules (deoxyribonucleotides) contained in biological cells, carrying genetic information necessary for the synthesis of RNA and proteins. It is a biological macromolecule essential for the development and normal operation of living organisms, and DNA has unique features due to the characteristics of human organisms. With a single storage of stem cells in the super cell bank, citizens will receive the opportunity to have a free DNA test with a super encryption through the chain. After the creation of a DNA-based cell storage encryption, each DNA can be used as a unique and inviolable on-chain address for citizens. A unique DNA'C encryption method is formed using the combination of DNA and Cells.

### - **Citizen Stem Cells**

Based on the functions and services of Super Cells Bank, stem cell samples and research results are stored, tracked and managed through blockchain technology, or virtual humans are used for research cooperation, or they interact with patients to manage and track treatment progress. For more efficient, transparent and reliable research and treatment processes.

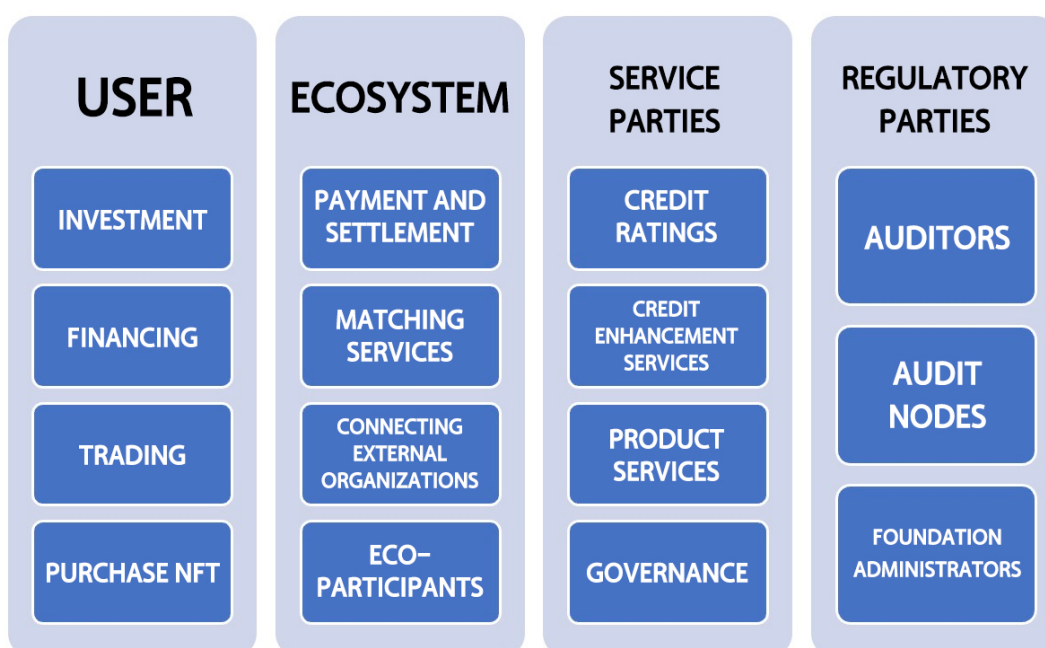
## **2.2.6 The SuperCells metaverse economic system**

In the SuperCells metaverse economic system, there are four major types of participants: user side, ecosystem side (SuperCells, SuperCells Foundation), external service provider, and supervisory party. The roles, functions, powers and responsibilities, and values of each type of participant in the SuperCells economic system are different.



The SuperCells metaverse uses tokenized financial system to realize the building structure of the economic system. All things must constitute a system, a system must have a structure, and the structure determines the function. The economic system refers to the organic whole composed of several economic elements: production, exchange, distribution and consumption, that interconnect and interact with each other during the process of social reproduction. These four links are responsible for several parts of the work, each fulfilling a specific function. The economic system consists of a number of interconnected and interacting economic elements combined into an organic whole with specific functions.

### THE SUPER CELL METaverse ECONOMIC SYSTEM USER PARTICIPANTS



#### ■ User Side

Users are the core economic element of the SuperCells economic system.

Firstly, users are not only the main body of the demand, but it is also the smallest unit of the community, bringing energy and value to the whole economy; secondly, users are also the main users of the tokens, and the trading, pledging, voting and investment of tokens are all cut by the role of the users. Thirdly, users are the most direct resource party of stem cells. One for all, all for one is the key value of SCM, the quality and quantity of stem cells determine the application prospect of stem cells, and simply relying on institutions and random trading is not a long-term solution. Fourth, users are also the creators and managers of sub-funds, and can use tokens to do pledge voting to incubate joint labs (investment in the development and operation of special type of super cell products). Therefore, users are the demand side, user side, resource side, and investor side, as the core elements of the SuperCells Foundation economic system, which is crucial for moving to a higher level of the SuperCells metaverse

ecology. Users also go through their own evolutionary process in SCM, from users to members, from members to citizens, they are the most important economic elements, they are the participants and the constructors of the SuperCells economic system.

### ■ **Ecosystem Side**

The SuperCells Foundation plays a fundamental role in the SuperCells economic system, its main functions include: first, using the platform to connect all users, provide payment and clearing functions, collect and process data on all business purchases and scene activities data. Second, to provide matching services according to the service needs of the recipients, including matching of funds and assets, value-added service provision. Third, the sub-fund supports and manages several pathological SuperCells sub-funds, aiming to promote the R&D and application of SuperCells with a new crowdfunding model of innovation and sharing.

SuperCells connects external super cell product service providers, etc., to meet the needs of various members as well as complex application scenes.

### ■ **External Service Provider**

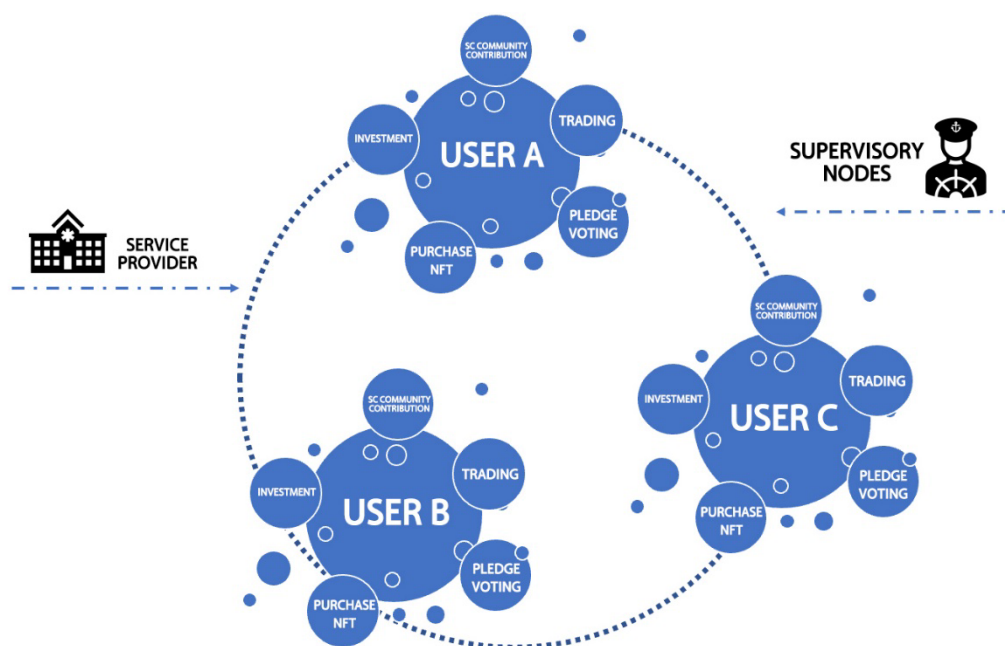
The SuperCells metaverse utilizes audited and certified service providers of various types, including auditors, payment service providers, intermediary organizations, and service organizations (joint laboratories, SuperCells factories, SuperCells business centers) to form service nodes in order to provide specialized and personalized services to members of the community. It empowers the economic system through the interaction of members and service nodes.

