

# 2022

## Sustainability Report & Environmental, Social and Governance Report



上海醫藥集團股份有限公司  
Shanghai Pharmaceuticals Holding Co., Ltd.\*  
(A joint stock company incorporated in the People's  
Republic of China with limited liability)  
(Stock Code: 02607)

# CONTENTS

- 01 About this Report
- 03 Message from the Chairman
- 05 About SPH
- 13 About Responsibilities:  
Share Your Colours  
For a Brighter Future



- 01 Sustainability Governance System
  - 21 Sustainability Governance Model
  - 23 Stakeholder Identification & Communication
  - 25 Analysis of Material Issues
  - 26 Alignment with the United Nations Sustainable Development Goals (SDGs)

- 02 Responsible Governance  
Party Building Leads  
High-quality Development
  - 29 Cement the Foundation for Party-building Efforts
  - 30 Compliant Corporate Governance
  - 34 Practicing Business Ethics



- 03 Customers' Responsibilities  
Protect People's Health through  
an Innovation-driven Strategy
  - 39 Protect People's Health through Innovative Healthcare
  - 45 Improve the Accessibility to Healthcare
  - 49 Quality Management System
  - 54 Exceptional Service Experience



- 04 Employees' Responsibilities  
Put People First and Make  
Our Workplace Sustainable
  - 59 Compliant Employment Management
  - 63 Promising Career Development
  - 67 Diversified Compensation and Welfare
  - 68 Occupational Health Protection
  - 73 Genuine Care for Employees

- 05 Environmental Responsibilities  
Build a Beautiful China through  
Green Development
  - 79 Environmental Management Improvement
  - 84 Response to Climate Change
  - 85 Resources Management Optimization
  - 92 Targeted Pollution Control
  - 94 Deepened Green Operation
  - 95 Biodiversity Conservation

- 06 Community Responsibilities  
Have the Courage to Shoulder  
Responsibilities and Strive to  
Act on What We Believe In
  - 99 Focus on Public Welfare
  - 105 Ensure Stable Production and Sufficient Supply
  - 109 Rural Revitalization

- 07 Partners' Responsibilities  
Collaborate to Achieve Win-win  
Development
  - 115 Industry Promotion
  - 118 Supply Chain Management

- 121 Outlook 2023  
Appendix
  - 123 Environmental Quantitative Performance Index
  - 145 SEHK's ESG Reporting Guide Index
  - 148 Reader Feedback Form

# | About this Report

This report is the 13<sup>th</sup> Sustainability Report (known as Social Responsibility Report prior to 2021) issued by Shanghai Pharmaceuticals Holding Co., Ltd., hereinafter referred to as “SPH”, “the Group”, "the Company", "Company" or "We". The report provides details on the environmental, social and governance ( “ESG” ) practices and performance of the Company and its subsidiaries in 2022. This is an annual report. The previous one was published in March 2022.

## Important Notice

The Company's Board of Directors (the "Board") and directors (the "Directors") certify that there are no false representations and misleading statements contained in, or material omissions from, this report, and jointly accept the responsibility for the truthfulness, accuracy and completeness of the contents of this report.

## Reporting Scope

This report covers January 1, 2022 to December 31, 2022 ("Reporting Period"). Some contents and data may touch on a period beyond this timeline. The report covers SPH's main pharmaceutical and distribution businesses. There have been no significant changes compared with the Company's Sustainability Report/Environmental, Social and Governance Report 2021.

## Reporting Standard

The Report is prepared in accordance with the Environmental, Social and Governance Reporting Guide ("ESG Guide") as set out in Appendix 27 to the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited ("Hong Kong Exchange"), Guidelines No. 1 on Self-Regulation for Listed Companies on Shanghai Stock Exchange – Operating in Compliance with Regulations issued by Shanghai Stock Exchange, as well as some indicators specified in GRI Sustainability Reporting Standards and Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-ESG 5.0) by Chinese Academy of Social Sciences.

## Reporting Principles

This report follows the Reporting Principles of materiality, quantitative, balance and consistency in the ESG Guide.  
Materiality: Significant stakeholders were identified in the process of report preparation and key ESG issues were determined through stakeholder engagement and materiality assessment.  
Quantitative: This report discloses environmental and social key performance indicators in a quantitative manner, together with explanations for their purposes and impacts.  
Balance: This report follows the principle of balance and objectively presents the ESG performance of the Company.  
Consistency: Unless otherwise specified, this report uses the same statistical methodology as the Company's Sustainability Report/Environmental, Social and Governance Report 2021.

## Report Availability

This report, prepared in Simplified Chinese, Traditional Chinese and English, is published online in electronic format. The electronic version is available for view and download on the Company's website (www.sphchina.com), Shanghai Stock Exchange's website (www.sse.com.cn) and SKEXnews website (www.hkexnews.hk). This report is prepared both in Chinese and English. In case of any discrepancy between the two, the Chinese version shall prevail.

## Definition

In this report, unless the context otherwise requires, the following terms shall have the following meanings:

"SPH", "the Group", "the Company" or "We"	is	Shanghai Pharmaceuticals Holding Co., Ltd.
SHAPHAR	is	Shanghai Pharmaceutical Co., Ltd.
SPH Kyuan	is	SPH Keyuan Xinhai Pharmaceutical Co., Ltd.
SPH Sales	is	SPH Drug Sales Co., Ltd.
Sine United	is	Shanghai Sine United Western and Chinese Traditional Medicine Co., Ltd.
SPH Shangke	is	Shanghai Shangke Pharmaceutical Co., Ltd.
New Asia Pharmaceuticals	is	Shanghai SPH New Asia Pharmaceuticals Co., Ltd.

SPH Dragon & Tiger	is	Shanghai SPH Dragon & Tiger Pharmaceutical Sales Co., Ltd.
SPH-IPT	is	Shanghai SPH Innovative Pharmaceutical Technology Co., Ltd.
SPH Sine	is	Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd.
SPH SBPC	is	SPH No. 1 Biochemical & Pharmaceutical Co., Ltd.
SPH TCM	is	Shanghai Traditional Chinese Medicine Co., Ltd.
SPH Changzhou Pharma	is	SPH Changzhou Pharmaceutical Co., Ltd.
SPH New Asia	is	Shanghai SPH New Asia Pharmaceutical Co., Ltd.
SPH Zhongxi Sunve	is	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.
SPH Techpool	is	Techpool Bio-Pharma Co., Ltd.
SPH Qingchunbao	is	Chiatai Qingchunbao Pharmaceutical Co., Ltd.
SPH Growful	is	SPH Qingdao Growful Pharmaceutical Co., Ltd.
SPH Research Institute	is	Central Research Institute of Shanghai Pharmaceuticals Holding Co., Ltd.
SPH Herbapex	is	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.
Huqingyutang Pharma	is	Hangzhou Huqingyutang Pharmaceutical Co., Ltd.
SPH Zhonghua Pharma	is	Shanghai Zhonghua Pharmaceutical Co., Ltd.
SPH XTCM	is	Xiamen Traditional Chinese Medicine Factory Co., Ltd.
SPH SunwayBio	is	Shanghai Sunway Biotech Co., Ltd.
SPH RD	is	Shanghai SPH Rare Disease Co., Ltd.
CanSino SPH	is	CanSino SPH Biologics Inc.
SPH Leiyunshang	is	Shanghai Leiyunshang Pharmaceutical Co., Ltd.
SPH Import & Export	is	Shanghai Pharmaceutical Import & Export Co., Ltd.
SPH-BIOCAD	is	SPH-BIOCAD (HK) Limited
SPH SMICC	is	Shanghai Medical Instruments Co., Ltd.
SPH Kony	is	Shanghai Pharma Group Changzhou Kony Pharmaceutical Co., Ltd.
A shares	is	domestic shares of the Company, which are listed on the Shanghai Stock Exchange and traded in RMB
H shares	is	overseas shares of the Company, which are listed on the Hong Kong Stock Exchange and traded in Hong Kong dollars



## | Message from the Chairman



2022 was a landmark year for China and the Communist Party of China (CPC) as it witnessed the success of the 20th National Congress of the CPC. The Congress drew up a grand blueprint for comprehensively building a modern socialist country and called for advancing the rejuvenation of the Chinese nation on all fronts through a Chinese path to modernization. In particular, ensuring people's health, as a part of the Healthy China Initiative, is given a strategic priority in the report to the 20th National Congress of CPC. Shanghai Pharma (SPH), sticking to its mission of "being committed to health and quality of life", strives to contribute to the efforts of China's national strategic development. SPH believes that it is our responsibility to meet the needs of Chinese patients and keep improving people's health and well-being, and contribute to the country's economic development, social progress and a better life of its people.

### Adopting a Two-Pronged Approach of Developing Industrial and Commercial Business Simultaneously and Improving Accessibility to Medical Care

SPH boasts a complete pharmaceutical industrial chain covering R&D, manufacturing, distribution and retail. Utilizing such unique resources, the Company forges ahead with a pioneering spirit to improve the accessibility of its medical products and services to Chinese people, making medicines available for all, including ordinary citizens. The Company also strives to drive its development through scientific and technological innovation, and continues its efforts to set up product chains with clinical value. By the end of 2022, 62 new drugs in the pipeline received approvals for clinical trial and follow-up clinical research. We have set up a rare disease drug (RDD) business platform, integrating R&D, manufacturing with sales, to make drugs accessible to ordinary people, and helping the country create a national health-care system for rare diseases. We have built a platform involving the full lifecycle of innovative drugs, seeking to bring in more quality foreign medical products to the benefits of domestic patients. In addition, we consistently make efforts to ensure ordinary people's access to quality and safe medicine through a host of initiatives, such as optimizing our quality lifecycle management system, accelerating the application of intelligence manufacturing, and developing cutting-edge manufacturing techniques. For instance, SPH Health Commerce, a smart health care platform based on "Internet +", provides services covering the entire innovative drug lifecycle with the help of our professional pharmacies, which offers patients with accessibility and convenience. Last, Meditrust Health has made fast and efficient services possible by bridging pharma companies with insurance companies, hospitals and patients. Specifically, it set up an innovative and inclusive healthcare platform, adding to China's efforts to build a multi-tier medical care system. This is a new approach to medical treatment and medication, which has alleviated the burden of medication costs for patients.

### Working Together to Promote Industrial Upgrading

SPH works closely with pharmaceutical industry partners to push forward the high-quality development of the industry. It collaborates with universities, medical institutions and research institutes. The combined resources help build platforms that turn ideas into market-ready solutions and nurture talents to develop their scientific and innovation drive. For example, Shanghai Biomedical Frontier Industry Innovation Hub (named Biopharma Evolution), jointly funded by SPH and Shanghai Overseas International Trading Co., Ltd., Shanghai Zhangjiang Group, and Shanghai Jiao Tong University School of Medicine, was officially established in 2022 to boost original innovation in the industry. In December of the same year, SPH and the Innovation Hub, in collaboration with Hong Kong Science & Technology Park Corporation, initiated a biopharmaceutical collaboration program in Hong Kong Science & Technology Park, to accelerate the cultivation of biopharmaceutical start-ups and the transfer of innovative technologies. Furthermore, we've ramped up the efforts to enhance the "YTS" industrial alliance among SPH, Yunnan Baiyao and Tianjin Pharmaceuticals that seeks to encourage and support the inheritance and innovation of Traditional Chinese Medicine. In 2022 Pujiang Healthcare Industry & Finance Integration and Innovation Summit, was co-sponsored by SPH and other organizations. This summit, successfully held for the fifth time, aimed to display the strengths of China's pharmaceutical industry cutting-edge technological innovation and breakthroughs on a global level, and explain the ideas on how to build up the core competitiveness and commercialization of our future products. Lastly, SPH deepens its collaboration with universities by continuously forming strategic alliance on talent cultivation, which helps to create a "reservoir" of talents for the industry.

### Aligning Itself with the Country's "Dual-Carbon Goals" and Implementing Green Development

At the 20th National Congress of the CPC the promotion of green development and the harmonious coexistence between humanity and nature was proposed. Against this backdrop, SPH has taken a host of initiatives to align itself with China's "dual-carbon goals". During the reporting period, the target of achieving carbon peak before 2030 was set for its subsidiaries in the pharmaceutical industry, over 70 energy-saving technical change projects were implemented, and five major energy consuming units completed the preparation of their carbon peaking schemes. The Company is always committed to green operation. By the end of the reporting period, we have 8 national-level, 6 provincial or municipal-level green factories, and 1 new national-level "green supply chain" company. We've strictly implemented ecological and environmental protection policies. For instance, our waste is discharged according to the relevant standards, and we try to create a green operating environment for everyone.

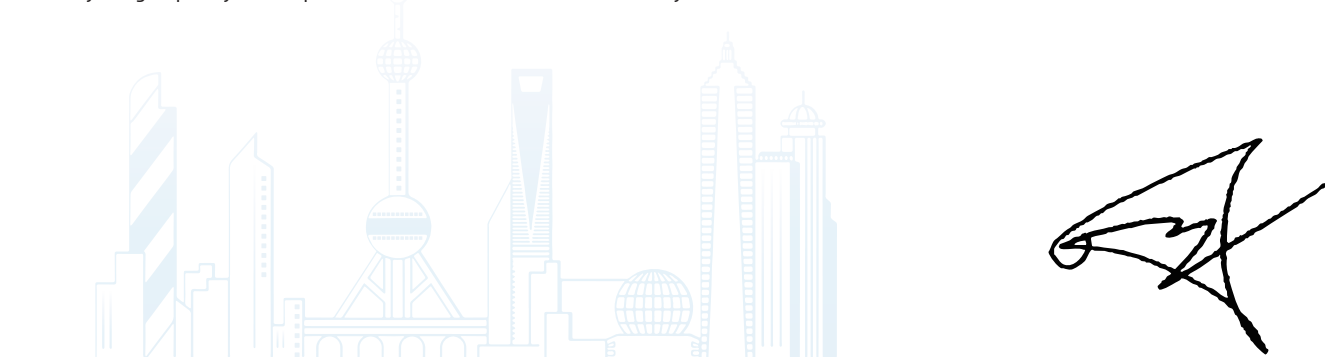
### Building a Happy Workplace and Sharing Our Achievements with Employees

Employees are the main driver behind a company's sustainable development. Keeping this in mind, we try to create an open, inclusive and fair working environment. We provide abundant professional development opportunities for our employees through a training system with Shanghai Medical University at its core and multiple career development channels. In particular, our digital learning platform "SPH E-Academy" was officially started in 2022, and empowers employees to grow through digital means. We genuinely care about our employees and want to share our achievements with them. We offer diverse compensation and benefits packages, including health and life insurance. During the reporting period, SPH won multiple human resource management honors, and was awarded with titles like "China's College Graduates' Favorite Employer" and "Model Employer".

### Devoted to Public Charity Work and Enabling a Beautiful Life for All

SPH has fully played its role as a state-owned enterprise in COVID-19 prevention and control by taking a series of measures in its industrial and commercial sectors. These include providing sufficient supplies to fight the pandemic, assisting our local communities through charitable donations and community volunteering. Over the years, we have devoted ourselves to public charity, with a total investment of RMB 50.194 million donated in 2022. The target areas include medical and health care, science, education, arts and sports, as well as social welfare, hoping to contribute to the country's ambition to realize common prosperity. In addition, the Company has established strategic partnerships with charitable organizations, seeking to jointly push forward the healthy development of public charity. In addition, we have resolutely implemented China's major strategic plan to comprehensively revitalize its rural areas. Specifically, we have continued our involvement in the "100 Enterprises Helping 100 Villages" campaign organized by Shanghai State-owned Assets Supervision and Administration Commission, with a total investment of over RMB 4 million in the rural revitalization cause in 2022.

We will move forward with a beginner's mindset and embark on a new journey with a down-to-earth spirit. State-owned enterprises are assigned to take greater responsibilities and tasks on the new journey in this new era. SPH, as a state-owned industry leader in China, will continue to carry out its corporate responsibilities. Finally, adhering to the concept of high-quality, sustainable development, the Company will spare no effort to help achieve results that will benefit the economy, the environment and society at large, and build momentum for the country's high-quality development and the construction of a healthy China.