### ■ **The Supervisory Party**

The supervisory work should match its risk and economic functions. Audit institutions, nodes audit, fund managers, legal teams, authority supervision, complaint and reporting supervision, etc. plays a safeguard role for the SuperCells metaverse economic system.

The economic system makes SuperCells metaverse form a certain non-equilibrium mechanism role and achieve the integration of dynamic changes and static stability of the economic system in dynamic evolution, based on the relationship between dynamic changes and static stability of the economic system. Achieve the optimization of individual elements and overall structure among subsystems of non-equilibrium economic system on the basis of various non- equilibrium development among various non-equilibrium component subsystems. Incentive mechanism and coupling mechanism of the economic system are formed to realize a synergy of differences based on the relation of potential differences and diversity of the economic system. Integration of the overall co-progression and orderly operation of the economic system is realized based on the understanding of the order parameters and criticality of the economic system. An efficient mechanism is formed based on the "symmetric

deficiency" and "causal inequality" of the non-equilibrium economic system.



## THE SUPER CELL METAVERSE ECONOMIC SYSTEM

### 2.3 Roadmap

#### Initial Route Preparation

- January-May 2021: Supercell research and investment
- May-November 2021: Supercell project research
- - Dec. 2021: Establishment of the first joint lab

#### First Quarter of 2022

- Core team creation
- SuperCells eco-prototype construction
- Reached partnerships with super cell therapy service provider
- Creation of super cell lab in Tokyo completed
- Creation of super cell factory completed
- Creation of SuperCells eco-social media created

#### Second Quarter of 2022

- Reached partnerships with super cell therapy service provider
- Super cell therapy service provider in Japan (Tokyo) signed up with at least 1 medical institution
- Creation of super cell lab in Zhuhai
- Establishment of the global member service center in Japan (Tokyo)

#### Third Quarter of 2022

- Preparation of the SuperCells Foundation

- Super cell therapy service provider in Japan (Tokyo) signed up with at least 1 medical institution
- The SC community reaches 2,000 users

### **Fourth Quarter of 2022**

- Development of SuperCells' official website
- Super cell therapy service provider in Japan (Tokyo) signed up with at least 1 medical institution
- Design of the SuperCells metaverse ecology completed
- The SC community reaches 5,000 users

### **First Quarter of 2023**

- Launch of the SuperCells official website
- SuperCells community goes live
- Passed the data security SlowMist audit
- Super cell therapy service provider in China (Hong Kong) signed up with at least 2 medical institutions
- Super cell therapy service provider in China (Zhuhai) signed up with at least 2 medical institutions
- Super cell factory's research results announced
- The SC community reaches 10,000 users

### **Second quarter of 2023**

- APP online, completion of the stem cell product service reservation use function
- SuperCells member service community launch
- Super cell therapy service provider in Japan (Tokyo) signs up with at least 2 medical institutions
- Super cell license application
- Reaches 1,000 Supercell user members
- The SC community reaches 20,000 users

### **Third Quarter of 2023**

- Establishment of the global member service center in China (Hong Kong)
- Establishment of the global member service center in China (Zhuhai)
- Increase of 5 types of super cell product service packages
- The super cell lab's research results complete 2 projects
- Global member service center opening in 5 countries and 8 regions
- Reaches 2,000 Supercell user members

### **Fourth Quarter of 2023**

- Supercell product therapy service provider signed in France
- Establishment of the global member service center in Korea (Seoul) completed
- SuperCells public chain development
- SuperCells patent achievement and metaverse technology release conference.

### **The 2nd phase of the roadmap is under construction**

# 3. The SuperCells Metaverse Solution

## 3.1 The SuperCells metaverse platform stage

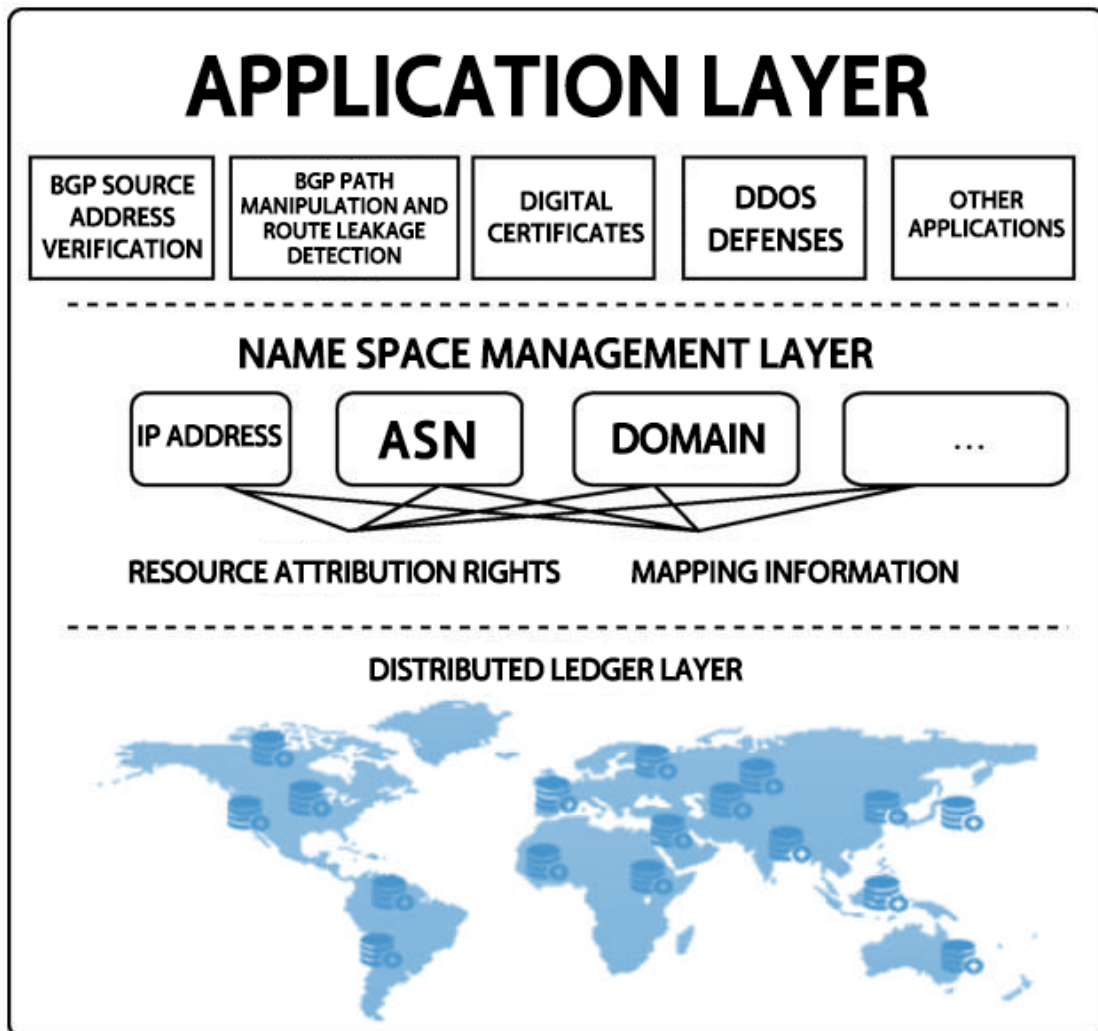
The period from the 2nd quarter of 2021 to 1st quarter of 2023 belongs to the platforming phase. The SuperCells metaverse uses Internet technology, cloud computing, big data, and artificial intelligence to establish the connection between users and service providers.