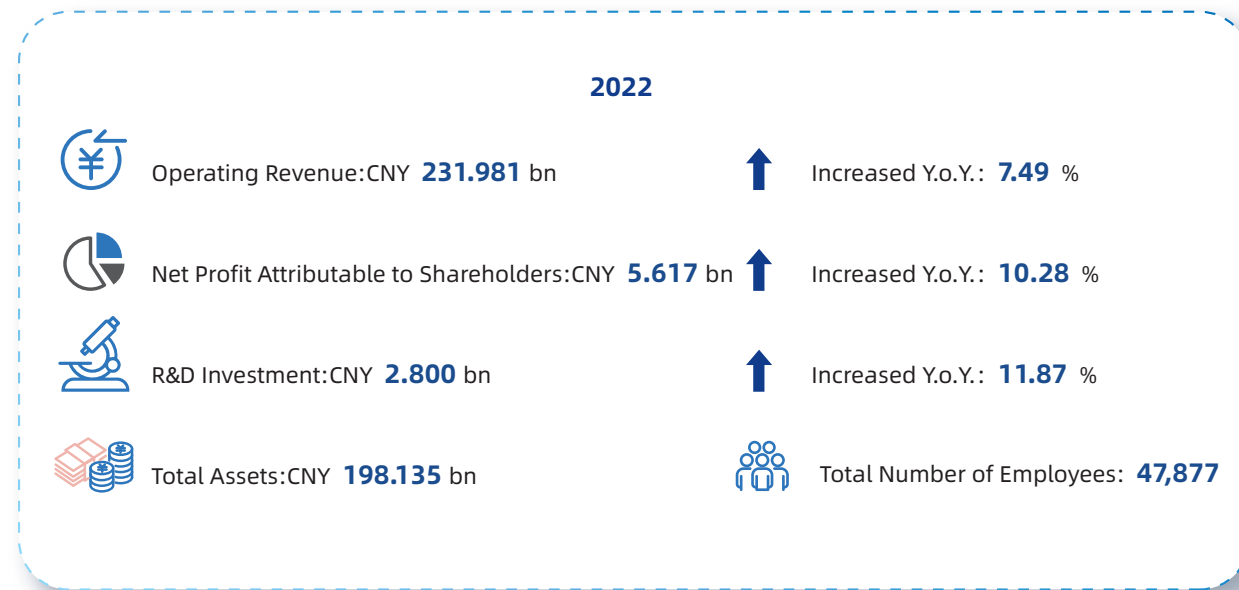


Chairman of Shanghai Pharmaceuticals Holding Co., Ltd.



## About SPH

SPH is a vertically-integrated and diversified pharmaceutical group. The company has dual listings on the stock exchanges in Shanghai (601607) and Hong Kong (02607) respectively. The company provides leading healthcare services in: Research & Development, Manufacturing, Distribution and Retail.



### Second Largest Pharmaceutical Distributor & One of the Largest Drug and Vaccine Importers in China



Nationwide distribution network covering **31 provinces, municipalities and autonomous regions**

Wholly-owned subsidiaries covering **25 provinces, municipalities and autonomous regions**

Healthcare institutions served **32,000+**

Nationwide retail network covering **16 provinces, municipalities and autonomous regions**

Nationwide retail pharmacies **2,000+**

## A Hundred Years of Extraordinary Achievements

Since its inception, SPH has always stayed true to its original aspiration and founding mission. Many of its century-old brands have exemplified social responsibilities of pharmaceutical companies in different eras, and achieved many firsts in the history of Chinese medicine:



### Over the past century, SPH has been committed to leading the development and improvement of the industry.

In 1996, under the reform of the separation of government functions from business operation, the former National Medical Administration, Shanghai Branch was restructured to Shanghai Pharmaceutical (Group) Company, setting the path to become a conglomerate.

In 2008, supported by the CPC Shanghai Municipal Committee and the Shanghai Municipal People's Government, SIIC merged its high-quality pharmaceutical assets with Shanghai Pharmaceuticals Holding Co., Ltd. to build a biopharmaceutical pillar industry and a leading pharmaceutical enterprise. The new SPH entered an era of development following this reorganization.

SPH was relisted on SSE in 2010 and launched an IPO at HKEX in 2011, becoming the first dually-listed pharmaceutical conglomerate in China. Following its primary listing on the Stock Exchange, SPH started implementing its pillar strategies of innovation, intensive development, globalization and integration of real economy with finance. The Company established a corporate governance structure in line with international standards, introduced excellent management team and market-oriented governance mechanisms, and maintained a double-digit growth for a decade.

The Company's main business covers pharmaceuticals and pharmaceutical services. These include biological products, chemicals, Traditional Chinese Medicine (TCM), nutrition and supplements, orphan drugs, pediatric drugs, distribution and retail. SPH's core therapeutic areas are Oncology, Cerebro-cardiovascular, CNS, General Infection, Immunology, Digestive and Metabolism, and Respiratory. The Company has roughly 700 drug varieties manufactured in over 20 dosage forms. A number of its drugs have passed quality authentications from the WHO, FDA, EU and have been sold in overseas markets. SPH has 21 orphan drugs targeting 34 rare diseases. The Company owns over 2,000 pharmacies and its pharmaceutical distribution network covers 32,000 hospitals in 31 provinces, municipalities and autonomous regions across the country. Its wholly-owned subsidiaries covers 25 provinces, municipalities and autonomous regions. SPH is committed to pharmaceutical R&D, manufacturing, distribution and retail and aims to achieve integrated, efficient and coordinated development, provide safe and effective drugs for patients, and meet public health needs.

For years, SPH has adhered to the mission of "Committed to Improving Health and Quality of Life" and the vision of "An Internationally Trusted and Competitive Biopharmaceutical and Healthcare Provider", with its core values of "Innovation, Integrity, Cooperation, Inclusiveness and Responsibility". Faced with the new changes in policy and the market, SPH has embraced and adapted, won recognition, and strengthened its industry position. The company ascended to the second place in China's pharmaceutical industry and has made the Fortune Global 500 and the Pharm Exec 50 lists for three consecutive years. It is included in the constituent stocks of the SSE 180, CSI 500 indices and MSCI.

## Embarking on A New Journey

The world is undergoing profound changes unseen in a century, where the restructuring of global supply, industrial and value chains is picking up speed. China is embracing unprecedented challenges and opportunities in developing its economy and society. As a result, scientific and technological innovations have play a major role in worldwide competition. Our development goal is to implement new and dynamic concepts to transition China from a pharma giant to a pharma super power. In order to break down supply chain barriers and improve the whole country's strategic scientific and technological strength, China has promulgated policies and regulations to guide and support the biopharma industry, to achieve long-term prosperity. In the new wave of global science and technology transformation, SPH stays true to its original aspiration and undertakes its mission and responsibility as an industrial leader in China. It has set the following strategic goal: "Driven by scientific and technological innovation, SPH is poised to be a leader in the Chinese pharma industry with international competitiveness". Through scientific and technological innovations, SPH is providing the latest medicine and pharmaceutical supply chain products and healthcare services. The Company aims to constantly innovate its business model and extend its customer-oriented services to meet the unmet clinical needs of patients, customers and other stakeholders.

## Pharmaceutical Manufacturing

Through technological innovation and international expansion, SPH is poised to be a Chinese pharma leader making both generics and novel drugs, a top 40 pharma company by 2025 and a Top 20 pharma company by 2030-2035 worldwide. The Company has formulated the strategy for new drug development in key therapeutic areas. Through "in-house R&D + external collaboration", SPH is building a state-of-art product portfolios to meet unmet clinical needs and, the Company further expanded its innovative drug pipeline, and several candidate drugs are now in advanced stages of development. The Company had 3 Class I novel drugs on the market and 62 of its new drugs received clinical applications or entered the clinical stage. In the future, the Company will continuously innovate in biological drugs, chemical drugs, traditional Chinese medicine, rare disease drugs, and pediatric drugs.

SPH has also brought in new strategic investors and a more open and dynamic model for novel drug development. Through partnerships across the healthcare community, SPH is poised to build a novel drugs pipeline based on clinical needs.

Biopharma Evolution, an innovation hub set up jointly SPH and other institutions in 2021, aims to "build an innovation consortium led by industrial leaders that encourages cooperation among enterprises, universities and research institutes, as well as other players". Its shareholders include Shanghai Jiao Tong University School of Medicine, and Shanghai Zhangjiang Group, while its co-initiators/strategic partners include CAS Center for Excellence in Molecular Cell Science and Fudan University. In October 2022, Biopharma Evolution completed business registration and started operations. Biopharma Evolution will take full advantage of SPH's role as an industrial leader, as well as the resources of "prominent universities and institutes and top companies", to create an incubation platform for original biopharma innovation which combines "government, industry, university, research institute, investment and industrial park". This Shanghai-based hub, internationally-oriented hub, will bring in innovative and original products/projects/businesses that have global intellectual property rights and great clinical value. It aims to deliver value to China's efforts to help the biopharma industry become more innovative. It strives to play an important part in the high-quality development of China's biopharma industry, which entails a high-level self-reliance and self-improvement in science and technology, especially in life sciences and health care.

Since 2022, Biopharma Evolution has signed strategic cooperation agreements with Hong Kong Science & Technology Parks Corporation and Shanghai Huangpu District. Leveraging the premium medical resources and R&D strength of Hong Kong Special Administrative Region and Shanghai Huangpu District, as well as their long-term partnership, Biopharma Evolution has proactively built an early incubator platform, and set up convenient innovation and entrepreneurship stations for local researchers and experts. In addition, Shanghai Zhangjiang Road 92 Park (SPH Biopharma Industrial Base) has acted as a catalyst for greater biopharma innovation and a support for long-term, future success.

## Pharmaceutical Services

SPH has been constantly innovating its business model in the pharmaceutical distribution and retail businesses. It is transforming from a traditional pharmaceutical distribution company to a leading, modern service and technology-driven health care provider in China.

SPH will integrate wholesale with retail distribution across the whole country. Considering "services, technology, and finance" as the new drivers of its innovative development, it is determined to step up efforts to build itself into a world-class technology-based healthcare provider.

The Company is dedicated to providing services involving the entire pharmaceutical supply chain, with a focus on CXO (medical contract outsourced) services, seeking to create a leading Chinese service platform for innovative pharma companies worldwide. SPH leverages the latest technologies, providing innovative pharma companies with one-stop solutions for the complete drug lifecycle, which includes product authorization, clinical R&D, bonded export, import and distribution and terminal marketing. Following the national promotion of the Shanghai Lin-gang Special Area, SPH stepped up the construction of the Lin-gang International Pharmaceutical Supply Chain Industrial Park. The Company will strengthen its industrial innovation capacity and consolidate its leading role in pharmaceutical import and export.

In online retail, SPH leveraged its rich resources, including first-movers SPH Health Commerce and Meditrust Health, to establish its professional pharmacies, paying particular attention to those close to hospitals and those included in the "dual-channel" regime. This will provide patients with a comprehensive service platform, which offers quality, specialized, professional, and multi-level pharmaceutical services outside hospitals. SPH Health Commerce has built an integrated brand called "Yiyao" (E-Pharmacy), targeting mainly out-of-hospital markets

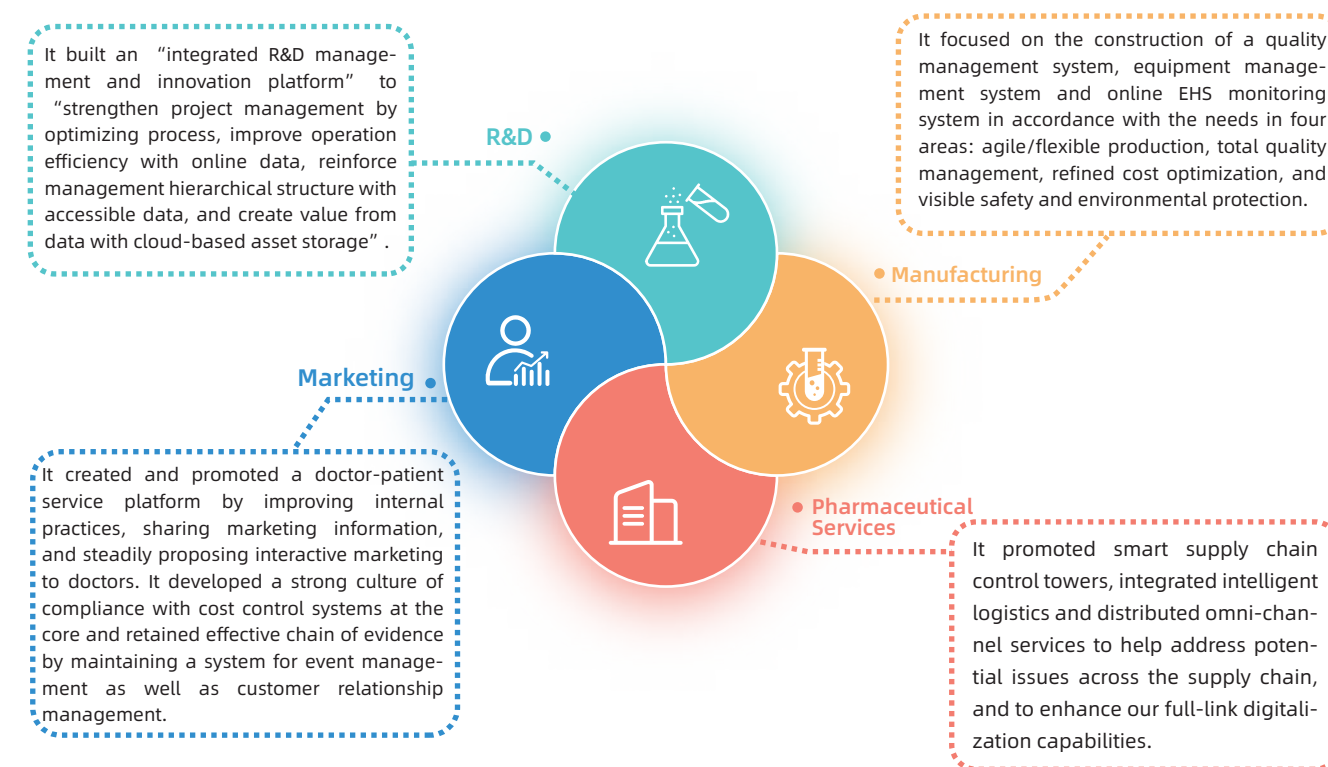
for innovative drugs. This highly integrated "online + offline" platform aims to provide diversified specialty pharmaceutical services outside hospitals. As a leading Chinese platform that provides full lifecycle services for the commercialization of innovative drugs, SPH Health Commerce is committed to innovatively connecting pharma companies with hospitals and patients, and providing the booming Chinese innovative drug industry with comprehensive commercialization solutions covering all stages of drug development from clinical R&D to out-of-hospital post-launch marketing. Shanghai MediTrust Health Technology Co., Ltd., the largest full lifecycle pharmaceutical solutions provider in China, is committed to integrating insurance and medical treatment, developing an ecological closed loop of cooperation between pharmaceutical companies, insurance companies, hospitals and other parties, in order to provide professional support for China's insurance program and multi-level medical care system.

The Company will further drive innovation and enable development with smart technology. Taking into account prescription and OTC drugs needed by Chinese patients and the healthcare payment reform in China, we will deploy our online medical resources to make healthcare resources and services more accessible to the public, helping the country build a multi-tier healthcare system.

## Digitalization at SPH

According to the report to the 20th National Congress of the CPC, China will speed up the development of digital economy, especially the integration of digital and real economies, and the creation of digital industrial clusters with international competitiveness. Obviously, as a new strategic sector, the digital transformation of the pharmaceutical industry is a necessity, because it is a crucial step not only to build a healthy China and improve people's well-being, but also to adapt to industry changes and reduce social costs.

The Company is steadily digitalizing, with a development momentum "guided by strategies, oriented to business and supported by data". In 2022, the Company made solid progress in digitalization of each business segment:

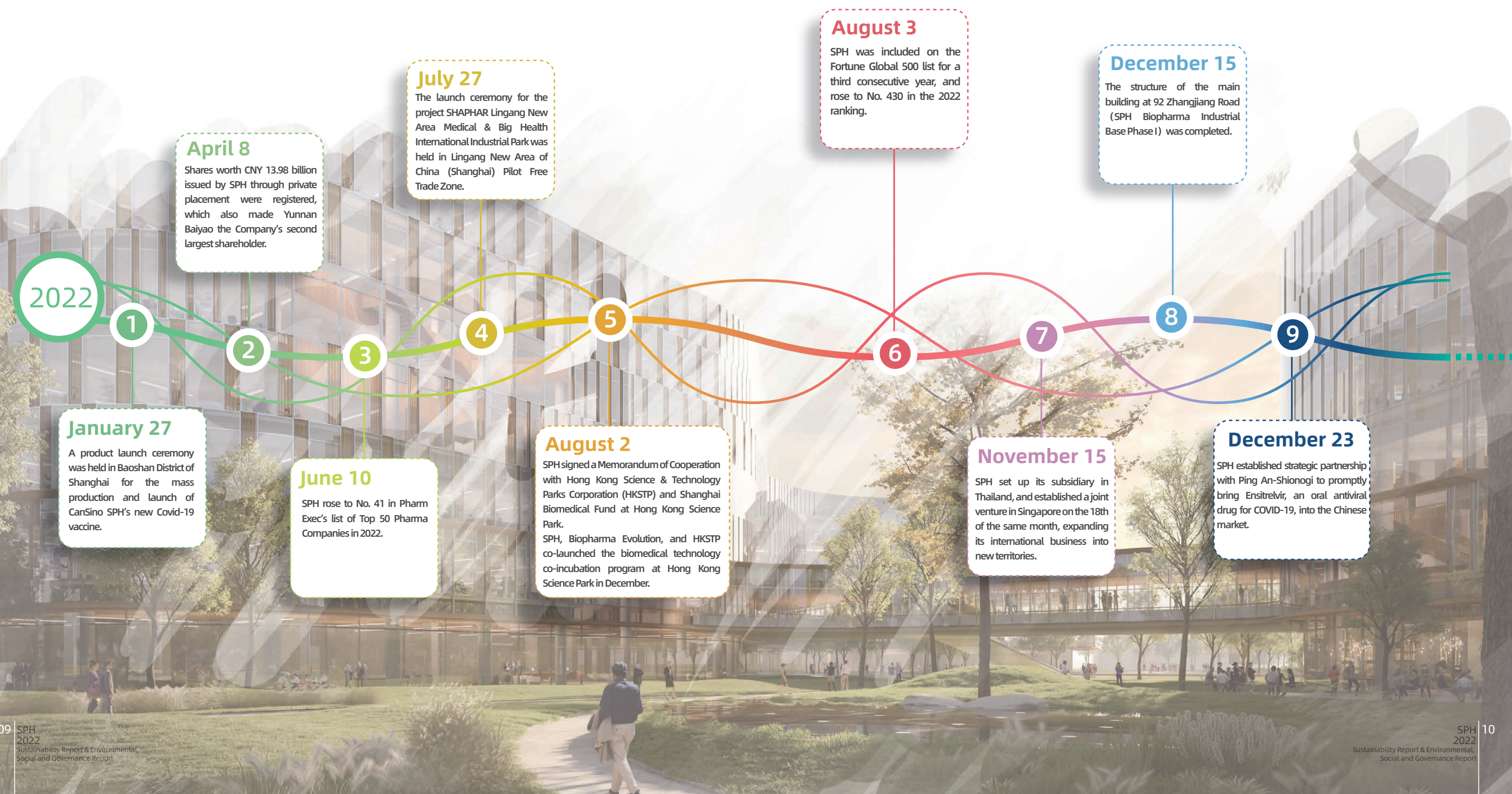


In the future, SPH will transform its organization, operation, culture and business. The Company's operations will enhance core competitiveness, and it will optimize customer experience and supply chain services to bring "data realization" to patients, customers, and suppliers, and release "captive value". Finally, it will fulfill its responsibility and contribute to the development of a wider ecosystem.

Under the new trend of industrial transformation, SPH has been promoting four transformation initiatives with technological innovation at its core and the construction of digital SPH. With market-oriented systems and mechanisms, the Company will become a leading Chinese pharmaceutical company with international competitiveness and contribute to the construction of a healthy China.



## Annual Events 2022





## Annual Honors

Honor	Issuing Authority
430 <sup>th</sup> in Fortune Global 500 in 2022	Fortune Magazine
41 <sup>st</sup> in the Top 50 Global Pharmaceutical Companies	PharmExec, a U.S. Magazine
59 <sup>th</sup> in Fortune China 500 in 2022	Fortune Magazine
1017 <sup>th</sup> in Forbes Global 2000 in 2022	Forbes
21 <sup>st</sup> in the Top 25 Pharmaceutical Companies with Global Brand Value in 2022	Brand Finance UK, a brand valuation consultancy
123 <sup>rd</sup> in the Top 500 Chinese Enterprises in 2022 52 <sup>nd</sup> in the Top 500 Chinese Manufacturing Enterprises	China Enterprise Confederation, China Enterprise Directors Association
12 <sup>th</sup> in the Top 100 Shanghai Enterprises in 2022 4 <sup>th</sup> in the Top 100 Shanghai Manufacturing Enterprises	Shanghai Enterprise Confederation, Shanghai Enterprise Directors Association, Shanghai Federation of Economics Organizations, Jiefang Daily
4 <sup>th</sup> WIPO-SMPG Shanghai IP Innovation Award (Protection)	World Intellectual Property Organization (WIPO)
3 <sup>rd</sup> in the Top 100 Chinese Pharmaceutical Companies in 2021	MENET
Big Pharma in China in 2021 7 <sup>th</sup> in the Top 30 Innovative Biopharmaceutical Enterprises	MENET
Shortlisted for 2022 China's innovative Pharmaceu- tical Enterprises	China State Institute of Pharmaceutical Industry
Most Valuable Listed Company with High Quality Development in the 2022 China Securities GoldenBaubinia Awards	Hong Kong Ta Kung Wen Wei Media Group Limited
Included in 2022 Fortune China ESG Impact List	Fortune China
Employer Excellence of China in 2022, Chinese College Students' Favorite Employer in 2022	51Job.com

## Core Brands



## About Responsibilities:

# Share Your Colours For a Brighter Future

There are more than 7,000 known rare diseases (also known as "orphan diseases") worldwide. Only 5% of them have an effective treatment. Currently, these diseases are affecting 300 million people worldwide, with 20 million of them in China. Rare disease patients are struggling mainly because their conditions are hard to diagnose, treatment solutions are currently unavailable, and the medication cost is too high. In recent years, the Party and the State have paid close attention to these patients. For instance, China's "Healthy China 2030" national strategy set the ambitious goal of "Health for All and All for Health". In the report to the 20th National Congress of the CPC, the General Secretary proposed to make continuous efforts to help the underprivileged. SPH has effectively responded to the national call and undertaken the social responsibilities assigned to state-owned enterprises. It responsibly catered to the unmet needs of patients by leveraging the strengths of its main business. It aims to develop, through unremitting efforts and continuous investment, more solutions to rare diseases that may benefit more patients and push forward the "Healthy China" drive.

## Developing Solutions to Rare Diseases to Build Itself into A Leader in China

SPH has been committed to developing treatment for rare diseases for over two decades, seeking to discover and produce life-saving drugs for rare disease patients. In 2020, by establishing a rare disease business platform company SPH RD, the Company ensured the supply of existing orphan drugs, accelerated the implementation of rare disease projects under research, introduced domestic and foreign rare disease innovation cooperation projects, and created a rare disease business platform integrating R&D, manufacturing and sales, forging an accessible model for rare disease drugs to guarantee the special needs of patients. Currently, SPH produces a total of 21 products that are effective against 34 rare disease conditions. The Company is proud to be one of the enterprises with the most rare disease drug (RDD) approvals in China.

**Our Mission**  
To focus on building a model making RDDs accessible to patients in China



**Corporate Culture**  
To treat rare diseases wisely to protect your health



**Core Value**  
Care, Responsibility, Innovation, Cooperation

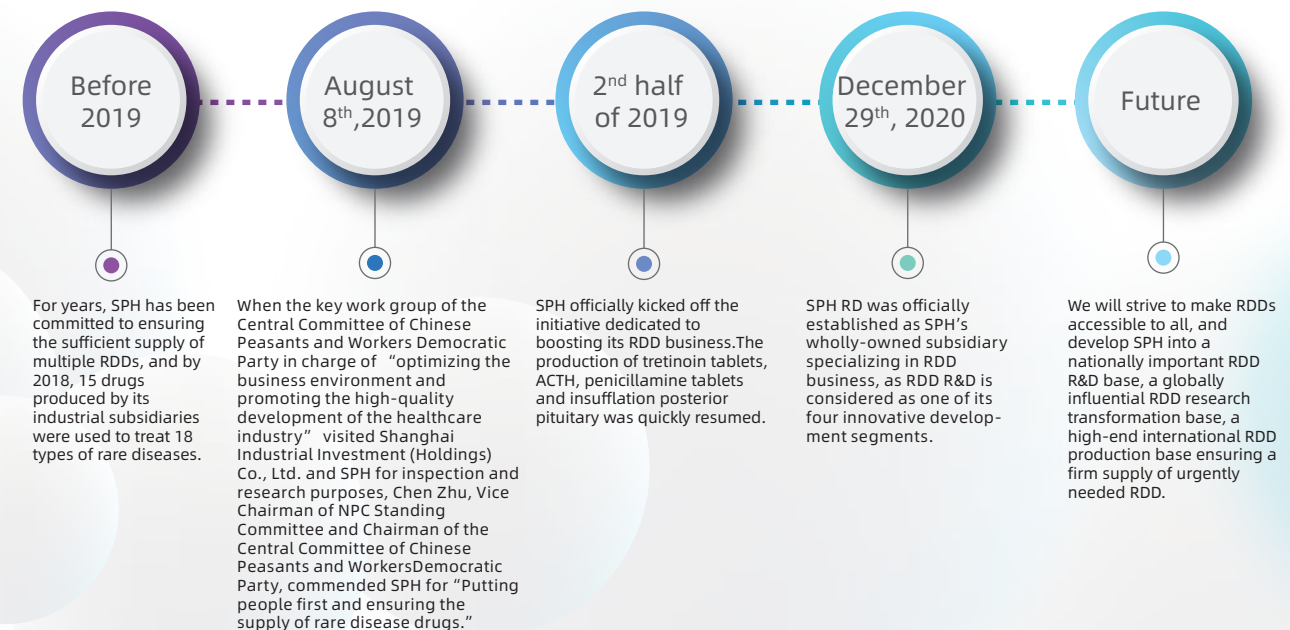


**Our Vision**  
To establish ourselves as a RDD leader with Chinese characteristics



### Vision & Mission of SPH RD

## Developmental Path of SPH's RDD Business



### To build a modern high-end industrial platform for RDDs

SPH RD and SPH Sine are making concerted efforts to push forward the Ministry of Industry and Information Technology (MIIT) Industrial Technology Basic Public Service Platform Project—building a Modern High-End Industrial Platform for RDDs. The project will help the industry conduct technology transfer and clinical research with respect to novel and pediatric drugs for rare diseases. It is expected to increase the manufacturing capacity of medical products for rare diseases and those for pediatric use by 1.2 million tablets/year and 1,700 million packets/year, respectively. This will guarantee not only the continuous supply of dozens of RDDs (including those susceptible to shortages and those for pediatric use), but also the stability of the industrial chain for rare disease and pediatric drug products under development. During the Reporting Period, the project was progressing well and kept showing positive results.

## Leading R&D and Innovation to Improve the Accessibility of RDDs

Targeting the clinical needs of rare disease treatment, SPH has created a complete RDD ecosystem with a patient-centric approach. By virtue of both independent and cooperative R&D, SPH has kept adding new products to the catalog of drugs for rare diseases and children, which helps meet the needs in the Chinese rare disease market. We bring hope to rare disease patients at home and abroad by providing them with stable, affordable access to safe and quality medicines.

### Accelerating R&D of Innovative Products

There are currently a total of 15 research projects in progress in SPH RD, involving global innovative drugs, first generic drugs and multiple medicines in short supply that are urgently needed in clinical practice. These drugs are intended to treat a number of rare diseases such as tumor, motor neuron, endocrine, cardiovascular and metabolic diseases. Some of our products, with reduced through integrated development of active pharmaceutical ingredients (APIs) and finished dosage forms (FDFs), are accepted as an alternative to their foreign counterparts.

### Collaborating on RDD Innovation Projects

SPH RD fully implements SPH's product strategy of "first-generation products on the market, second-generation under development and the third under planning". It has also set up a RDD assessment system, which is scientifically evaluates products to be introduced into Chinese market. The Company has introduced multiple innovative products in China, including chemical drugs, traditional Chinese medicines (TCMs) and biological products, expanding its product lines.

SPH RD, in close collaboration with Ruijin Hospital, succeeded in bringing in innovative products SRD6214 and SRD6016 to China. SRD6214 is an innovative treatment for alpha (α)-thalassemia; and SRD6016 is a global innovative cell and gene therapy against all types of hemophilia. This joint effort led to the introduction of new treatment options to patients with hemophilia, regardless of the type, and provided a model for collaboration between hospitals and enterprises.

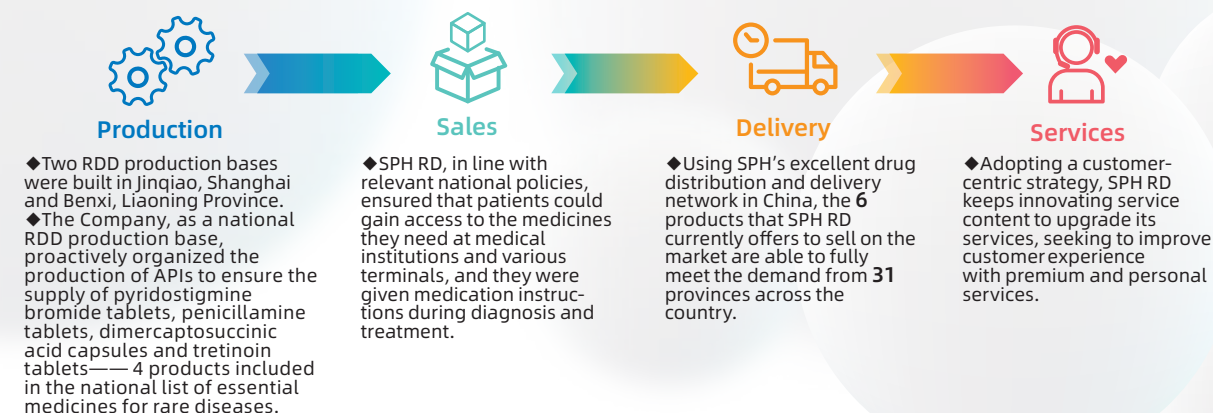
Successfully introducing SRD6214 & SRD6016



## Producing Safe and Quality Medicines to Ensure a Firm Supply of Existing RDDs

### Leveraging the strengths of a complete industrial chain to weave a network ensuring the supply of RDDs

Leveraging the strengths of its complete industrial chain consisting of R&D, production and sales, SPH RD enhanced quality management and integration of supply and marketing, which led to a stable supply of relevant RDDs. In 2022, SPH RD manufactured more than **122 million** RDD tablets, which helped protect the life and health of nearly **115,000** rare disease patients.



SPH RD has established a complete quality management system consistent with MAH management requirements. The company, as the primary entity responsible for the whole lifecycle of drugs, ensures the safety, effectiveness and quality control of the entire process from drug R&D, manufacturing, operation to use. Since its establishment, 100% of its products has been rated "acceptable" during random quality inspections.

#### Ensuring the supply of vasopressin tannate injection

Vasopressin tannate injection is essential for patients with central diabetes insipidus. However, the demand for this drug is quite low, with only **378 vials** sold in 2021. Fulfilling its social responsibilities as a state-owned pharma giant, SPH produces this injection drug every year to ensure a sufficient supply, despite the extremely low market demand. In 2022, It made **450 vials** available on the market.

### Bracing for Covid surges to try its outmost to meet market demand for RDDs

During Covid surges in the first half of 2022, SPH actively fulfilled its social responsibilities to ensure the stable supply of RDDs, despite major difficulties. SPH RD's quality control, technology, supply and marketing business units worked closely to meet patients' demand for RDDs. We checked on patients' needs with sales companies and on distribution scheduling with factory on-site staff to speed up online distribution. As a result of these efforts, a total of **407,259** boxes of pyridostigmine bromide tablets, **68,750** boxes of penicillamine tablets, and **19,720** boxes of dimercaptosuccinic acid capsules reached the market. In particular, SPH, the exclusive manufacturer of pyridostigmine bromide tablets, released to market a total of **58** batches with a total annual amount of **1.613 million** bottles. This met the clinical needs of nearly **25,000** patients with myasthenia gravis (MG).

SPH RD actively coordinated the efforts of all parties concerned, and succeeded in restoring the supply of clonazepam, a treatment drug for Angelman syndrome, to Children's Hospital of Fudan University and Shanghai Children's Medical Center within 3 days, which solved the pressing problem relating to pediatric drug shortage.

Responding quickly to satisfy the urgent needs of "Angelman" patients

## Offering Health Education to the Public to Enhance Rare Disease Knowledge

Due to low public awareness of rare diseases, these ailments are hard to diagnose, and prone to misdiagnosis. SPH has done a lot to help elevate China's rare disease medical service. With the support of top Chinese rare disease specialists, we posted relevant content on our WeChat Official Account and organized a host of quality academic events for doctors and patients, including offline lectures and forums. Thus, we spread knowledge about rare diseases, offered guidance to rare disease patients on scientific use of drugs, raised public awareness, and improved the diagnosis and treatment of rare diseases.

#### National Lecture Tour Program "Master Lecture on Wilson's Disease"

On October 21, 2022, the National Lecture Tour Program "Master Lecture on Wilson's Disease" held by SPH, was officially launched. The event invited renowned experts to offer patients with Hepatolenticular Degeneration (Wilson's Disease) interpretation of guidelines, popularization of knowledge, and help on patients' self-management, to deliver care and hope to both doctors and patients.

#### Expert Lectures on ACTH and Pediatric Nervous System Diseases

ACTH has received great attention from healthcare professionals as a first-line drug for the treatment of infantile spasms. On October 28, 2022, SPH invited renowned experts, professors and research teams to contribute to ACTH intramuscular injection in the treatment of infantile spasms and key points in nursing, aiming to provide easier options for clinical departments, pediatric patients and their families.

## Promoting Industrial Communication to Jointly Develop Health Security System for Rare Diseases

SPH works with various institutions to continuously promote the accessibility of RDDs in China, jointly promote the sound development of the ecological environment of rare diseases, and demonstrate the responsibility of state-owned enterprises.

### Promoting Industrial Cooperation

SPH deeply cooperates with national academic institutions, universities, and hospitals for rare diseases (e.g. the China Alliance for Rare Diseases, Shanghai Foundation for Rare Disease, China Pharmaceutical University, Shanghai University of Traditional Chinese Medicine, Beijing Union Medical College Hospital, and Shanghai Ruijin Hospital), and has conducted multiple high-level professional academic exchange activities both online and offline.