SuperCells mainly relies on next-generation Internet technology to build the platform. The Internet infrastructure is the core part of the Internet and consists of several components whose main purpose is to provide stable, fast, and secure Internet services that enable users to conduct information retrieval, communication, and commerce on the Internet. The Internet infrastructure needs to be continuously improved and upgraded to accommodate the rapid development of the Internet and the growing user needs. At this stage, the platform's infrastructure is built with the application matrix as the core:

- **SC Data Center:** The data center is an important part of the platform phase infrastructure, storing large amounts of data and providing computing resources.
- **Cloud servers:** Servers are the core devices of the Internet, storing and processing data and providing resources and services to clients.
- **Network devices:** Network devices include routers, switches, firewalls, etc., which are used to manage and transfer data packets and ensure data transmission and security.
- **Internet Service Providers (ISPs):** ISPs are companies that provide Internet services, offering Internet access, data transmission, and other related services.
- **Smart Contracts:** In SuperCells' SuperCells Token (SCT) distribution, a smart contract is used to automatically manage the issuance, circulation and trading of the tokens, which defines the total number of tokens, issuance rules, circulation rules, etc. Smart contracts also play an important role in SuperCells NFT issuance. The platform uses smart contracts to manage the issuance and trading of NFTs, defines the total number of NFTs and how they are created, and automatically updates the ownership information of NFTs at each transaction to ensure the security and fairness of the SuperCells NFT transactions.

## 3.2 The SuperCells metaverse community phase

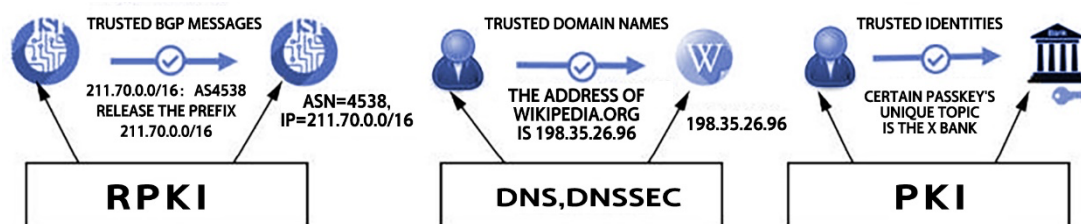
The period from the 2nd quarter of 2023 to the 4th quarter of 2023 belongs to the community phase. In order to build a more secure, reliable, equal and open environment, SuperCells tries to propose a decentralized Internet infrastructure and discusses its architecture and the design of each layer to analyze the feasibility of the system. The DII architecture contains 3 layers: the bottom layer uses distributed ledger technology to build the basic decentralization capability; The middle layer builds a decentralized and trusted management mechanism for Internet namespaces such as IP addresses and domain names, and supports safe and trusted inter-domain routing and domain name mapping systems. The top layer is an open application layer that supports and promotes innovative and trusted decentralized Internet applications.



Based on blockchain technology, we provide technical support, protection, ensure data security and transparency for the SuperCells metaverse platform by developing and providing efficient and reliable technical solutions, including data security guarantee, providing efficient data storage and processing capabilities, etc., in order to achieve stable operation and efficient services of the platform. To enable two nodes

that are distant and do not know each other to communicate trustworthily and reliably, SuperCells provides the corresponding infrastructure

- **Border gateway protocol (BGP):** Enables the basic connectivity of the global Internet by associating IP address prefixes to autonomous domains, inter-domain topologies and calculating inter-domain routing.
- **Domain name system (DNS):** Mapping domain names to IP addresses and associating application layer service names with network layer addresses to enable services to be accessed in the network.
- **Public key infrastructure (PKI):** By associating enterprise identity information and other information to public keys, it associates network communication entities with real-world real identities and makes communication trustworthy.



- **Data storage:** The SuperCells metaverse builds research results on the blockchain, enabling stem cell users to see the source of inviolable and traceable stem cell data on the chain, which will enable the public to have a better understanding of the advantages of the platform's research results, such as security and traceability, and promote user confidence in its use. By using a distributed ledger, data integrity and decentralization can be achieved, thus ensuring the security of the platform. Meanwhile, the use of blockchain technology can ensure data consistency among all participants and prevent data tampering.
- **Contract Development:** SuperCells uses smart contracts to improve trust and efficiency in the stem cell industry by ensuring the fairness of the SuperCells transactions, securing the rights of each participant, and improving data security. In the SuperCells metaverse foundation's pledge voting, smart contracts are used to auto-manage the pledge and voting process, it defines the pledging rules and voting rules, and execute the voting process automatically. Participants can indicate their support for a decision by pledging tokens to the contract, which calculates the total number of tokens pledged and calculates the voting result. Due to the fairness and transparency of the smart contract, the fairness of the voting result is ensured.

### 3.3 The SuperCells Metaverse Web 3.0 Phase

The period from 4th quarter of 2023 to 4th quarter of 2025 belongs to the Web 3.0 phase. SuperCells will be built into a virtual world that is detached from the real world, but parallel to and interacting with the real world, and always online. Capable of providing users with an immersive stem cell experience and content community complex. The meta-universe puts higher demands on arithmetic power in order to

meet the needs of future new network services, as well as lightweight and dynamic computing. Under the general trend of deep integration development of network and computing, the core demand of network evolution requires network and computing to be mutually aware and highly collaborative. The arithmetic network will realize ubiquitous computing interconnection, realize efficient collaboration of cloud, network and edge, improve the efficiency of network resources and computing resources utilization, and then realize real-time and accurate arithmetic discovery, flexible and dynamic scheduling of services, and consistency of user experience. The SuperCells metaverse infrastructure at this stage is focused on four directions, interoperability system, value settlement system, information infrastructure, and content production system.