- 1 In cooperation with **the China Alliance for Rare Diseases**, the projects "Real World Research in Drug Development for Pediatric Rare Diseases" and "Myasthenia Gravis Blue Book" were launched to support the China Conference on Rare Diseases, and the *Journal of Rare Diseases*.
- 2 In cooperation with **China National Pharmaceutical Industry Information Center**, the "Dialogue • Empowerment • Special Seminar on Medication for Rare Diseases" was held.
- 3 Supported "Yangtze River Delta Rare Disease Prevention and Protection Forum / 2022 Annual Academic Conference of Shanghai Medical Association Rare Disease Specialized Branch / The 5<sup>th</sup> Shanghai Rare Disease Patients Conference" held by **Shanghai Foundation for Rare Disease**.

At the 2021 China Rare Disease Drug Development Special Session, SPH and China Alliance for Rare Diseases signed a strategic partnership agreement. The two parties will work together to build the local development ecosystem and jointly promote the prevention, treatment and security for rare diseases, as well as the innovation in drug development. They will cooperate in policy analysis, academic exchanges, diagnosis and treatment, and the commercialization of successful research outcomes.

Signing a Strategic Partnership Agreement with the China Alliance for Rare Diseases

As the strategic partner of China Alliance for Rare Diseases, SPH and SPH RD fully supported the "2022 China Conference on Rare Diseases". More than 200 domestic and foreign experts on rare diseases were invited to the conference for in-depth and comprehensive exchanges. SPH vowed to provide more effective and accessible therapeutic drugs for clinical practice to benefit more rare disease patients.

Attending 2022 China Conference on Rare Diseases



## Supporting Academic Research

With strengths in R&D and platform resources, SPH vigorously supports academic exchanges and policy research in the field of rare diseases, and contributes to the development of the industry.

### Collaborating with China Pharmaceutical University on research project "Ecological Analysis of Rare Diseases in China and Drug Accessibility for Rare Diseases".

On December 10, 2022, the Research Center of National Drug Policy & Ecosystem (NPDE) of China Pharmaceutical University, supported by SPH RD, held a seminar on "Ecological Analysis and Accessibility Study on Local Development of Medication for Rare Diseases in China" in Nanjing. The seminar focused on the driving force of industrial development, discussed the difficulties and solutions in the ecological development of rare diseases and the accessibility of drugs for rare diseases in China, and made recommendations for formulating relevant industrial policies, enhancing the momentum of R&D, translation and production for rare diseases in China and abroad, and boosting of the supply side of drugs for rare diseases.

### 2022 Qianjiang Pediatric Nephrology Symposium

In November 2022, the 2022 Qianjiang Pediatric Nephrology Symposium co-organized by the SPH Shangke Rare Disease Marketing Department was successfully held. The symposium provided a comprehensive and multi-level academic exchange, focusing on new progress in the diagnosis and treatment of pediatric kidney diseases.

## Dedicating to the Public Welfare of Rare Diseases Let the People Around World Know the Rare Diseases

Rare diseases are a major common healthcare issue worldwide. SPH is actively engaged in public welfare projects for rare diseases, and is committed to calling for social attention to rare disease groups, alleviating the medical burden of rare disease patients, helping and bringing hope and warmth to patients, through public welfare initiatives, charitable donations and scientific publicity. In the future, we will build more public welfare platforms for rare diseases to better serve this community.

In 2021, the "Rare Disease Support Fund" jointly initiated by the China Alliance for Rare Diseases and the Chinese Red Cross Foundation was officially launched. As one of the first supporting enterprises of the fund, SPH was awarded a donation certificate.

Supporting the "Rare Disease Support Fund"

At the opening ceremony and main forum of the 2022 China Conference on Rare Diseases, SPH RD and other enterprises, together with the China Alliance for Rare Diseases and other associations, proposed the initiative of "Supporting the Weak, Caring for Patients with Rare Diseases, Putting People First, and Realizing Joint construction and Sharing".

Proposing the Initiative of Caring for Patients with Rare Diseases

In 2022, SPH Shangke donated CNY 498,000 to the "Rare Disease Patient Education and Care Action Project" sponsored by Beijing Jiusan Wang Xuan Care Foundation, sending care to rare disease patients.

Supporting the "Rare Disease Patient Education and Care Action Project"

In 2022, SPH Shangke provided pharmaceutical assistance to patients suffering from diabetes insipidus who were impoverished due to the illness, donating CNY 16,330.29 worth of drugs to help patients receive standardized treatment.

Supporting the "Rare Disease Care Program - Diabetes Insipidus Patient Assistance Public Welfare Project"

With the strong support of the Party and the government, the diagnosis and treatment system for rare diseases was improved; the research and development of RDDs was accelerated; and the prevention and treatment of rare diseases made great progress. Under the leadership of the Party and the government, SPH will coordinate all available resources to fulfill its social responsibility for the development of RDDs in China, raise prevention and treatment standards of rare diseases, benefit patients suffering from rare diseases, and contribute to the construction of a "Healthy China".





# Sustainability Governance System

- 21 Sustainability Governance Model
- 23 Stakeholder Identification & Communication
- 25 Analysis of Material Issues
- 26 Alignment with the United Nations Sustainable Development Goals (SDGs)

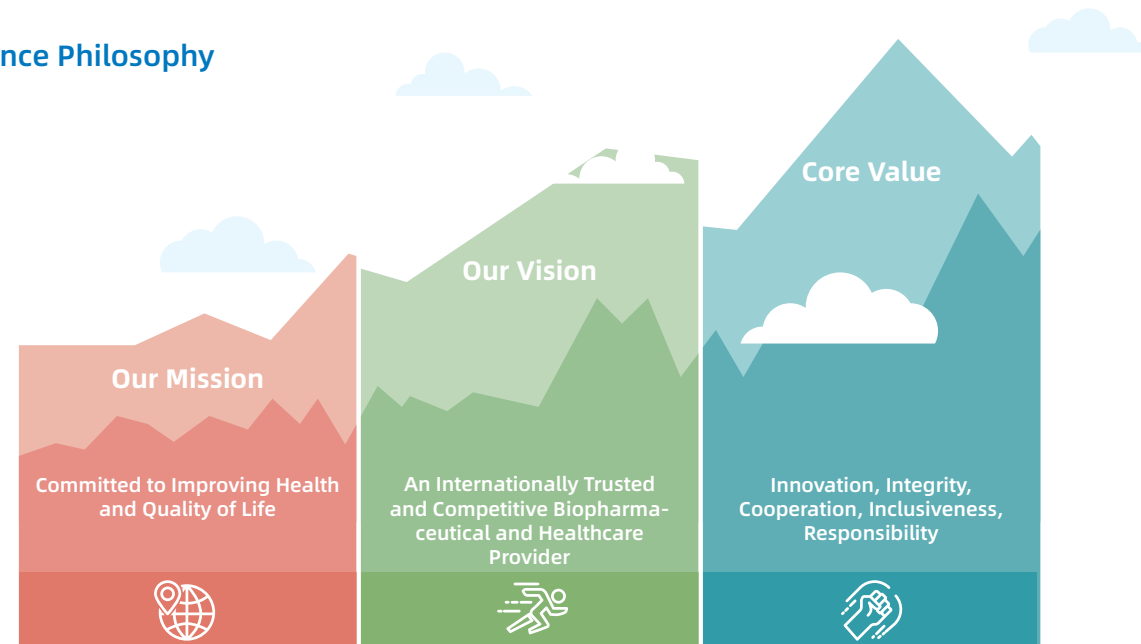




To stay true to its mission ("Committed to Improving Health and Quality of Life"), SPH has always incorporated sustainable development into the Company's operation and management, actively fulfilled its social responsibilities, and pursued a balance between environmental, economic, and social values. The Company is dedicated to further improving the sustainable development of its governance system and enhancing its governance capabilities.

## Sustainability Governance Model

### Governance Philosophy

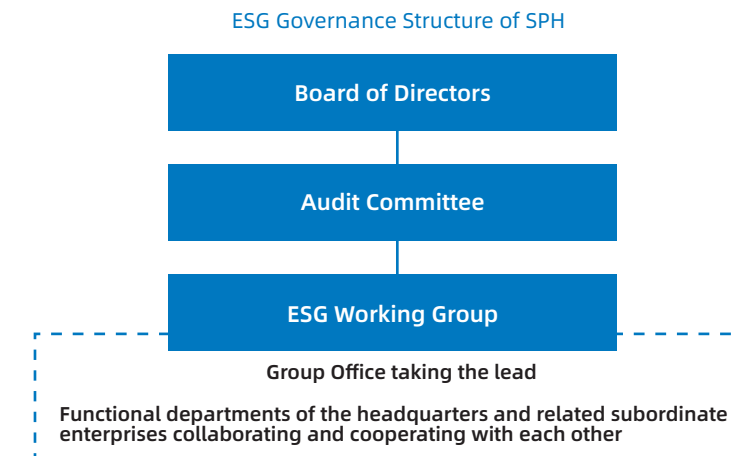


### Governance Model



### ESG Governance Structure

SPH continuously improves its sustainability governance system and optimizes its ESG Structure. As of the date of this report, the Company has established a top-down and well-defined ESG structure consisting of the Board of Directors, the Audit Committee and the ESG Working Group, and is working together to improve the Company's sustainable development.



### Declaration of the Board of Directors

The Company's Board of Directors is responsible for ESG governance strategy and examination of important ESG issues and ESG information disclosure. During the Reporting Period, the Company further studied and reviewed the ESG governance structure and division of functions and formulated an optimization plan. The Board of Directors formally integrated ESG responsibilities into the terms of reference of the Audit Committee in March 2023, to supervise and manage all ESG work at SPH through the Audit Committee. The Audit Committee reviews and oversees ESG matters and reports to the Board of Directors. Its main responsibilities include: approving and monitoring the formulation of the Company's ESG objectives, strategies, policies and plans through regular reviews; implementing ESG objectives, strategies, policies and plans; identifying, assessing and managing the Company's significant ESG risks and opportunities; ensuring adequate resources are devoted to ESG work; monitoring the expenditure; reviewing the Company's annual sustainability report and submitting it to the Board of Directors for approval; and regularly reporting to the Board of Directors on major decisions or recommendations made by the Audit Committee in relation to ESG. The ESG Working Group was established under the Audit Committee as the daily office of the Audit Committee on ESG work. The ESG Working Group is led and coordinated by the SPH Office, in cooperation with functional departments at SPH headquarters and subordinate companies to ensure the execution and reporting of the daily ESG work.

The Board of Directors reviews and approves the Corporate Social Responsibility Report / Sustainability Report annually. During the Reporting Period, the Board of Directors held several meetings, by reviewing of the "14th Five-Year Plan —2022 Implementation Report" and other work, to examine and inspect the progress of the Company's ESG work that is highly relevant to the main business, such as R&D and innovation, manufacturing excellence, business services, safe production and talent development. In the future, the Board of Directors will continue to optimize the Company's ESG.

### ESG Disclosure

SPH has produced Corporate Social Responsibility reports and Sustainability Report for 13 consecutive years and actively responded to stakeholders' demands and expectations. This is a testament to the Company's efforts in environmental, social and governance work. The Sustainability Report also states the Company's commitment and vision to achieving sustainable development. In 2022, SPH received multiple recognition and commendations for its outstanding performance in sustainable development, with its ESG rating upgraded from A to AA by Morgan Stanley Capital International (MSCI).

### Capacity Building

In order to further improve ESG, the Company invited professional ESG institutions to carry out special training during the Reporting Period. The ESG team, functional departments at SPH headquarters, and relevant personnel from subsidiaries were updated with the latest ESG developments. They strengthened their recognition of ESG, learned the latest regulatory requirements, identified ways to improve ESG, and learned to draft ESG reports.



External Recognition of ESG in 2022



| Stakeholder Identification & Communication

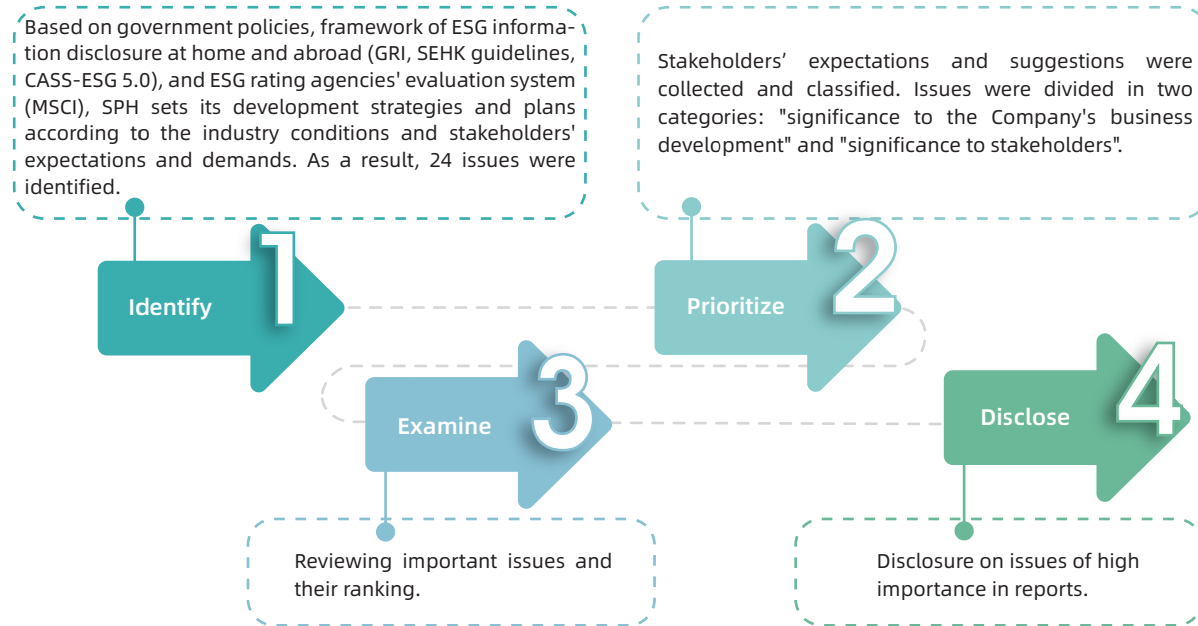
Stakeholders' participation is an important factor in promoting the Company's sustainable development. SPH attaches great importance to communication with stakeholders. Through various communication channels, the Company obtained stakeholders' expectations and suggestions on the Company's sustainable development. Based on SPH's characteristics, the Company identified its key stakeholders: board members, employees, shareholders and investors, governments and regulators, suppliers, customers and consumers, media, communities and the public, and trade and industry associations.

Stakeholders	Stakeholders' Concerns	Communication Channels
Board Members	<ul style="list-style-type: none"><li>ESG</li><li>Risk management</li><li>Development of the industry</li><li>Quality of products and services</li></ul>	<ul style="list-style-type: none"><li>Board of Directors</li></ul>
Shareholders and Investors	<ul style="list-style-type: none"><li>Compliance operation</li><li>Business performance</li><li>Business development and innovation</li><li>Risk management</li></ul>	<ul style="list-style-type: none"><li>Shareholders' General Meeting</li><li>Performance conferences</li><li>Roadshows and reverse roadshows</li><li>Announcements on the website</li><li>Investors' meeting</li><li>Investment strategy meeting</li><li>Site investigation</li><li>Hotline for investors</li><li>E-interaction Platform</li></ul>