- **Interoperability System:** The SuperCells metaverse is committed to leading the way in human-computer interaction technology in the stem cell industry. As computing platforms continue to evolve, human-computer interaction methods are also evolving in a more instinctive and immersive direction. In the SuperCells metaverse, VR devices provide users with an immersive interaction experience in the virtual world, while AR devices provide users with a fusion of the real world and the virtual world by "superimposing" virtual objects on the real world. The SuperCells metaverse also continuously explore the next generation of human-computer interaction technology, such as brain-computer interface technology, in the growing direction of microscopic myoelectricity, neuroelectricity, etc. In short, the SuperCells metaverse connects the stem cell industry with the most advanced human-computer interaction technology to bring a new experience to users.
- **Cloud computing:** the metaverse is a virtual world parallel to real time, in which time and the real-world time are synchronized, and users can enter this one world anytime and anywhere. To achieve such outcome, a powerful arithmetic system is needed to achieve it, and currently cloud computing is the most compatible arithmetic system.
- **Edge computing:** Edge computing is a decentralized computing architecture that decomposes large-scale services such as application models and data resources, cuts them into smaller and easier-to-manage parts, and distributes them from the central node of the network to the edge nodes for processing. Since the edge node is closer to the user's terminal device, it can speed up the processing and transmission of data and reducing delays.
- **Optical communication module:** optical module plays the basis of cloud-edge-end high-speed network transmission, in order to meet the continuous growth of network bandwidth under the metaverse and to achieve a smooth transition of network architecture. 400G to 800G silicon optical module will be iterated in the future.
- **Holographic Digital Twin (HDT):** SuperCells metaverse will also work on the exploration and development of metaverse technologies, especially the application of new technologies in stem cell services, such as holographic digital twin technology, and in the future empower stem cell service providers with research results to make the process of stem cell services smarter, more



accurate and improve the user experience. The use of HDT in stem cell services can transform healthcare by improving user outcomes and reducing costs through the use of virtual simulation and data analysis.

### 3.3.1 The SuperCells metaverse public chain

The SuperCells metaverse supports the construction of a brand-new public chain based on BSC chains, proposing the following three development phases.

- **Startup phase:** Layer1 BSC builds a brand-new public chain based on BSC chain to solve infrastructure services.
- **Development phase:** Layer2 SC0 builds a sub-fund ecology based on BSC and issues sub-Token for sub-funds.
- **Maturing stage:** Layer3 SCC builds the SuperCells Chain, a service public chain, which mainly solves three problems: meta-ecology building, citizen identity, and basic chain (convenience and security, smart contract, cell storage and GAS, human rights encryption).

The SuperCells public chain is based on the metaverse ecosystem technology development for the metaverse built between people, using people's mutual trust to build the super cell metaverse, using life science to solve human diseases and suffering, in order to meet the needs of users in terms of personal super cell identity information nodality, asset security, transaction convenience, legal compliance, etc. It also adapts to the changes in the development of digital economy in the future. SuperCells will start to develop an application-oriented public chain in the digital economy era in the 4th quarter of 2023 - The SuperCells Chain.

With the vision of "empowering the real economy of super cell medical institutions and promoting the development of digital economy" and the aim of "openness, transparency and mutual trust", SuperCells Chain starts from the ecosystem business of the SuperCells metaverse and explores the infinite space of the digital world.

In terms of future business development, the primary goal of the SuperCells public chain is to realize the security of users' digital identity and assets under the premise of ensuring transparency and supervisability.

This goal provides the basis for realizing its future vision, which is to support super cell's complex business processes and diversified assets on the chain. On this premise, the ecosystem business of the SuperCells metaverse can be valued.

To achieve the above plan concept, the SuperCells Chain will introduce the following features in the technology:

- Safety is the first priority for assets on the chain: The SuperCells Chain takes safety as the primary factor in its architecture design, and conducts strict safety audits and smart contract safety tests.
- Dual "chains" and dynamic synergy: The transaction chain is responsible for transaction clearing and settlement, pursuing faster and more frequent

transactions, lower fees for purchasing SuperCells products and services; the contract chain supports complex applications such as financial contracts and business contracts.

- Diversified needs, ecosystem closure: The SuperCells Chain will use as a reference the business model of traditional financial markets to provide infrastructure for diversified needs, build and gradually improve the digital identity system, and provide accurate demand matching for diverse market participants.
- Transparent and Trustworthy, Regulatory Assurance: In addition to the characteristics of distributed governance, open and transparent information of the blockchain, the SuperCells Chain is designed to provide stronger regulatory assurance for users by making supervisability a design goal.

The healthy development of the SuperCells Chain cannot be achieved without the governance of the community. In order to balance decentralization and effectiveness of the governance, the SuperCells Chain will combine on-chain governance with off-chain governance, introducing both people and code into the complex governance system of the public chain:

- **On-chain governance:** The super nodes are elected through consultation and voting by all token holders; a "community charter" is established to put into practice the blockchain governance concept of "code as a law".
- **Off-chain governance:** A "modern manager system" is innovatively introduced into the blockchain community, with the council responsible for making decisions on major community matters, the executive team is responsible for carrying specific work and is under the supervision and guidance of expert advisory group.

The SuperCells Chain will be the connector from the super cell world to the digital world, allowing more conceivable scenes to be realized in a tokenized parallel domain.

### **3.3.2 Technical implementation of the SuperCells citizen identity**

Citizen Identity is a basic right, but composed of several elements, citizen node represents the absolute control, citizen cells represent the real security, and citizen image represents the virtual world. These elements make up the WEB3 citizen identity. The SuperCells metaverse is the first to propose a complete WEB3 identity concept based on super cell technology implementation, where each citizen is a super cell in the SC metaverse.

#### **■ Citizen Identity**

To implement a KYC and AML management on the SuperCells Chain's trading chain, a trusted citizenship standard S-UID (SuperCells Chain - User Identity) must first be established on the chain. The S-UID is unique, citizens of each country register their

personal information on the chain after KYC authentication, and users can manage their personal information (personal nodes, personal identity, personal DNA, personal stem cell gene matching data, personal stem cell storage, etc.) and digital assets based on the S-UID. The S-UID consists of the following components:

- Basic information, such as name, gender, nationality, document type, document number, contact information, etc.
- Advanced information, such as credit, education, work, social and other related data.
- Super cell information: personal nodes, personal identity, personal DNA, personal stem cell gene matching data, personal stem cell storage, etc.
- Digital asset information, information on digital assets held by individuals
- Account public and private keys, used to sign, encrypt and authorize the data of S-UID.

Note: Institutional account must be associated with the identity of legal person, and a legal person can register multiple institutional accounts.

### ■ **The S-UID Creation and Verification**

The user submits information to create an S-UID, the supervisory node verifies the authenticity of the information, after the verification is passed, the verification content is signed, and the personal information is encrypted and registered on the chain. In the verification cycle of the S-UID, the verification judgment is triggered when the S-UID is needed, and the revalidation cycle is 6 months, but generally, no verification is needed.