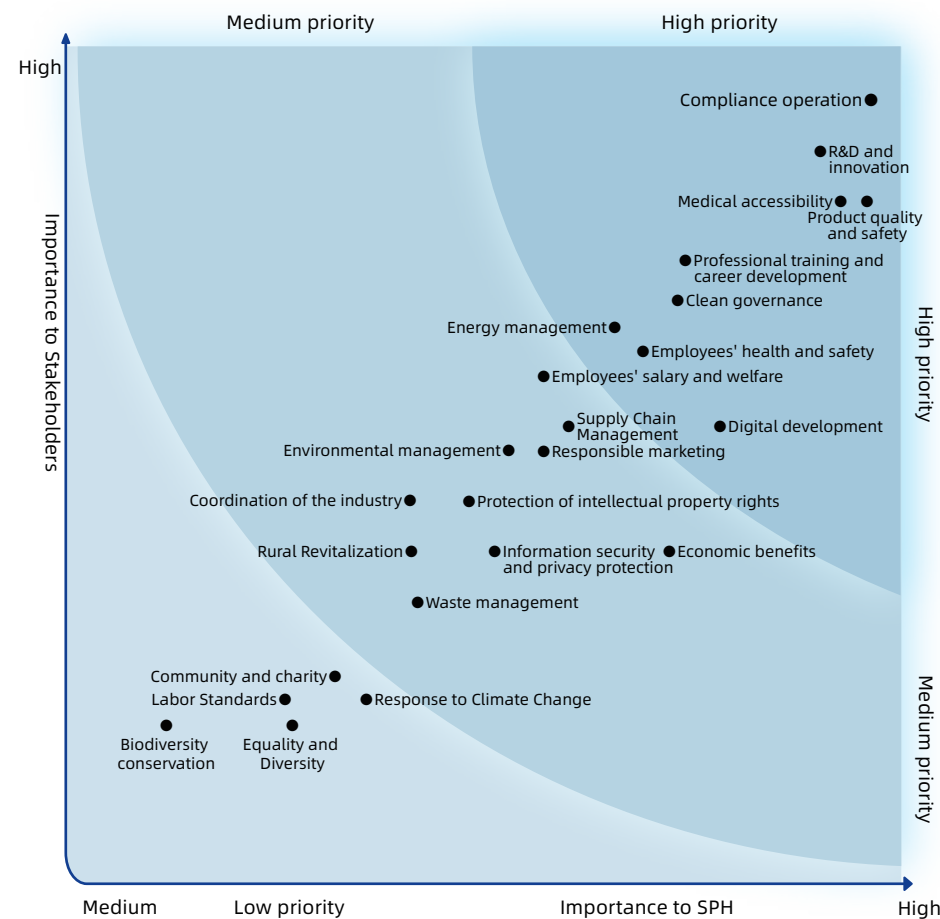
Stakeholders	Stakeholders' Concerns	Communication Channels
Employees	<ul style="list-style-type: none"><li>Employees' health and safety</li><li>Professional training and career development</li><li>Employees' salary and welfare</li><li>Equality and Diversity</li></ul>	<ul style="list-style-type: none"><li>Online communication</li><li>Employees' Representatives Conference</li><li>Employees' training</li><li>Employees' activities</li><li>Intranet, internal publication</li><li>Employee engagement survey</li></ul>
Customers and Consumers	<ul style="list-style-type: none"><li>Product quality and safety</li><li>Anti-corruption</li><li>Protection of rights and interests</li><li>Responsible marketing</li><li>R&amp;D and innovation</li><li>Privacy protection</li><li>Compliance operation</li><li>Satisfaction and complaints</li></ul>	<ul style="list-style-type: none"><li>Online communication</li><li>Customer service center and hotline</li><li>Customer visit</li><li>Customer satisfaction survey</li><li>Promotion of rational drug use</li><li>Academic research</li></ul>
Media	<ul style="list-style-type: none"><li>Open and transparent information</li><li>Safe production</li><li>Interviews</li><li>Compliance operation</li><li>Product quality and safety</li></ul>	<ul style="list-style-type: none"><li>Media open day</li><li>Interviews and feature stories</li><li>Social media platforms</li></ul>
Suppliers and other Partners	<ul style="list-style-type: none"><li>Supply Chain Management</li><li>Long-term cooperation with win-win benefits</li></ul>	<ul style="list-style-type: none"><li>Examination and assessment</li><li>Suppliers' training</li><li>Suppliers' website</li><li>Regular communication</li></ul>
Governments and Regulatory Authorities	<ul style="list-style-type: none"><li>Compliance operation</li><li>Product quality and safety</li><li>Environmental protection</li><li>Policy-making</li><li>Community and charity</li><li>Development of the industry</li><li>Protection of intellectual property rights</li></ul>	<ul style="list-style-type: none"><li>Information disclosure</li><li>Document exchange</li><li>Supervision and examination</li></ul>
Communities and the Public	<ul style="list-style-type: none"><li>Community services</li><li>Charity events</li><li>Environmental protection</li></ul>	<ul style="list-style-type: none"><li>Official website and social media platforms</li><li>Organization of charity events</li><li>Volunteer activities</li><li>Communication and interviews</li></ul>
Industry and Industry Associations	<ul style="list-style-type: none"><li>Exchange and cooperation</li><li>Development of the industry</li><li>R&amp;D and innovation</li><li>Protection of intellectual property rights</li></ul>	<ul style="list-style-type: none"><li>Fora and summits</li><li>Visits</li><li>Research</li></ul>

## Analysis of Material Issues

### Procedures of Analysis of Material Issues



### Results of Analysis of Material Issues



## Alignment with the United Nations Sustainable Development Goals (SDGs)

Chapter	United Nations Sustainable Development Goals (SDGs)
Sustainability Governance System	16 PEACE, JUSTICE AND STRONG INSTITUTIONS, 17 PARTNERSHIPS FOR THE GOALS
Responsible Governance	16 PEACE, JUSTICE AND STRONG INSTITUTIONS, 17 PARTNERSHIPS FOR THE GOALS
Customers' Responsibilities	3 GOOD HEALTH AND WELL-BEING, 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, 17 PARTNERSHIPS FOR THE GOALS
Employees' Responsibilities	3 GOOD HEALTH AND WELL-BEING, 4 QUALITY EDUCATION, 5 GENDER EQUALITY, 8 DECENT WORK AND ECONOMIC GROWTH, 10 REDUCED INEQUALITIES
Environmental Responsibilities	6 CLEAN WATER AND SANITATION, 7 AFFORDABLE AND CLEAN ENERGY, 11 SUSTAINABLE CITIES AND COMMUNITIES, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 13 CLIMATE ACTION, 15 陆地生物
Community Responsibilities	1 NO POVERTY, 2 ZERO HUNGER, 3 GOOD HEALTH AND WELL-BEING, 4 QUALITY EDUCATION, 10 REDUCED INEQUALITIES, 11 SUSTAINABLE CITIES AND COMMUNITIES
Partners' Responsibilities	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE, 11 SUSTAINABLE CITIES AND COMMUNITIES, 12 RESPONSIBLE CONSUMPTION AND PRODUCTION, 17 PARTNERSHIPS FOR THE GOALS



# Responsible Governance

## Party Building Leads High-quality Development

29 Cement the Foundation for Party-building Efforts  
30 Compliant Corporate Governance  
34 Practicing Business Ethics





## | Cement the Foundation for Party-building Efforts

SPH adheres to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, earnestly studies and implements the spirit of the 20th National Congress of the Communist Party of China, focuses on the "Three-Three-Three" working thought and "Five-Hua Linkage" working pattern, solidly carries out the "Red Pioneer Action", continuously promotes the construction of the "Double Foundation Project", focuses on setting examples, grasping highlights and promoting improvement, stimulates grass-roots Party organizations at all levels and cadres and workers who are CPC members to demonstrate new roles in reform, innovation, transformation and upgrading, and provides strong political assurance and organizational guarantee to promote the high-quality development of the enterprise.

### Deepening the Integration of Party Construction with Production and Operation

Adhering to the mutual promotion and integration of party construction and operation, the Company actively explores the construction of a modern enterprise system with Chinese characteristics, through the integration of requirements of Party building work of state-owned enterprises and the provisions of the capital markets of Shanghai and Hong Kong on corporate governance. It fully leverages the role of "stabilizer" and "ballast stone" of state-owned pharmaceutical enterprises; strives to build a "Five-Hua Linkage" work pattern, and strengthen the integration and development of Party construction inside and outside Shanghai, and through classified and stratified "one standard for one enterprise" promotes the close connection between the assessment of Party construction and the comprehensive evaluation of enterprise leadership and the assessment of business performance.



On July 20, 2022, SPH held the 2022 Party Construction Conference by video conference connecting the main venue and sub-venues.

### Deepening Ideological and Political Guidance

The success of the 20th National Congress of the CPC resulted in a grand blueprint for comprehensively building a modern socialist country. In order to thoroughly study, publicize and implement the spirit of the 20th CPC National Congress, the Company focused on publicizing and implementing the main line of work of the 20th CPC National Congress, and carried out Party construction theme activities such as "Presenting a Gift to the 20th CPC National Congress, Advancing on a New Journey" and "Learning from the 20th CPC National Congress and Forging ahead in Time", so as to effectively arm the minds, guide the practice and promote the work with the spirit of the 20th CPC National Congress.



On October 16 at 10 am, the Party leaders and functional department heads of SPH Group watched the live broadcast of the 20th National Congresses of the Communist Party of China.

### Creating a Distinctive Brand for Party Construction

The Company has deeply explored practical cases of innovation of Party construction, participated in the activity "Red Culture Entering State-owned Enterprises", established a gradient cultivation mechanism for Party construction brands, and gradually formed a matrix of 50 unique Party construction brands with SPH characteristics.

During the Reporting Period:

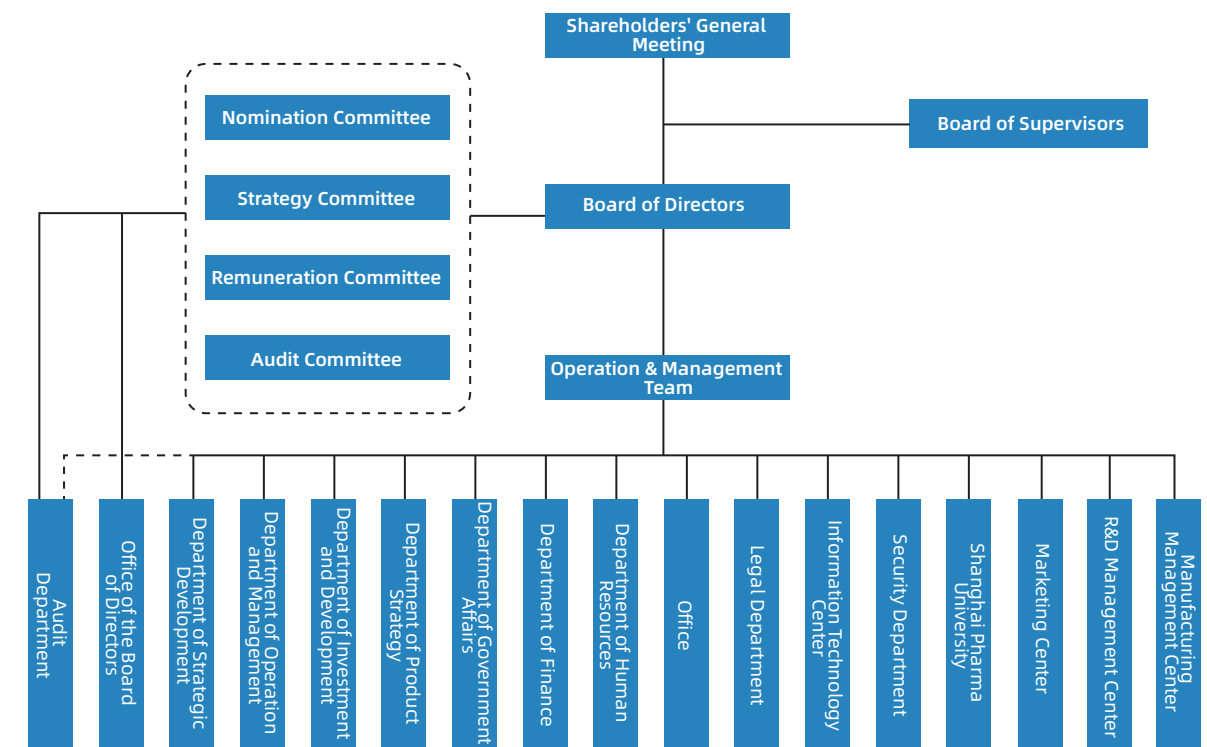
- The three brands of SPH "Red Pioneers in Action", SHAPHAR "Cohesion" and SPH Shenxiang "Let me @you" were successfully selected as "Shanghai State-owned Enterprise Party Construction Operation Brands".
- The four brands of SPH Sine "Red Party Flag", SPH Leiyunshang "Lei's Cultural Walk", SPH Sine United "Song of Sine" and SPH Party School "Red Memory of Nanchang Road" were successfully selected as "Shanghai State-owned Enterprise Party Construction Culture Brands".
- Shanghai SPH Sine Education Base was named by the Party Committee of Shanghai State-owned Assets Supervision and Administration Commission (SASAC) as one of the first batch of Patriotic Education Bases of Shanghai SASAC System.
- "Walking Brings Classroom to Life, 'Party Class' Brings Party History to Life" was awarded the Excellent Theoretical Presentation Report by the Shanghai SASAC System.



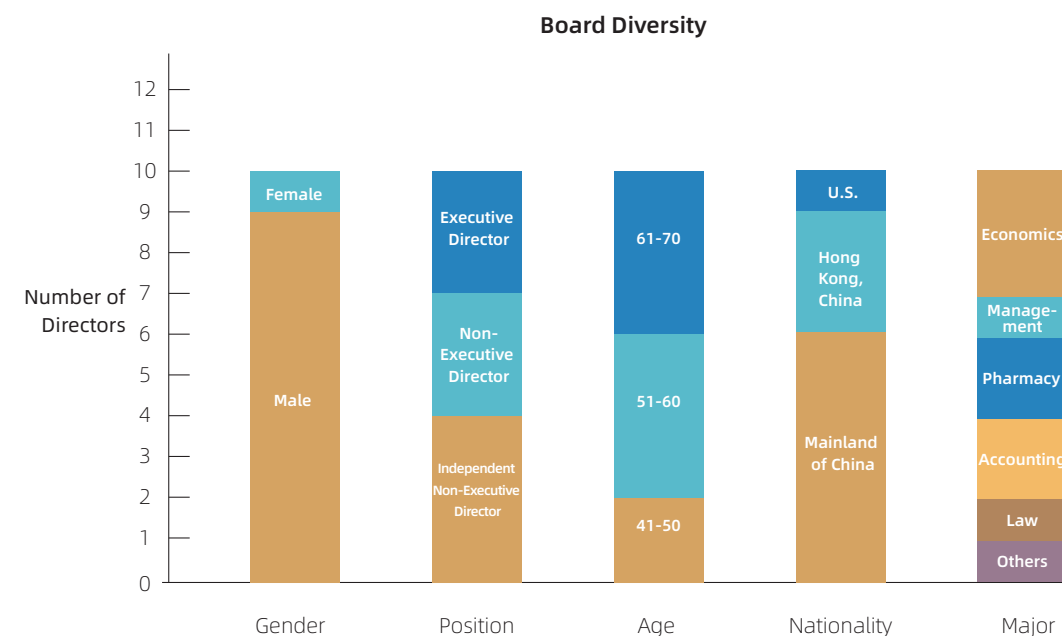
## | Compliant Corporate Governance

### Governance Structure

The company strictly abides by the *Company Law of the People's Republic of China*, *Securities Law of the People's Republic of China*, *Code of Corporate Governance for Listed Companies*, *Rules Governing the Listing of Stocks on the Shanghai Stock Exchange*, *Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited* and other relevant laws and regulations formulated by regulatory authorities. SPH has been improving its governance system and building itself into a modern listed enterprise.



Pursuant to Rule 13.92 of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited, the Company has adopted a policy concerning Diversity of board members since March 2014. When evaluating candidates for the board, the Company will take into account a number of factors, which include but are not limited to gender, age, educational background, professional experience, and length of service, to achieve an appropriate balance. SPH's Board of directors consists of ten members. They currently include three Executive directors, Mr. Cho Man (also as President), Mr. Li Yongzhong (also as Vice President) and Mr. Shen Bo (also serving as Vice-President and Chief Financial Officer); three non-Executive directors, Mr. Zhou Jun (Chairman), Mr. Ge Dawei (Vice Chairman) and Ms. Li An; and four independent non-Executive directors, Mr. Cai Jiangnan, Mr. Hong Liang, Mr. Gu Chaoyang and Mr. Huo Wenxun.



SPH's Board of Directors includes a Nomination Committee, a Strategy Committee, a Remuneration Committee, and an Audit Committee, and has formulated the terms and implementation rules of each professional committee. In 2022, SPH held one Shareholders' General Meetings, which discussed and approved **13** proposals; **8** board meetings, which discussed and approved **38** proposals; and **5** supervisory meetings, which discussed and approved **14** proposals.

Committees	Members of Committee	Authority of Committees	Work Report
Nomination Committee	The Nomination Committee under the Board of Directors of the Company consists of three directors. The current directors include Mr. Cai Jiangnan (independent non-Executive director), Mr. Cho Man (Executive director), and Mr. Hong Liang (independent non-Executive director). Mr. Cai Jiangnan serves as the convener/Chairman.	The Nomination Committee is a specialized group under the Board of Directors, mainly responsible for researching the candidates, selection criteria, and nomination procedures. The Nomination Committee is also responsible for researching the candidates, selection criteria, and procedures of the nomination for senior Executives when necessary.	During the Reporting Period, the Nomination Committee met once to review the structure, number of members, composition, and diversity of the Board of Directors.
Strategy Committee	The Strategy Committee under the Board of Directors of the Company consists of three directors. The current directors include Mr. Zhou Jun (non-Executive director), Mr. Cai Jiangnan (independent non-Executive director), and Mr. Huo Wenxun (independent non-Executive director). Mr. Zhou Jun serves as the convener/chairman.	The Strategy Committee is a specialized strategic research group under the Board of Directors. It is mainly responsible for future research, evaluation, and suggestions on the Company's development strategy and related affairs.	During the Reporting Period, the Strategy Committee met once to review the outline of the Company's "14 <sup>th</sup> Five-Year Plan—2022 Implementation Report".

Committees	Members of Committee	Authority of Committees	Work Report
Remuneration Committee	The Remuneration Committee under the Board of Directors of the Company consists of three directors. The current directors include Mr. Hong Liang (independent non-Executive director), Mr. Ge Dawei (non-Executive director) and Mr. Gu Chaoyang (independent non-Executive director). Mr. Hong Liang serves as the convener/chairman.	The Remuneration Committee is a specialized group under the Board of Directors, mainly responsible for evaluating the Company's directors, presidents, and other senior Executives, and formulating policies for their remuneration.	During the Reporting Period, the Remuneration Committee met once to review the 2021 annual performance appraisal report of the Company's senior Executives and the 2022 annual performance appraisal and the remuneration policies.
Audit Committee	The Audit Committee under the Board of Directors of the Company consists of three independent non-Executive directors. The current directors include Mr. Gu Chaoyang, Mr. Huo Wenxun, and Mr. Hong Liang. Mr. Gu Chaoyang serves as the convener/chairman.	The Audit Committee is a specialized group under the Board of Directors, mainly responsible for the relationship between the Company and external audit institutions, reviewing the Company's finances, supervising its financial reporting system, risk management, and internal monitoring systems, and reviewing and monitoring environmental, social and governance issues.	During the Reporting Period, the Audit Committee held six meetings to discuss major issues such as the Company's regular reports and related transactions.