### ■ **Data Authorization**

In order to better protect personal privacy, except for the supervisory node which has the right to review personal data of the S-UID, any other person or organization can only view the data of other people's S-UID if they are authorized by the owner himself/herself. When users authorize others to view data, they can set the authorized user, authorization time, specific use and other elements in the smart contract, and require the authorized person to use the relevant data only in a trusted execution environment. All query records are registered on the chain for accountability.

### ■ **Security Protection**

In order to protect the users' identity information security, on the SuperCells Chain, users will not lose their identity if they lose their data private key, and they can reset their data private key after verifying their identity through supervisory nodes. In order to prevent private keys from being stolen and made public in the whole network, users themselves can also modify their own private key.

## **3.3.3 The super cell diversified assets on-chain system**

As a public chain for the future digital economy, the SuperCells Chain is committed to

meeting industry-level and enterprise-level complex super cell business processes, to the application of diversified asset on-chain system and supporting various complex scenes. To this end, the SuperCells Chain will be composed of the following three pillars: unified high technology standard, regulation, and testing platform.

### ■ **Unified High-Technology Standards**

Establishing standards is the core issue to be addressed by the infrastructure. Uniform technical standards can lead to a clustering effect in the industry, thus promoting the development of the digital economy on a global scale. In a broad sense, high technology standards need to meet the following conditions:

- Higher performance: Throughput limitations are one of the main limiting factors that make it difficult for blockchain technology to be used for large-scale commercial applications at this stage. Bitcoin, for example, can carry about 7 transactions per second and has to wait for about an hour for confirmation to ensure the transaction is recorded on the chain, making it difficult for such transaction speed to meet large-scale commercial applications. To meet the needs of applications in the digital economy, infrastructure public chains need to achieve at least 10,000 transaction processing speed per second.
- Higher privacy protection: Currently, mainstream blockchains have not achieved true anonymity. This is due to the fact that on-chain information such as transaction address, transaction time and transaction amount are open to everyone, and people can correlate the wallet address of users with their real identity by various traces. In the era of digital economy, users need to upload a lot of important information and data to the chain in order to make transactions or run smart contracts. It becomes crucial to ensure the anonymity and non-public status of information and data. Therefore, future public chains can adopt non-interactive zero-knowledge proof technology or the function of encryption before data is uploaded on the chain to meet users' requirements for privacy protection.
- Higher security: The public chain in the era of digital economy will face more users, and it must reach higher standards in security audit, architecture security, compiler optimizations security, virtual machine design security, security contract template, etc. to meet users' requirements for security.

### ■ **Platform regulation and testing**

Technology is a double-edged sword, in order to prevent bad intended use of the technology, avoid possible loopholes from being abused and causing massive losses to users, the infrastructure public chain needs to be designed accordingly to achieve supervisability while protecting privacy. The SuperCells Chain will establish strict KYC (Know-Your-Customer) and AML (Anti-Money Laundering) standards to audit users' digital identity information and set up supervisory nodes to monitor the information on the chain. In addition, the SuperCells Chain will also build an automated smart contract verification platform to ensure the security of the contract application.

# 4 . The SuperCells Token Analysis

SCT (SuperCells Token) is the payment token of the SuperCells platform and is the governance token of the SuperCells metaverse. SCT is initially issued based on the BSC protocol of the Binance chain and is expected to be transferred to the self-developed SuperCells public chain in November 2023.

## 4.1 SCT TOKENOMICS

### 4.1.1 Basic information

Token name: SuperCells Token

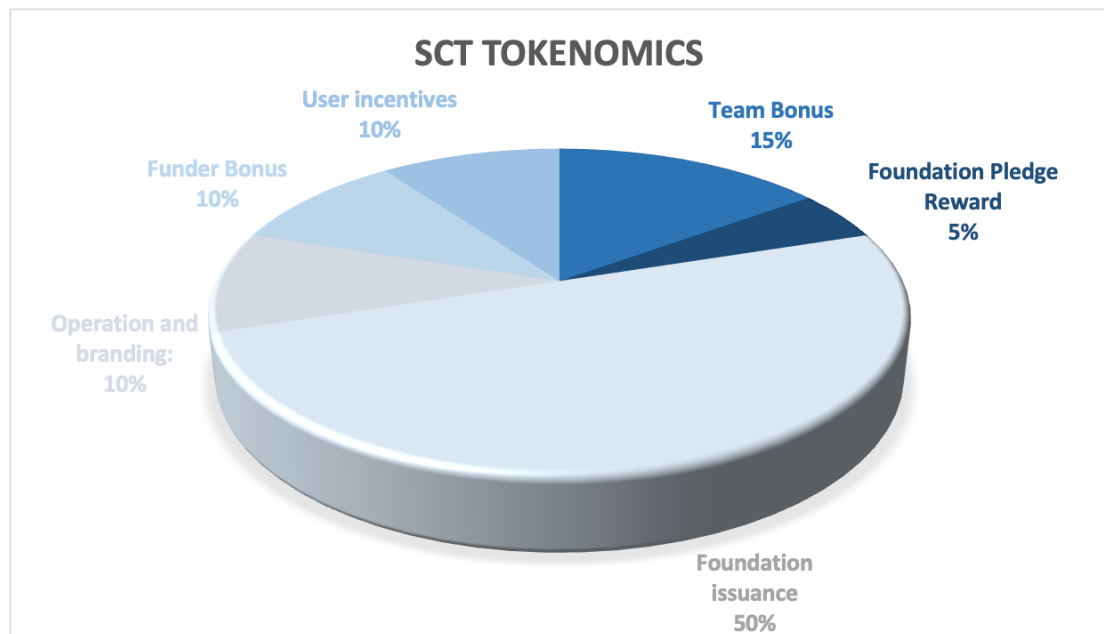
Token abbreviation/symbol: SCT

Technical standard: based on the Binance Smart Chain (BEP-20) general protocol

### 4.1.2 Token distribution

#### ■ First stage: Creation's distribution

Creation's circulation: 5 billion, expected to start in the first quarter of 2023.



#### - **Team Bonus: 15%**

Among them, 10% are locked for 24 months, and one-eighth is released every three months; 5% of them are invested in third-party audit nodes (redeemable

after 24 months, undertake responsibilities for certification guarantee compensation and enjoy audit rewards):

If there are 3 NFT complaints on any service, the Dao principle will be adopted for governance: if it corresponds to the determination of a breach of contract, the decision-making committee will have 30% of the voting rights, and the remaining 70% will be based on the voting rights held by NFT users.

- **Foundation Pledge Reward Pool: 5%**

It is used for the creation pool of the second phase's pledge reward pool, and is locked until the second phase goes live

- **Foundation Issuance Pool: 50%**

1) 20% direct financing pool (the remaining after the listing will be credited to the open financing pool). 5% used for the super cell metaverse development, unlocked three days prior to listing; 15% private placement, airdrop after listing  
2) 30% open financing pool (unlocked 30 days after listing) directly purchased based on the average price of the 3rd day after the market listing opening, no locking.

- **Operation and Branding: 10%**

Will be used for the construction of the stem cell therapy in the blockchain ecology, building valuable partnerships, regulatory security, etc., to develop ourselves while also helping partners to grow together.

1) 2.5% unlocked three days before launch

2) 2.5% unlocked at the second stage's function launch

3) 2.5% unlocked at the third stage's function launch

4) 2.5% unlocked at the fourth stage's function launch

- **Funder Bonus: 10%**

Directly rewarded to pre-project sponsors and advisors, etc., locked for 24 months, one-eighth will be unlocked every three months.

- **User Incentives: 10%**

Used to ensure that the SuperCells operates completely independently and can adapt its strategy to its own circumstances. Also used to acquire new SuperCells users, increase the foundation voting participation, optimize end-to-end user experience and platform services.

## ■ **Second stage: Pledge Model**

Establish automated super cell services that is expected to launch in the third quarter of 2023.

- By creating a pool of NFTs for service orders, healthcare providers will be able to issue their own stem cell treatment services with pledged SCTs, and deflation will be achieved through the burning of transaction fees.

1) Establish an NFT exchange pool, any institution can pledge a minimum of 10,000,000 as a deposit to become a super cell service distributor, or namely, a metaverse service node.

2) The deposit can be used to release the generated NFT: Class A molding requires a locked deposit of 200,000 SCT, Class B molding 300,000, Class C 1,000,000; exchange

pools for different types of NFT can be set; each deposit is automatically unlocked and returned to the service node after 12 months.

3) The molded NFTs automatically enter the corresponding exchange pool, generating different exchange pools, and are freely exchanged by SCTs after setting the initial price; for each transaction buyer and seller each pays 10% of the transaction fee (of the 20% fee, 10% goes to the foundation pledge pool, 5% goes to the founding team for distribution, and 5% goes to the eater address).

4) The NFT is transferred to the redeemer upon completion of the SCT payment, which can be used by the redeemer for NFT market transactions or directly for the APP super cell service reservation.

5) As a pledge for issuing NFT, the locked-in deposit is not entitled to any reward

- Enable the SC APP to be used as a centralized platform tool to provide an exchange service scene for users, service providers and communities

1) The SCTs are locked to the service node and the platform's co-administered address after exchanging NFTs, and the service node can burn the corresponding NFT to obtain the locked SCT, based on the hash value to do unique mapping

2) NFT can be used as a credential to book service content and time to the service node on the APP, and get an irrevocable appointment form after the transfer (the service application is irrevocable, but the appointment time can be modified, it is subject to the notice of the medical service provider as a norm)

3) Service nodes can choose any time point for NFT burning after receiving the NFT to achieve the recovery of the corresponding pledged SCT

4) Service nodes need to send 100000 SCT to the audit node on the APP for on-chain approval, and get the right to apply for service node after the approval

5) The audit node is initially undertaken by the founding team and later by the on-chain node

6) The approval of the service node is to ensure that the service node is capable of providing services for the issued NFT

### ■ Third stage: Token additional issuance stage

Based on timestamp and quantitative issuance, the number of issuance algorithms will be activated at a fixed point in time and is expected to be launched in the fourth quarter of 2023.

1) Based on the scheduled launch of about 10,000 stem cell service products each year,

ISSUANCE CALCULATION							
	PRODUCT PRICE(U)	PRODUCT AMOUNT	ANNUAL SALES (U)	PROPORTION OF USERS WHO PAY WITH TOKENS	TOKEN PRICING ( U )	NUMBER OF TOKENS REQUIRED FOR ONE PRODUCT	TOTAL DEMAND FOR TOKENS
A TYPE PACKAGE	50000	5000	250000000	50%	0.01	5000000	12500000000
B TYPE PACKAGE	75000	4000	300000000	50%	0.01	7500000	15000000000
C TYPE PACKAGE	500000	1000	500000000	50%	0.01	50000000	25000000000
ANNUAL STATISTICS)		10000	1050000000				52500000000.00

we measure the total number of tokens required.

2) The initial issuance is set at 5 billion, of which the first year's actual circulation is  $<65\% \times 5$  billion, which means the actual circulation of the first year is less than 3.575 billion, accounting for about 6.8% of the actual token demand for one year. To meet the actual demand and promote the regular circulation of tokens, additional issuance will start 181 days after the listing, with an additional 0.2 billion issued daily, and the additional tokens will be automatically deposited into the Foundation's issuance pool.

3) Token circulation setting: the content and quality of service products are consistent: cash payment receives a given discount; and token payment will receive a much larger discount than cash payment.

#### ■ **Fourth stage: Sub-fund launch**

The sub-fund crowdfunding is expected to be launched in the first quarter of 2024.

1) Sub-fund slots will be allocated each quarter based on the ranking of the number of sub-funds pledged, and sub-funds that receive the issuance will receive the same percentage of SCT increase (locked).

2) Sub-fund decision committee will be formed to release and sale of sub-fund slots, service nodes can participate in the auction, the auction content is obtained based on sub-fund DAO voting, the auction is successful by receiving more than 63.7% of votes.

3) New subcontracts are realized based on the auction content and subcontract token are airdropped to the sub-fund participants.

## **4.2 The SCT application and consumption**

### **4.2.1 Discounted payment for SuperCells ' therapy**

The SuperCells platform and all established medical institution partners, service providers have agreed to reach a 20% discount for transactions paid with cash and at a 50% discount for transactions paid with SCTs, allowing users to choose their payment method.

### **4.2.2 Foundation ecosystem governance**

SCT holders can establish sub-foundations through the foundation, which have a governance role. The SuperCells Foundation and SuperCells have established a strategic support and cooperation relationship to build SCT into an important part of the SuperCells ecology and foundation, which will be successively applied to the governance of various sub-foundations established by the SuperCells Foundation.



### **4.2.3 The SuperCells community governance**

In order to protect the copyright of information posted by users and to avoid polluting the transmission environment, the SuperCells community is governed by the blockchain technology, and the content posted by users will dissipate SCTs on the chain.

### **4.2.4 Sub-fund creation and management**

We provide a two-way demand service for members and medical institutions, and adopt scientific and rigorous fund management model combined with blockchain innovation base to realize treatment and protection for patient already sick and even those that are not sick yet.

### **4.2.5 Pledge and campaign reward acquirement**

Participation in various campaign of the ecology, including registration, whitelisting, pledging, sponsorship, and other campaigns that have reward, are all required to own SCTs.

### **4.2.4 Burning mechanism**

Token burning is the process of permanently removing tokens from its circulation, thereby reducing the total supply. This is done by sending the token to an eater address, whose current balance is publicly visible on the blockchain.

Token burning allows:

1) To increase the token value, token burning reduces the overall circulation of tokens and thus the overall supply. It may lead to an increase in token value. The continued burning of coins helps maintain stable value:

2) Stable token value

Continuous token burning helps maintain a stable token value and also wagers on a long-term price increase. Token burning may make the holder's tokens more valuable than they were before the burning.