## Risk and Internal Control Management

To cope with the ever-changing risks and comply with the requirements of listed companies' governance, SPH established procedures for identifying, assessing, responding to, and reporting risks. The procedures can identify internal and external risks and assess their probability and impact. This allows the Company to respond to risk through relevant measures. Risks and risk management outcomes are reported to the Board of Directors, Audit Committee, and senior Executives regularly and systematically. For internal control, SPH established a corporate legal person governance structure and organizational structure that is in line with the Company's business scale and operational needs. The Company's internal control system was further enhanced and optimized for environment control, risk assessment, activity control, information and communication, as well as supervision mechanism.

## Information Disclosure

The Company kept meeting investors' demand and compliance requirements. In accordance with China Securities Regulatory Commission's Standards for the Contents and Formats of Information Disclosure by Companies Offering Securities to the Public No. 2 - Contents and Formats of Annual Reports, Shanghai Stock Exchange's Industrial Information Disclosure Guidelines for Listed Companies No. 7 - Pharmaceutical Production and Notice on Further Improving Listed Companies' Disclosure on Poverty Alleviation Work, and the Hong Kong Stock Exchange's Environmental, Social and Governance Reporting Guide, the Company actively performed its information disclosure duties in innovative ways, with timely and transparent information disclosure.

From January 1, 2022 to December 31, 2022, SPH issued a total of **4** periodic reports (the 2021 Annual Report, the Q1 Report, the Interim Report, and the Q3 Report for 2022), and a total of **90** A-share announcements, and a total of **103** H-share announcements and documents. SPH has issued large number of announcements and reports. The Company's information disclosure is high quality, as recognized by investors and the public.



## Investor Communication and Rights Protection

In 2022, Office of the Board of Directors totally hosts



SPH maintained the highest rating (A-level) in the annual evaluation of information disclosure of listed companies held by the Shanghai Stock Exchange for six consecutive years.

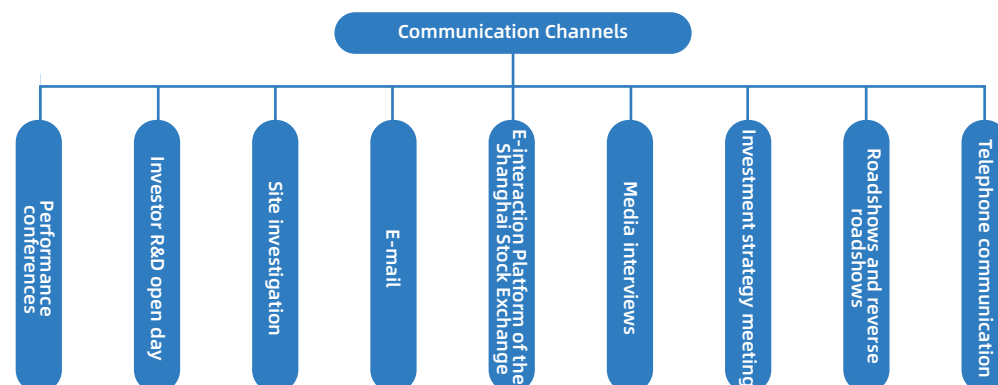


SPH was awarded the "Most Valuable Listed Company with High Quality Development" in the 2022 China Securities Golden Bauhinia Awards.

SPH was awarded the "New Fortune Best IR Hong Kong Listed Company".

SPH was awarded the "Most Valuable Investment Company of the Year" and "Most Favored Listed Company by Foreign Capital of the Year" in China Listed Company Jinglun Awards.

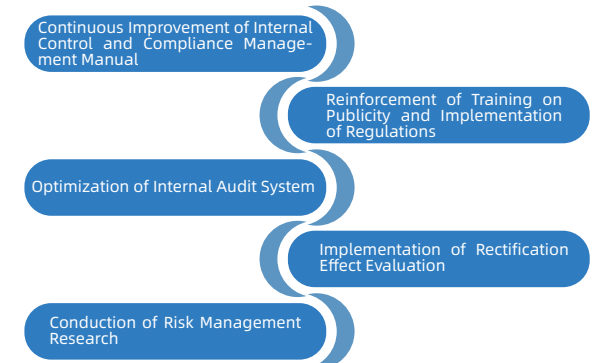
Office of the Board of Directors of SPH was awarded the "Best Practice Case of Directorate Office of Listed Companies in 2022" in the selection of "2022 Best Practice Case of Directorate Office of Listed Companies" organized by the China Association for Public Companies.



## | Practicing Business Ethics

### Compliance Management

"Integrity" is one of the core values at SPH. SPH requires every employee to always practice business ethics, adhere to compliance management, and ensure stable production through the establishment of a compliance management system. SPH focuses on its compliance management in marketing, honest practice, information security and production quality. With policy interpretation, training and publicity, system construction, risk screening, special investigations, the Company transforms its development and consolidates its compliance management. Every three years, the Audit Department conducts a full-process audit of all subsidiaries regarding compliance marketing, procurement and supply. In 2022, the Company's compliance management focused on promoting the construction of risk management and control systems, while carrying out investigation and prevention of major economic risks, to ensure SPH's stable and healthy development.



### Clean Governance

The Company adheres to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, closely combines the construction of Party conduct and clean government with the prevention and control of operational risks, focuses on all aspects of operation and management, deepens the construction of the "four-responsibility coordination" mechanism, and uses "system + technology" measures, emphasizes the prevention of integrity risks, and promotes the "three non-corruptions" as a whole. The Company studies and implements the *Code of Integrity and Self-discipline of the Communist Party of China*, the *Regulations on Disciplinary Actions of the Communist Party of China* and various Party rules and disciplines, enhances the supervision and inspection of the implementation of the spirit of the Eight-Point Regulations of the Central Committee, and further strengthens the awareness of discipline and rules of CPC members and cadres and intensifies the ideological and moral defense against corruption and change through various publicity and warning education on Party conduct and clean government by carrying out in-depth post integrity education and typical case warning education.

- All employees are required to study the Employees' Handbook in orientation. The handbook clearly stipulates that appropriate disciplinary actions will be taken against employees who seriously violate the integrity and self-discipline and damage the interests of the Company, such as bribery and corruption.
- The Compliance Marketing Manual sets strict standards for conferences, catering and entertainment, gift and reception, and other matters involved in marketing affairs, which strictly prohibits corruption or bribery and other improper behaviors. SPH actively conducts compliance inspections and takes measures to deal with violations.
- SPH signs integrity and compliance terms with all suppliers during the procurement and manages the integrity and compliance obligations in the supply chain through the Supplier Integrity and Compliance Management Measures.

SPH's Disciplinary Committee accepted petitions and reports from Party members and the public. In accordance with the *Rules for the Supervision and Enforcement of Discipline by the Disciplinary Inspection Organs of the Communist Party of China*, SPH implemented centralized management of petitions and reports related to corruption and fraud. The Company settled them through communication confirmation and inspection, during which the whistleblowers are protected. During the Reporting Period, SPH did not report any lawsuits arising from corruption.

### Integrity Education

SPH regards integrity education as an important part of employee compliance training and carries out various types of integrity training and integrity culture construction in combination with its business model. The Discipline Committee of the Group urged all directly-managed units to implement the integrity talk mechanics, and conducted pre-appointment integrity talks for 47 newly-appointed cadres in 2022; Party organizations at all levels conducted over 3,680 integrity talks. Shanghai Pharma University utilizes a digital learning platform to launch training courses, allowing employees to engage in integrity and compliance learning anytime, anywhere.

Integrity Training Courses of SPH Headquarters in 2022

Trainee	Trainer	Content	Number of Training Sessions in 2022
Directors, Supervisors, and Senior Executives	Shanghai Pharma University	Training class for directors, supervisors, and senior executives	1
Employees	"SPH E-Academy" Digital Learning Platform	What You Need to Know About Conflicts of Interest	Online self-study courses

## Responsible Marketing

Marketing Compliance is an important guarantee for enterprises to participate in market competition and practice corporate social responsibility. SPH requires employees to remain vigilant and cautious about compliance at all times, to abide by professional ethics and fair competition, and to ensure the steady development of the Company.

SPH strictly abides by the *Anti-Unfair Competition Law of the People's Republic of China*, *Medicinal Product Administration Law of the People's Republic of China*, *Interim Provisions on Banning Commercial Bribery*, *Measures for the Administration of the Recordation of Medical Representatives* and other regulations. Based on the organization systematization, independence of operation, full participation of all employees, and strictness of implementation, the SPH Marketing Compliance System has been formulated. All promotion materials must be examined by relevant staff in accordance with the authorized approval management system to ensure the objectiveness and authenticity of the content. Centered on the training principles of "timeliness, diversity, and effectiveness", SPH provides employees with training on laws and regulations, industry rules and regulations, and internal compliance requirements.

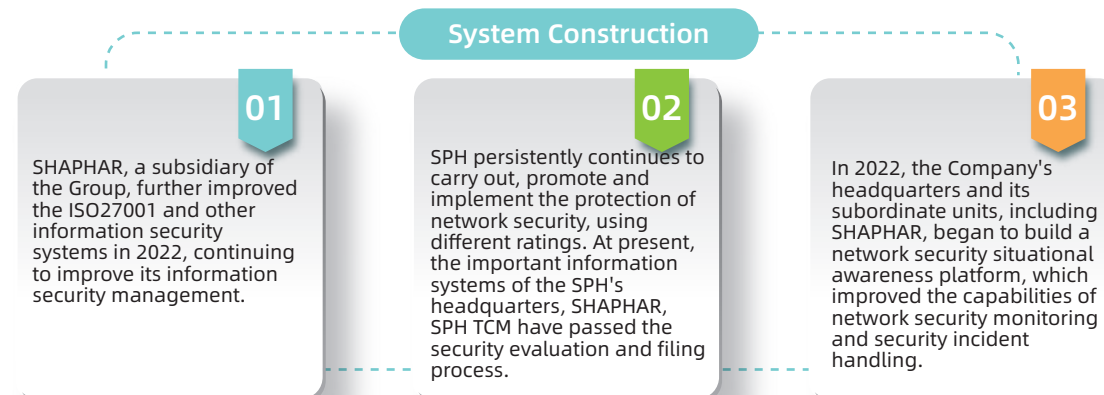


## Information Security

SPH attaches great importance to information security and protection. It strictly abides by the laws and regulations related to information security and privacy protection in the countries or regions where it operates, such as the *Cybersecurity Law of the People's Republic of China*, *Personal Information Protection Law of the People's Republic of China*, *Data Security Law of the People's Republic of China*, and *Law of the People's Republic of China on the Protection of Consumer Rights and Interests*.

As the department responsible for SPH's information security and IT compliance, SPH Information Technology Center has implemented the SPH Information Security Planning Project since 2017 and formulated a blueprint for SPH's information security.

SPH has established a complete network for information security management. For example, the Company established a specialized center for security and information management, which clarified the responsibility for information security. SPH has also formulated the Information Security Management Measures and Information Security Emergency Response Plan and other management systems and has organized regular training sessions on cyber security for employees. Since 2018, SPH has started the construction of the "SPH Private Cloud" and the center for data recovery. Important systems have reached the level 6 requirements, and drills for data recovery are conducted every year. The Group's unified identity management platform was launched in January 2020. So far, more than 90 important systems have been connected, which has strengthened employees' password management and ensured information security.



SPH will make every effort to improve its information security system in 2023, to ensure safe and stable operations for the smooth development of the Company's various businesses, and providing superior services to our partners and the society at large.

## Ethical Animal Tests

In accordance with the *Regulation on the Administration of Laboratory Animals* issued by the State Council, SPH strictly regulates the management of laboratory animals, especially animal welfare such as feeding, drinking, bedding, veterinary inspection, and infectious disease control. The Rules and Regulations for Administration of Laboratory Animals are formulated by the SPH Laboratory Animal Management and Use Committee to standardize the use of laboratory animals, effectively protecting the safety of personnel while ensuring the welfare of laboratory animals. The research team must submit the Ethical Review Form of Laboratory Animal Welfare before carrying out animal experiments. After being approved by the Laboratory Animal Management and Use Committee, the experiment must be carried out strictly within the scope of the Ethical Review Form of Laboratory Animal Welfare. The ethical review of laboratory animals includes using analgesics and sedatives to minimize the discomfort and pain of laboratory animals without affecting the experiment, performing operations that may cause discomfort and pain to laboratory animals only when necessary, and using proper euthanasia methods.

## Ethical Clinical Trials

The principles of ethical review of drug clinical trials can ensure the dignity, safety, and rights of patients. SPH has strictly regulated and supervised key aspects of the ethical review of clinical trials. The Committee on Ethical Drug Clinical Trials at SPH focuses on 8 aspects: the design and implementation of the research; the risks and benefits of the trial; the recruitment of participants; the information on the consent form; the informing and consent; participants' care and protection; privacy and confidentiality; and research involving disadvantaged groups. Clinical trials must meet at least 7 criteria to be approved in accordance with GCP requirements. Firstly, the clinical trial protocol is rigorously designed based on scientific and ethical rationales. Then, the clinical trial is strictly implemented as per the protocol, the quality of clinical research is controlled, and protocol violations and deviations are avoided or reduced. At the same time, materials for ethical review must be submitted in a timely and regular manner in accordance with the requirements. The Committee of Ethical Drug Clinical Trials at SPH examines clinical trials in strict accordance with the standards and conducts follow-up reviews of all approved clinical trials until the end of the trial.





# Customers' Responsibilities

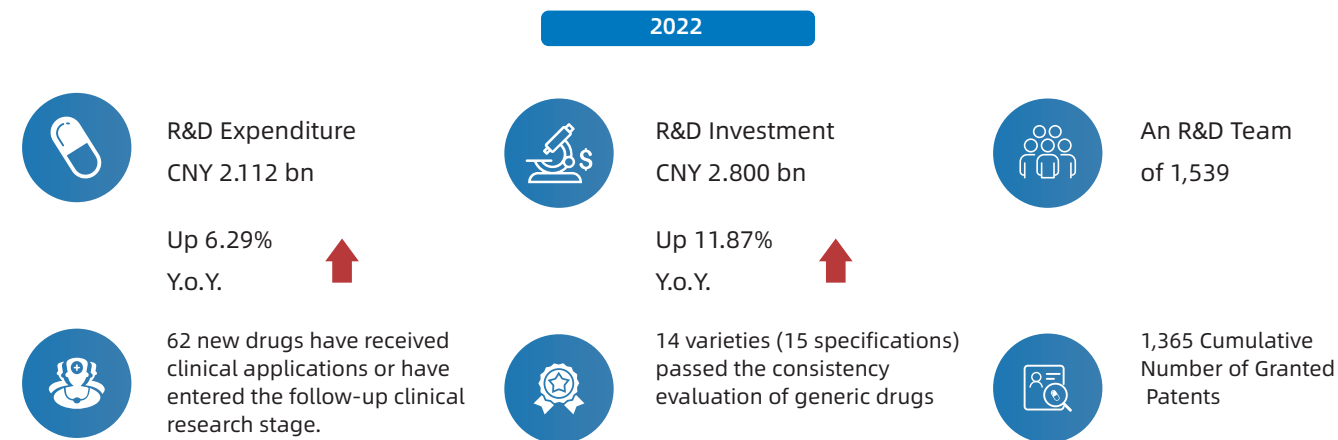
## Protect People's Health through an Innovation-driven Strategy

- 39 Protect People's Health through Innovative Healthcare
- 45 Improve the Accessibility to Healthcare
- 49 Quality Management System
- 54 Exceptional Service Experience





## Highlights



## | Protect People's Health through Innovative Healthcare

**Strategic Goal:** through technological innovation and internationalization, SPH is transforming from a generic pharmaceutical company to an R&D pharmaceutical enterprise driven by scientific and technological innovation, striving to enter the top 40 global pharmaceutical companies in the next 3-5 years.

SPH has relentlessly pursued innovation and transformation. It has formulated a new drug development strategy, starting with product planning. The Company further increased investment in drug research and development in the fields of Oncology, Immunology, CNS, Cerebro-cardiovascular and other major diseases. The open and diversified innovation model of "independent R&D + external cooperation" continues to build technologically advanced products that meet new clinical needs. During the Reporting Period, the Company further increased investment in research and development. In 2022, the Company's R&D investment reached USD 416 million (CNY 2.800 billion), a year-on-year increase of 11.87%, of which R&D expenditure is USD 314 million (CNY 2.112 billion), a year-on-year increase of 6.29%.

\*USD1=CNY6.7261, Yearly Average Rate 2022.