SCT burning mechanism:

1) When SCTs are exchanged for SC NFT (Stem cell therapy reservation token), for each NFT exchanged, both buyers and sellers will be charged 10% as service fee.

2) 10% of the foundation pool, 5% will be allocated to the founding team as a platform revenue, and 5% will be directly credited to the eater address.

Note: The burning record will be published in the docs document available on the official website

## 4.3 Value-added logic of SCT

The intrinsic value enhancement of the SCT comes from: the empowerment of the ecosystem construction, the expansion of trading channels, the platform's own performance, and the construction of a deflationary model based on SCT's repurchase and burning.

(1) Ecosystem construction: Expansion of internal and external application scene around the SCT.

(2) Trading expansion: We are currently supporting the trading channels of global cooperative medical institutions and service providers; in the future, more landed applications will be realized to continuously expand the circulation and trading flow of SCT and activate its market potential.

(3) Deflation model: Platform performance repurchase, exchange SCT to NFT burning, will continue to improve the SCT deflation model and increase the repurchase and burning strengths.

(4) Exchange liquidity: The MEXC exchange is currently online, other mainstream platforms and first-tier platforms are currently in the docking process...

(5) Public chain ecosystem governance: The construction is expected to start in November 2023 to migrate SCT to SuperCells public chain for operation, to realize the openness and transparency of stem cell therapy on the blockchain, and to realize the spreading of stem cell blockchain era.

# 5 . The SuperCells NFT

## 5.1 Overview of SC NFT

The SuperCells NFT is abbreviated as SC NFT. The SC NFT is the super cell service's token, it is a decentralized NFT asset issued based on the BSC chain, each super cell service package corresponds to one batch of SC NFT and each NFT has a number (reservation code).

SC NFT has an important role as a service token tool, when users purchase stem cell service, they will get an SC NFT as a credential to prove that they own the service. The SC NFT not only proves that users own the service, but also can be exchanged and transferred in the SuperCells metaverse ecosystem. The existence of the NFT as a service certificate guarantees the user's right to the service and also enriches the diversity of assets in the SuperCells metaverse ecosystem.

### 5.1.1 The SC NFT trading pool

#### Liquidity resolution

The SC NFT trading pool is an NFT liquidity protocol built on a trading curve that improves its trading accuracy while optimizing the pricing mechanism. Drawing on and absorbing the trading model of the Curve v2 and the veToken economic model, it incentivizes more members to provide liquidity, increases the depth of the NFT trading pool and provides the best trading experience. By building two major infrastructures, the NFT homogeneous casting protocols and customized advanced trading curves, the trading accuracy of the NFT pool is improved and the price discovery mechanism is optimized and enhanced, thus greatly improving the liquidity of the NFT assets and taking control of the NFT pricing.

After a service node in the SuperCells metaverse becomes a valid service node, it can publish its own NFT pool in the SC NFT pool, enabling users of the SuperCells metaverse to participate in transactions together.

### 5.1.2 NFT pledging

NFT pledging is a way for users to earn rewards as a passive income without selling NFT or transferring ownership, pledging SC NFT to earn SCT.

## **5.2 The SC NFT application scenes**

### **5.2.1 The SC NFT joint life card**

After the SC NFT and other NFT life cards jointly generate cards, they will possess the original application value of both parties (can only be used choosing 1 from the 2).

### **5.2.2 Art collection**

The SC NFT is the world's first blockchain-based issued super cell metaverse ecology NFT, which has a collection value and can participate in the super cell metaverse ecology briefing launch to auction and earn high price regain.

### **5.2.3 Consume by collecting cards**

SC NFT has an exchange function, and every 4 used SC NFTs can be exchanged for a new basic version of SC NFT through an integrated method, which has the same value as other SC NFTs.

### **5.2.4 Other empowering applications**

To become one of the first to store and manage personal information on the supercell metaverse public chain (personal nodes, personal identity, personal DNA, personal stem cell gene matching data, personal stem cell storage, etc.) and be one of the first to have a super cell metaverse citizen identity.

## **5.3 The SC NFT business value**

The business value of the SC NFT extends the value of the SuperCells metaverse services to an economic value (also known as economic benefits, economic added value), including other forms of service organization value, supplier value, channel partner value, strategic partner value, management value and social value.

### **5.3.1 Service warrants**

The SC NFT, as a warrant for the SuperCells metaverse service asset, represents the value of the asset itself and is used for SuperCells treatment service reservation. At the same time, the technical characteristics of the SC NFT gives the asset ownership liquidity and traceability. On one hand, liquidity increases the value of the asset. On

the other hand, traceability solves the problem of asset identification such as for collections. The liquidity of NFT gives more incremental transaction value to the asset.

### **5.3.2 Asset credentials**

The core value of the SC NFT asset credentials lies in its scarcity and uniqueness. It is the world's first super cell metaverse NFT issued based on blockchain technology, which relies on blockchain technology to ensure the authenticity, uniqueness and permanence of the SC NFT, and effectively solve the problems of chain asset authentication power, anti-counterfeiting and traceability.

### **5.3.3 Solving copyright traceability**

All SC NFTs are unique. With the support of the blockchain as the underlying technology, it has the characteristics of distributed storage, traceability, and inviolability and through the smart contracts, each SuperCells metaverse service will be authenticated on the chain.

## 6. Our Team

Our SuperCells team is composed of super cell experts and professionals from Japan, South Korea, the United States, China and other countries.

### The Core Management Team



#### **Chairman - Noboru Oshima**

February 2004, Founded FLC Co., Ltd.

April 2004, Appointed as the chairman of FLC Co., Ltd.

April 2010, Established Premium Water Co., Ltd.

December 2014 Sale of shares in Premium Water Holdings Co., Ltd. (2588) to a listed company

January 2015, the shares of FLC were sold to a listed company

October 2015, Founded LAPLACE Co., Ltd.

March 2022, Appointed as the chairman of LAPLACE Co., Ltd.

December 2022, he founded Super cells Co., Ltd. and was appointed as the chairman of the company



#### **Director - Satoshi Murakami**

Graduated from the Chuo University Faculty of Law

2017, joined Dan Consulting Co., Ltd. (director, present post)

2020, he founded Mikuni Co., Ltd. (chairman, present post)

2020, he founded FACT Co., Ltd. (chairman, present post)

2022, joined GTL Co., Ltd. (director, present post)



### **Honorary Chairman - Osamu Yoshida**

Since 1990, he has established medical affiliated clinics in 20 locations across Japan and has been engaged in clinical application research on cells, genes, and chromosomes at the General Incorporated association of Human cell, Gene, and Chromosome research center. We especially make use of his 30 years of experience in treating cancer, Hajime Yoshida is working to make "cancer gene therapy" more effective in clinical practice.

# 7. Disclaimers

The information in this white paper is subject to change or update and should not be construed as a promise, commitment or warranty by SuperCells or any other person or organization mentioned.