### Quantitative Performance

Index	Unit	2020	2021	2022
Number of Patent Applications in the Current Year	Pc(s)	186	136	187
Number of Invention Patent Applications in the Current Year	Pc(s)	139	120	144
Cumulative Number of Granted Patents	Pc(s)	1,019	1,205	1,365
Number of Granted Patents in the Current Year	Pc(s)	101	186	160
Cumulative Number of Trademark Applications	Pc(s)	619	698	779
Cumulative Number of Trademark Registrations	Pc(s)	903	993	1,075

Index	Unit	2020	2021	2022
Cumulative Number of China Patent Awards	Pc(s)	7	7	7
R&D Investment	CNY 100,000,000s	19.72	25.03	28.00
R&D Expenditure	CNY 100,000,000s	16.57	19.87	21.12
R&D Personnel	Person(s)	1,347	1,418	1,539
Ratio of Researchers to Total Number of Employees	%	2.8	3.01	3.21

### Awards



### Innovation Ecosystem

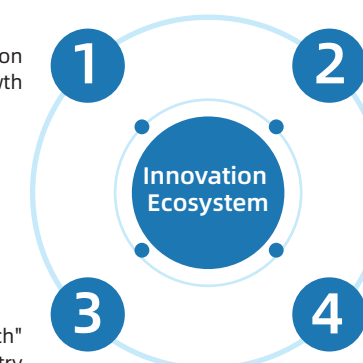
SPH leveraged its unique R&D resources and followed multiple paths to innovative R&D. In the future, the Company will continuously improve new drug R&D platforms in the fields of biological drugs, chemical drugs, traditional Chinese medicine, rare disease drugs, and pediatric drugs. We continue to build an open innovation system while establishing "industry-university-research" platforms with Shanghai Jiaotong University School of Medicine, Fudan University School of Pharmacy, Shanghai Ruijin Hospital, West China Hospital and Chinese Academy of Sciences Center for Excellence in Molecular Cell Science, to promote the integration of industry and finance, and successfully incubate and transform a number of cutting-edge projects including CAR-T cell therapy; we actively explore diversified incentive methods and have successfully implemented a mixed ownership company with R&D teams as shareholders.

#### Self-Developed Product Pipeline

SPH consolidated its research and innovation product pipeline through both organic growth and expansion.

#### Build an Open Innovation System

We have built an "industry-university-research" platform to promote the integration of industry and finance, and successfully spearheaded a number of research projects, including CAR-T cell therapy.



#### Strengthen Internationalization

SPH strengthened its overseas R&D platforms such as San Diego, USA and Hong Kong Biotherapeutics, and actively integrated domestic and international R&D resources to achieve synergy.

#### Explore Model Innovation

Through mixed ownership and diversified innovation models, we have gradually expanded various innovation platforms, and successfully implemented mixed ownership companies held by R&D teams.



**【Case Study】 Official Establishment of Frontier Industry Innovation Center to Boost Original Innovation of the Industry**

On October 27, 2022, Shanghai Biomedical Frontier Industry Innovation Center Co (the Biopharma Evolution), Ltd., jointly funded by SPH and Shanghai Overseas International Trading Co., Ltd., Shanghai Zhangjiang Group, and Shanghai Jiao Tong University School of Medicine, was officially established. The center aims to gather cutting-edge scientific research from prestigious schools, enterprises and institutions, adopt market-oriented operations; build efficient and high-level universal platforms for drug discovery technology and incubation and transformation. It will also link basic research, applied research, and industrialization transformation, build a bridge for the smooth incubation and transformation of scientific achievements by universities, institutions, and small and medium-sized pharmaceutical enterprises, and transform laboratory results to industrialized products.



On December 12, 2022, SPH, Shanghai Biomedical Frontier Industry Innovation Center, and Hong Kong Science & Technology Parks Corporation, announced a biopharmaceutical co-incubation program in Hong Kong Science & Technology Park, to accelerate the incubation of biopharmaceutical start-ups and the transformation of innovative technologies. The co-incubation program will combine research networks and funding from SPH, the experience of the Frontier Industry Innovation Center (the Biopharma Evolution) in facilitating the transformation of results, and the one-stop infrastructure and support of the Hong Kong Science & Technology Parks Corporation to attract innovative projects from global scientists and nurture top biotechnology start-ups. The collaboration will create a global innovation incubation and acceleration platform in the areas of autoimmune diseases, anti-aging, gene and cell therapy, messenger ribonucleic acid (mRNA) / small interfering ribonucleic acid (siRNA) and emerging therapeutics. The co-incubation program will attract top global biopharmaceutical start-ups to settle in Hong Kong and assist them in entering the Guangdong-Hong Kong-Macao Greater Bay Area, as well as the Yangtze River Delta region led by Shanghai, to strengthen the construction of research and innovation platforms in both regions, and jointly promote the development of biopharmaceuticals in China.



**【Case Study】 SPH Signing a Contract with Zhongshan Hospital for the Transformation of 21 Serial Patents**

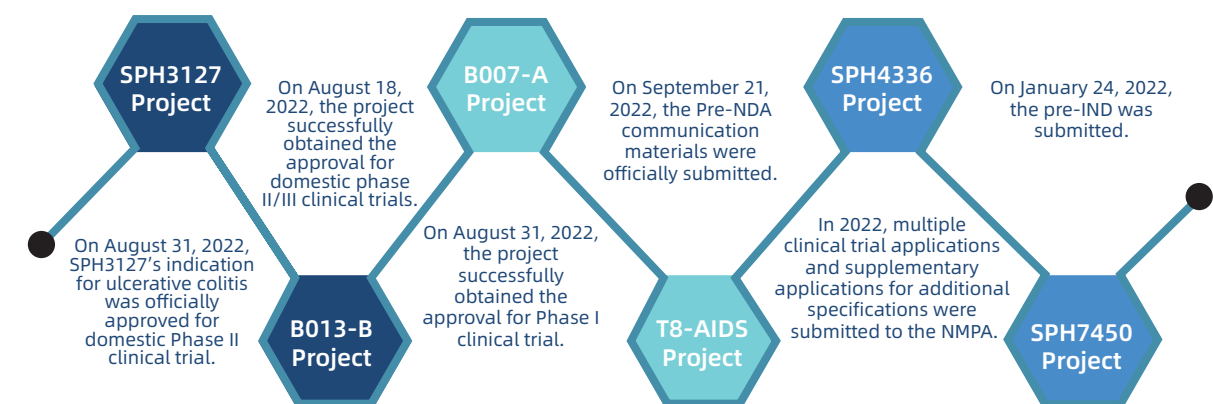
On the afternoon of August 25, 2022, SPH and Zhongshan Hospital, Fudan University held a signing ceremony on the transformation of 21 serial patents from Zhongshan Hospital. The 21 contracted projects cover the development of innovative medical supplies such as test kits for liver cancer, sepsis, acute respiratory distress syndrome, dilated cardiomyopathy, as well as improved gastrointestinal endoscopy instruments, balloon trocars for vascular surgery, cardiothoracic surgery instruments, skin hardness sensors, nasal air flow catheters for sleep breathing monitoring, and tumor punch biopsy instruments, which are the latest research results of specialist teams in hepatic surgery, cardiology, endoscopy center, vascular surgery, emergency medicine, respiratory medicine, cardiac surgery, dermatology and other departments at Zhongshan Hospital. These innovative scientific and technological achievements focus on common diseases, frequently-occurring diseases and major diseases that affect people's lives and health, such as cardiovascular diseases and tumors. From new drug research and development to device improvement, and from diagnosis to prognosis, the key areas and aspects are targeted in an effort to design, improve, and create patented products suitable for Chinese and innovative technologies. These innovations will be implemented in the near future for the benefit of more patients.



**Accelerated Expansion of Innovative Drug Pipelines**

During the Reporting Period, SPH accelerated the expansion of its innovative drug pipeline and achieved milestones in several varieties. By the end of the Reporting Period, the Company had 3 innovative drugs on the market, and 62 new drugs that received clinical applications or entered the clinical research stage, including 50 innovative drugs (3 in American Phase II clinical trials) and 12 modified new drugs. Two applications for listing were submitted for innovative drugs, and 6 drugs are in the pivotal research or phase III clinical trial stages. For generic drugs, in 2022, a total of 14 varieties (15 specifications) passed the consistency evaluation of quality and efficacy of generic drugs, and the total number of evaluated drugs increased to 49 varieties (71 specifications), ranking SPH at the forefront of the industry.

**Milestones of SPH's Key New Drug Project in Research in 2022**



**Accelerating the Introduction of Innovative Drugs**

By speeding up the cooperation with innovative pharmaceutical companies, SPH actively explores the authorization and introduction of innovative drug projects.

**【Case Study】 Cooperative Introduction of Ping An-Shionogi S-217622 Drug for COVID-19**

On December 23, 2022, SHAPHAR signed a Strategic Cooperation Framework Agreement and an Import Distribution Agreement with Ping An-Shionogi Co., Ltd. Ping An-Shionogi will grant SPH the exclusive right to import and distribute Ensirelvir tablets (R&D number: S-217622) in Mainland China. This is a therapeutic drug for COVID-19 developed by its parent company Shionogi & Co., Ltd. and marketed in Japan.

**【Case Study】 Introduction of Exclusive Rights in Greater China Territory for Benapenem and Plazomicin of Xuanzhu Biopharm**

On June 16, 2022, SPH New Asia signed a licensing agreement with Xuanzhu Biopharmaceutical Co., Ltd. and its subsidiary Xuanzhu (Beijing) Medical Technology Co., Ltd., obtaining exclusive licenses for Benapenem and Plazomicin (including active pharmaceutical ingredients and finished dosage form for both) in Greater China (including Hong Kong, Macao and Taiwan). This cooperation has significantly improved the breadth of SPH New Asia's pipeline.

## Actively Promoting the Cultivation of Major Varieties of Traditional Chinese Medicine and Platform Construction

With the promulgation of a series of policies to support the development of traditional Chinese medicine, such as the "14th Five-Year Plan for the Development of Traditional Chinese Medicine" and the "14th Five-Year Plan for National Health", SPH aspires to cultivate major varieties of traditional Chinese medicine as a strategic part of its commitment to developing this industry. With the Shanghai Institute of Traditional Chinese Medicine as the core platform, the Company carries out evidence-based medical research, continuously builds up major varieties and brands of traditional Chinese medicine, and promotes the development of famous classic prescriptions and finished dosage forms.

## R&D Team Building

SPH has established a high-level and diversified R&D team, continuously improving its R&D capability. During the Reporting Period, the Company continued to improve the structure of its R&D Management Center. In 2022, the Company had 1,539 R&D team members. The R&D management Center's personnel grew from 340 at the beginning of 2021, to 915 at the end of 2022. The R&D Management Center advocates a performance culture, explores multiple performance allocation methods, reinforces project-centered, result-oriented and quantifiable performance assessment principles.



## Management of Intellectual Property Rights

Intellectual property makes pharmaceutical companies competitive and enhances brand strengths internationally. In recent years, SPH's efforts to protect intellectual property rights have closely focused on strategic goals driven by scientific and technological innovation. The Company adheres to the principle and strategy of intellectual property rights assisting R&D innovation, and practically builds effective intellectual property barriers to protect R&D innovation.

SPH has established a full-fledged system for managing intellectual property rights through the implementation of standardized patent management, the development and implementation of patent strategies, the establishment of a patent database and early warning platform, and efforts to protect patent rights. This system has been certified under the National Standard for Enterprise Intellectual Property Management (GB/T29490-2013).



### Strengthening Patent Registration to Form a Portfolio of Patents for Protecting Innovative Drugs

SPH's patent team has integrated key elements of intellectual property into every stage of drug innovation and development, including the scope of rights, stability, infringement judgment, defense and avoidance, and internationalization strategy. As a result, the team has successfully established a portfolio of high-value innovative drug patents, and achieved standardized IPR management throughout the entire life cycle of drugs developed via the domestic R&D platform.



### Challenging First-to-file Patents for Generic Drugs

In the wake of the enactment of the Implementation Measures for the Early Resolution Mechanism for Drug Patent Disputes (For Trial Implementation), SPH has vigorously challenged the first-to-file patents for generic drugs. SPH has successfully invalidated four original crystal patents and submitted public opinions to the China National Intellectual Property Administration (CNIPA) on multiple original drug patent applications that do not meet the conditions for patent authorization. These efforts have provided strong support for clearing the obstacles to the market launch of first-to-file generic drugs.



### Focusing on Conducting Intellectual Property Due Diligence for Early-Stage Incubation, License Transfer, Equity Cooperation, and Incubation Transformation Platforms

In an effort to keep intellectual property risks at bay, SPH's patent team actively conducts intellectual property due diligence in the midst of SPH's business expansion, such as R&D project introduction, investment and merger projects.

In the years to come, SPH will further strengthen its intellectual property team, continuously optimize and improve its IPR management system, and comprehensively sharpen its capabilities in creating, protecting, and operating intellectual property, thus making greater contributions to accelerating its growth to become a leading Chinese pharmaceutical company with international competitiveness.

### [Case Study] SPH Winning 4th WIPO-SMPG Shanghai IP Innovation Award (Protection)

The 19th Shanghai International Intellectual Property Forum, jointly hosted by CNIPA, the World Intellectual Property Organization, and the Shanghai Municipal Government, was held in Shanghai on the morning of November 18, 2022. Among the attendees at the forum's opening ceremony were Chen Jinin, Secretary of CPC Shanghai Municipal Committee, and Gong Zheng, Deputy Secretary of CPC Shanghai Municipal Committee and Mayor of Shanghai. During the Awards Ceremony of the Fourth Shanghai IP Innovation Awards, SPH was honored with the Fourth Shanghai IP Innovation Award (for protection).





## | Improve the Accessibility to Healthcare

SPH is the second largest pharmaceutical distributor and one of the largest drug and vaccine importers in China. SPH is dedicated to building an innovative and comprehensive system for the entire drug lifecycle and providing modern medical and pharmaceutical supply chain services to hospitals, patients, and partners. SPH will harness the power of "Internet +" to further advance the growth of its innovative drug business.

### Building an Innovative Drug Full-Life-Cycle Service Platform

As one of the largest service providers of imported drugs and vaccines in China, SPH assumes the responsibilities of meeting the needs of Chinese patients. SPH strives to create an innovative drug service platform that provides global pharmaceutical companies with comprehensive supply chain and one-stop management services in four major spheres: pre-marketing cooperation, import and export services, nationwide distribution, and value-added innovation. Our goal is to accelerate the introduction of global innovative drugs and enable Chinese patients to have access to high-quality drugs domestically.

#### 【Case Study】SHAPHAR Participates in the 5<sup>th</sup> China International Import Expo and Joins Hands with Strategic Partners

SHAPHAR took part in the 5<sup>th</sup> China International Import Expo (CIIE) held in November 2022 and inked agreements on a raft of key projects under the auspices of SIIC and SPH. It was SHAPHAR's fifth consecutive participation in CIIE. SHAPHAR will work closely with its strategic partners to deliver on its commitment of providing high-quality products and services to patients and introducing more and better medical products and services to Chinese patients.



#### 【Case Study】"Yiyao Comprehensive Flagship Store" Launched in Xuhui District, Shanghai to Facilitate Patients' Access to Innovative Drugs

The very first domestic "Yiyao Comprehensive Flagship Store" under the umbrella of SPH Health Commerce officially opened in Xuhui District on August 18th, 2022 in tandem with the successful conclusion of a strategic partnership signing ceremony. The launch of the "Yiyao Comprehensive Flagship Store" marked the combination of "Yiyao Pharmacy", a flagship specialty pharmacy selling innovative drugs, and "Yiyao Cloud Pharmacy", an online flagship store selling generic drugs for chronic diseases. The store effectively integrates the innovative thinking and business paradigm of "Internet + new economy" to comprehensively enhance patients' accessibility to new specialty drugs and generic drugs for chronic diseases.

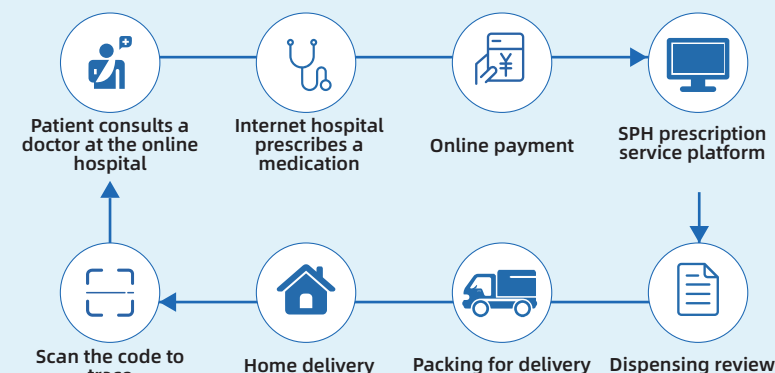
With a total floor space of nearly 2,000 square meters and two and a half years in the making, the "Yiyao Comprehensive Flagship Store" provides China's best-in-class pharmacy services and various other innovative services, such as PAP charity assistance, PEP patient education, cell immunology, innovative financial and insurance service, MNC and innovative drug enterprise display, and a Cloud Pharmacy equipped with cutting-edge intelligent medication machines. The store epitomizes SPH's diversified business models.



#### 【Case Study】"Internet +" Medication Delivery Service Launched by SPH Health Commerce

Leveraging the model of "electronic prescription + cloud pharmacy", SPH Health Commerce has partnered with over 50 Grade-A tertiary hospitals and 266 medical institutions in Shanghai to offer a home delivery service for medications. Through integration with hospital HIS systems, prescription information is collected and processed centrally on the "Yiyao Electronic Prescription" platform. Yiyao Cloud Pharmacy then reviews and delivers the prescribed medications to patients. Patients with chronic diseases can get their medications without leaving home through the "Cloud Pharmacy" after online follow-up consultation at online hospitals, saving them from the trouble of queuing up for registration.