This white paper regards the future availability of the services associated with the use of stem cell, tokens, NFTs or their future performance or value. This document does not constitute an offer or solicitation to sell shares or securities. It does not constitute or form any part and should not be construed as any sell or purchase offer agreement, or any invitation to purchase or subscribe for

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other factors, most of which are beyond our control. It can be expected that some or all of such forward-looking assumptions will not materialize or will differ materially from the actual results.

# Appendix 1.

## Directory of SuperCells contracted service providers and doctors

Medical Institution	Doctor	Details/Resume
Sakura Clinic	Dr.Osamu Yoshida	<p>In 1986, he graduated from the Faculty of Medicine at the Kyorin University and joined the Department of Gastroenterology at the Kyorin University Hospital in the same year.</p> <p>In 1988, he has been working in the Department of Gastroenterology (Thoracic and Vascular Surgery) of the Tokyo Teishin Hospital.</p> <p>In 1993, he joined the Department of Respiratory Surgery and the Department of Gastroenterology at the Faculty of Medicine of Kyorin University.</p> <p>In 2010, he opened the Sakura Clinic</p> <p>Working on stem cell therapy, cancer immunotherapy, and cancer gene therapy.</p> <p>Many celebrities in China, such as Zhang X Yi and Fan X Bing, are also clients of Dr.Yoshida.</p>
	Dr.Qi	<p>He received his medical master's degree in 1982 and underwent professional training at YES Bioengineering Technologies in Canada in 2001. A renowned oncology bio therapist with over 30 years of research and clinical experience, he has made significant contributions to the treatment of cancer. He is particularly profound in the research and clinical application of biotechnology in cancer treatment.</p> <p>An examiner at the National Natural Science Foundation of China. Visiting Professor of Biological Therapy, at the Indonesian tumor association</p> <p>Permanent Editorial Board Member of the "Tumor Journal of the World"</p> <p>Editorial Board Member of the "American Journal of Chinese Medicine and Management"</p>

<p>Sobajima Clinic – Regenerative Medicine</p>	<p>Dr.Satoshi Sobajima</p>	<p>Since the establishment of the hospital in Higashi-Osaka with the aim of providing patient-friendly medical treatment, the hospital celebrated its 10 years of existence in April of 2003.</p> <p>From general treatment to cutting-edge "regenerative medicine," we are committed to advising patients on appropriate treatment plans, improving their QOL (quality of life), and living an enriched life with this in mindset every day.</p>
<p>Tokushukai Medical Corporation</p>	<p>Dr.Kazunao Watanabe</p>	<p>Establishment of the Tokyo Nishi Tokushukai Hospital (Akishima City, Tokyo) with 280 beds.</p> <p>In February 2007, Electronic medical record system was introduced, and radiation therapy was started</p> <p>In April 2009, DPC targets hospitals</p> <p>In October 2010, Initial certification of the hospital's function evaluation</p> <p>In April 2013, Tokyo CCU Network</p> <p>In October of the same year, Received the disaster base cooperative hospital certification</p> <p>In August 2015, Started Da Vinci surgery</p> <p>In December of the same year, the hospital function's evaluation was updated</p> <p>In April 2016, Designated as the Tokyo Metropolitan Cancer Cooperative Hospital (breast cancer)</p> <p>In June of the same year, all hospital wards opened (486 beds)</p> <p>In January 2016, JMIP (accreditation system for accepting foreign patients) was certified (ver.2.0)</p> <p>In January 2018, Accredited by the JCEP as an accredited hospital for postgraduate clinical training evaluation organization</p>
<p>Koyama Medical and Welfare Group</p>		<p>Operate facilities for the elderly, long-term care patients throughout Japan and provide a wide range of services by connecting medical care and welfare. We are supported by many people because we are not only after profits, but work with people in each region to create a place where people can interact and communicate with unique facilities that have never existed. In addition, as part of regional revitalization, we have expanded to a size of a nationwide group of more than 13,000 employees by providing a workplace environment where young people can grow.</p>

<p>Juntendo University Hospital</p>	<p>In 1870, the Juntendo Clinic was established in as the first medical school in Japan to adopt Western medicine.</p> <p>Since then, we have been committed to providing warm, safe and advanced medical services to our patients.</p> <p>Philosophy: We respect human life and uphold the dignity and rights of human beings in the spirit of Juntendo's philosophy "follow the way of heaven, let nature take its course". In addition, in the spirit of "continuous improvement," we aim to promote creative reform, nurture medical talent, and provide the best medical services.</p>
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# Appendix 2.

## SuperCells Service Package Catalog

SuperCells Package Catalog A - Health Care and Standard Treatment					
Package	Package name	Number of injections/bags	Cell product name	Cell product amount	Notes
A1	Full body Age-reversal/Anti-aging Program (Standard Version)	5	Immune cells (DC-CIK)	15 亿	National patented technology
			Mesenchymal stromal cells (MSC)	0.3 亿	
			Health care maintenance solution and cytokines	150ml	Core confidential formula National patented technology
A2	Comprehensive Total health care Maintenance and Derma Age-reversal Program (Enhanced Version)	5	Immune cells (DC-CIK)	25 亿	National patented technology Customizable
			Mesenchymal stromal cells (MSC)	0.3-0.5 亿	
			Hematopoietic stem cells	0.3 亿	
			Health care maintenance solution and cytokines	150ml	Core confidential formula National patented technology
A3	Sub-Health Full	5	Immune cells	20 亿	National

Function health care Maintenance Program (Covid Prevention)	(DC-CIK)		patented technology
	Mesenchymal stromal cells (MSC)	0.3-0.5 亿	
	Cord Blood Stem Cells	0.3 亿	
	Health care maintenance solution and cytokines	150ml	Core confidential formula National patented technology

### SuperCells Package Catalog B - Pathological Treatment

Package	Package name	Number of injections/bags	Cell product name	Cell product amount	Notes
B1	Enhanced immune function adjustment Program (anti-tumor/prevention)	6	Immune cells (DC-CIK)	30-50 亿	National patented technology
			Cord Blood Stem Cells	0.3 亿	
			Health care maintenance solution and cytokines	150ml	Core confidential formula National patented technology
B2	Treatment-based body function restoration program (e.g., neurodegenerative diseases - Parkinson's, Alzheimer's, etc.; diabetes) and other difficult or miscellaneous diseases	6	Immune cells (DC-CIK)	25 亿	National patented technology
			Mesenchymal stromal cells (MSC)	0.3-0.5 亿	
			Neural stem cells (NSC)	0.3 亿	
			Health care maintenance solution and cytokines	150ml	Core confidential formula National patented technology

## SuperCells Package Catalog C - Family VIP Customized Service

Service targets: two adults + one child

one member subscription can be shared for the whole family.

Service Content	Details
Wellness and Standard Treatment Package	*4
Pathological Treatment Package	*2
Comprehensive medical examination (Japan) Total of 15 days	Complete examination of basic diseases
	Pathological testing of focal lesions
	Three high geriatric pre-examination
	Family Travel (7 days)
Super VIP Consulting Services	Unlimited super cell Customer Service
	Unlimited appointment service at key hospitals in Japan
	Limited-time and limited-access to relative services in key hospitals in Japan