This service extends beyond Shanghai. SPH Health Commerce has also teamed up with local hospitals in Guangzhou, Zhenjiang, and other places to streamline the prescription process and provide convenient services to patients, especially the elderly with mobility issues.



### Harnessing "Internet +" to Build up Smart Healthcare

By innovating business and commercial models and tapping into the combination of the internet and medication, SPH has managed to meet the patients' needs by improving access to drugs. As a leading "Internet +" pharmaceutical and commercial technology platform in China, SPH Health Commerce puts a strong emphasis on patients, providing full-life-cycle innovative drug services for specialty pharmacies and chronic disease generic drug. This new internet-based e-prescriptions and cloud pharmacies business model is the Company's newest endeavor in prescribing-dispensing separation. Through integration of online and offline resources and the development of "Yiyao" ecosystem, SPH has built a valuable and accessible sales and service network for the development of innovative drugs.

Under the "Yiyao" brand, SPH Health Commerce provides nationwide comprehensive full-life-cycle services for innovative drugs from pre-marketing clinical R&D to post-marketing specialty pharmacies dispensing out-of-hospital self-funded drugs, medical insurance reimbursement, centralized procurement, and drug iteration. For chronic disease generic drugs, SPH Health Commerce uses an online-offline integrated management approach to accurately match patient needs and to improve the accessibility of pharmaceutical resources.



## Assisting in Build up a Multi-tier Healthcare System

The 20<sup>th</sup> CPC National Congress called for the improvement of the multi-tier healthcare system and promotion of the orderly linkage of healthcare services at different tiers. Shanghai MediTrust Health Technology Co., Ltd. is committed to empowering medical and insurance platforms with intelligent technology, and has successfully established a closed-loop ecosystem through constructive collaborations with pharmaceutical companies, insurance firms, and hospitals to provide professional support for China's inclusive insurance programs. MediTrust Health aims to assist in China's drive to build up a multi-tier healthcare system and to forge a brand-new model of medical treatment, thus easing the medication burden of patients and meeting their medication needs.



### 【Case Study】MediTrust Health Provides Robust Support for “HuHuiBao”

The 2022 version of “HuHuiBao” upgraded its insurance coverage to accommodate the health insurance needs of participants in Shanghai's basic medical insurance scheme. As a pioneering and innovative medical and health service platform, MediTrust Health has provided customized drug services to “HuHuiBao” for two consecutive years, in addition to continuously promoting the integration of medical health and insurance services and providing more precise and convenient services to benefit the public. Throughout its participation in the “HuHuiBao” program for the year 2022, MediTrust Health strived to “benefit the people and make things easier” by providing additional free value-added services and considerate protection to platform-insured users, bringing all-round insurance to the participants.

## Building Modern Logistics to Bridge the Last Mile of Drug Supply

SHAPHAR has long been dedicated to establishing a well-coordinated and highly efficient national logistics platform with a modern supply chain, with enhanced digitization, informatization, standardization, and systematization. SPH aims to improve service quality, customer satisfaction, and operational efficiency by promoting broader coordination among multiple warehouses, expanding third-party logistics and value-added services, and ratcheting up national logistics integration, thereby catering to the needs of both upstream and downstream customers in the supply chain.

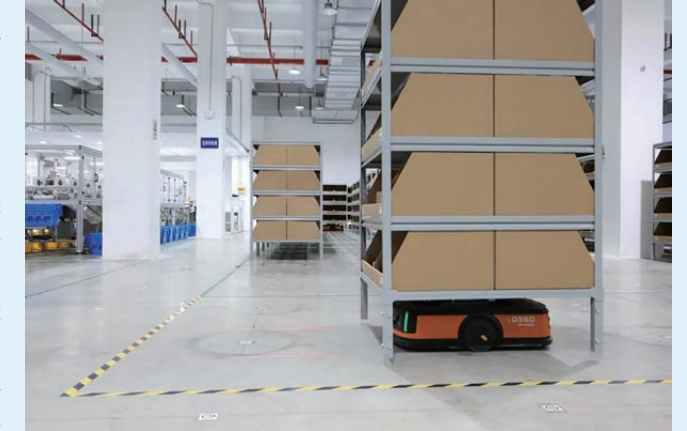
### 【Case Study】SHAPHAR Kicks off the Construction of Lin-gang Special Area Medical and Big Health International Industrial Park

On July 27th, 2022, SHAPHAR celebrated the inauguration of the Lin-gang New Area Medical and Big Health International Industrial Park in the China (Shanghai) Pilot Free Trade Zone Lin-gang Special Area. This marks a significant step in the company's pursuit of building an innovation-driven development platform with international resource allocation capabilities.



### 【Case Study】Smart Logistics

SPH Logistics boasts over 800,000 square meters of warehouse space and operates more than 120 logistics centers across China. Its sprawling network of logistics centers directly serves 17 provinces and municipalities (this includes the logistics facilities of SPH KDL Health). SPH Logistics built one of the very first modern logistics comprehensive experimental bases in Shanghai, and is the first logistics company to pass the acceptance for national medical logistics service standardization pilot project. SPH Logistics is also making strides in smart logistics. By implementing full GPS tracking and utilizing the Transport Management System (TMS) for complete visual management, SPH Logistics is able to enhance its “last mile” medical logistics coverage. This is achieved through faster delivery speeds and more flexible service capabilities, all enabled by its multiple system platforms.



SPH Logistics Introduces the Intelligent Prescription Robot Warehouse

## A Step Towards Global Impact

By expanding into markets in Africa, Southeast Asia, Central Asia, Europe, and North America, SPH aims to benefit patients worldwide through wider product offerings, broader coverage, and faster accessibility.

### Industrial Sector

SPH's pharmaceutical plant in Sudan has operated successfully. In 2022, the company completed the registration of three specifications of amoxicillin-clavulanic acid potassium, further benefiting local patients.

- In November 2022, Shanghai Pharma (Thailand) Co., Ltd., a wholly-owned subsidiary of SPH, and Zynexis Healthcare, a joint venture invested by SPH in Singapore, were incorporated. Building on SPH's product pipeline, the two overseas companies will help expand healthcare services in ASEAN countries and offer broader premium healthcare services to the local population.
- In 2022, 13 products developed within the Group were registered overseas; registration agreements were signed in the Philippines for 10 drugs manufactured by four factories; and Shanghai Pharma (Thailand) Co., Ltd. completed the registration of dental equipment products. SPH will continue to serve Southeast Asian countries such as the Philippines, Vietnam, Singapore, Malaysia, and Thailand, as well as over ten countries and regions in North America, Europe, and Africa.

### Business Sector



## | Quality Management System

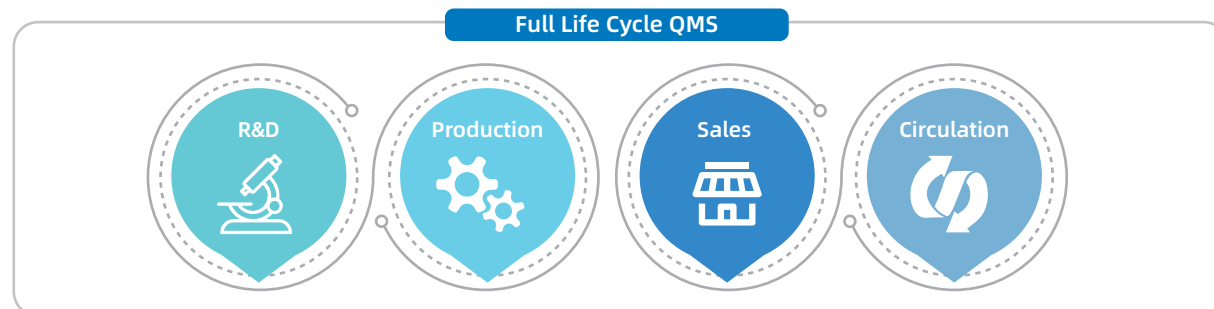
**Quality Policy:** "Prioritizing People, Creating Health; Winning with Quality, Pursuing Excellence".

SPH holds the line on quality and safety, and adheres to its quality policy of "prioritizing people, creating health; winning with quality, pursuing excellence". It has established a Quality Management System (QMS) covering the entire life cycle of products, standardizing drugs and medical devices production and operations. The Company continues to improve the QMS to maintain its self-sufficiency and effectiveness and ensure product safety and a stable market supply. It also strives to demonstrate to customers and other related parties the ability to continuously and stably provide products and services that meet the requirements of applicable laws and regulations and fulfill its corporate social responsibility as a listed pharmaceutical group.

### Quality System Construction

SPH has established a Quality Management Committee to oversee major quality management decisions. This includes approving the company's quality policy and objectives, reviewing opinions on the handling of major quality incidents, and regularly receiving reports on the state of quality management. The Quality Management Department of the Manufacturing Management Center is responsible for daily quality management. Through a series of management policies such as the Quality Manual, Quality System Management Review Standard, and Regulations on Quality Information Direct Reporting Management, the department oversees quality control and supervision throughout the product life cycle. With a particular focus on "Quality Assessment," "Information Direct Reporting," and "Key Personnel Management", the department guides and encourages member entities to continuously improve their quality management systems.

SPH's subsidiaries have established their own quality management framework and QMS as per the Company's system requirements as well as relevant national laws and regulations, quality management standards and other requirements, obtained corresponding "Drug Manufacturing Certificate", "Drug Supply Certificate", "Medical Device Manufacturing Certificate", "Medical Device Supply Certificate", and organized production and business activities in compliance with laws and regulations, including Drug Administration Law of the People's Republic of China, Vaccine Administration Law of the People's Republic of China, Provisions for Drug Registration, Measures for the Supervision and Administration of Drug Production, Regulations for Implementation of the Drug Administration Law of the People's Republic of China, Regulations for the Supervision and Administration of Medical Devices, Good Manufacturing Practice for Drugs (2010 revision), Good Operation Practice for Drugs (2016 revision).



During the Reporting Period, in order to further define the main responsibility of each subsidiary, SPH prepared the 2022 Quality Assessment Rules, evaluated the completion of priorities related to quality management, which was included in the operator performance assessment. SPH also conducted quality management reviews of its pharmaceutical manufacturing subsidiaries to evaluate the suitability, sufficiency, and effectiveness of their quality management systems. Through these reviews, SPH encouraged its pharmaceutical manufacturing subsidiaries to continuously improve their quality management systems and urged their senior management to allocate resources and take other measures to enhance their systems.

#### New Certificates Received in the Reporting Period

Tianjin Jinjin Pharmaceutical Co., Ltd., a subsidiary of SPH Sine, received the EDQM-issued Certification of Suitability (CEP) for its hydrocortisone. Changzhou Pharmaceutical Factory, another subsidiary of SPH, obtained licenses for the export of hydrochlorothiazide (JS220005) and captopril (JS220004) to the European Union. SPH SBPC was awarded a laboratory accreditation certificate (CNASL15915) by the China National Accreditation Service for Conformity Assessment.

#### As of the End of the Reporting Period

SPH's subsidiaries obtained 48 Drug Manufacturing Certificates. SPH Herbapex, SPH Sinobp, Huqingyutang Pharma, SPH Zhongxi Sunve, SPH Jiuxu and SPH Sine (Shandong) passed the ISO9001 QMS Certificates and SPH Zhongxi Pharma passed the ISO9000 QMS Certificates.

### Quality Awards



### Quality Risk Management

Quality risk management is an important part of the quality management system of the Company and its subsidiaries. The subsidiaries prepared quality risk management procedures to identify, analyze, evaluate and control potential hazards, and to ensure product safety and effectiveness. SPH and its subsidiaries excel at quality management, risk prevention and liability compensation to ensure drug safety, effectiveness and quality control. SPH has implemented various quality information management tools at its headquarters, including a quality management system and a document management system that use information and digital technologies to standardize the quality management processes, to improve compliance management, and to enhance risk control.

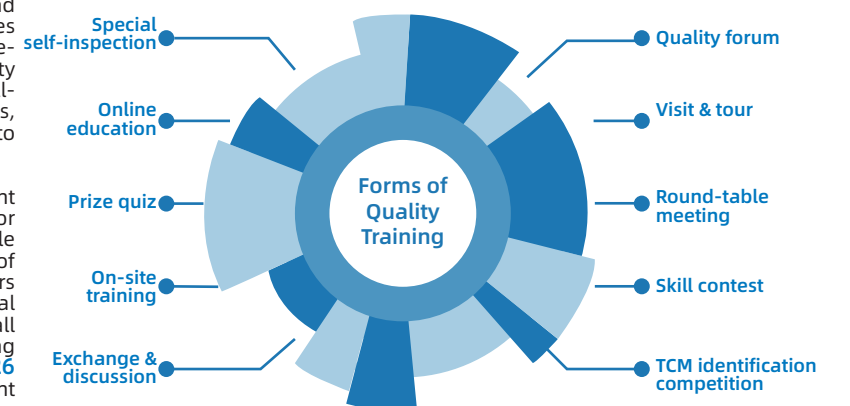
During the Reporting Period, the Company updated its Quality Information Reporting Management System, and further emphasized the principle of risk management, requiring all subsidiaries to report relevant quality information in time to ensure its effective communication and timely feedback, and lower potential quality risks. Additionally, in order to tighten up the control of quality risks, SPH has, in accordance with its quality audit policies and current regulatory priorities, carried out various audits on its member entities, held regular risk assessment meetings to discuss and analyze potential risks, issued risk warning letters and special remediation notices, and assigned dedicated personnel to follow up and supervise member entities in an effort to identify quality risks and improve their quality management capabilities. During the Reporting Period, 23 quality audits were completed, and all audited enterprises rectified the nonconformities on time.

During the Reporting Period, the Quality Management Committee held regular meetings on the quality management situation of all subsidiaries, in order to analyze the regulatory dynamics, raise risk alerts, strengthen the Company's awareness of quality, laws and regulations, and integrity, and effectively control and prevent quality risk.

### Quality Culture Building

SPH is dedicated to building a quality culture by organizing various activities that promote a positive atmosphere where everyone values, creates, and enjoys good quality. SPH encourages member entities to take an active part in key product quality improvement, on-site management innovation, quality management team activities, quality brand storytelling contests, and trustworthy quality team selections, where SPH reviews and selects outstanding entries to establish itself as a beacon of premium quality.

Each member entity has established management regulations and standard operating procedures for training, and has designated personnel responsible for training management and regular evaluation of training effectiveness. Quality training mainly covers legal regulations, job responsibilities, theoretical knowledge, and practical skills. All employees shall receive pre-job quality training. During the Reporting Period, SPH's member entities received a total of 126 quality awards through quality improvement activities, including 57 national awards and 69 provincial and municipal awards. A total of 1,220 online and offline quality activities were held with a total of 46,791 participants.



### 【Case Study】All-Staff Quality Training

SPH organizes various activities during Quality Month to promote a positive atmosphere where everyone values, creates, and enjoys good quality. These activities include quality promotion, quality supervision, benchmark learning, quality improvement, quality seminars, quality lectures, and exploring the roots of quality culture, with an aim to enhance the overall quality awareness of all staff members. During the Reporting Period, to strengthen the regulatory awareness of general managers of pharmaceutical companies, SPH invited external experts to conduct training on "Popularizing Laws and Regulations Related to Pharmaceutical Manufacturing and Analyzing Illegal Cases", which was followed by an online quiz and a systematic review of the results.

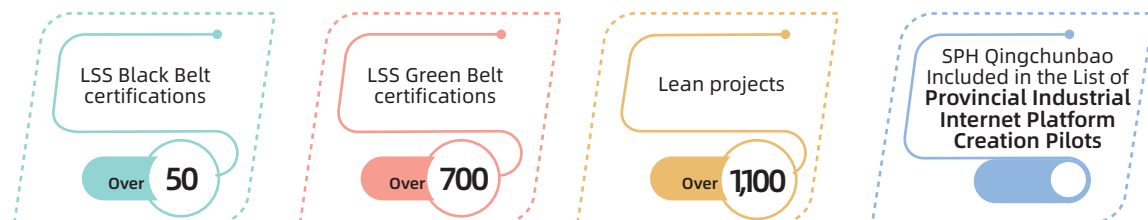
#### Photos of Quality Month Activities Carried out by Member Entities in 2022



## Lean Management

SPH's Manufacturing Management Center serves as its management platform and "SPH Manufacturing 2025" as its overall strategy. SPH has gradually realized total lean management, continued to advance the construction of its manufacturing excellence system, and focused on essential principles of optimal quality and cost, green development and intelligent manufacturing. Driven by system capabilities, the Company aimed to excel in operations and intelligent manufacturing, upgraded the entire value chain of industrial manufacturing through benchmarking, transformed and innovated to provide continuous, safe and effective drugs to the public. In 2022, the manufacturing excellence evaluation focused on standardization and systematization. After the evaluation, the main production bases continued to enhance the integral level. SPH SBPC, SPH Zhongxi Pharma and SPH Sine (Jinqiao) reached the standard of SPH Benchmarking Factory. The Company continued to facilitate the "lean, automated, informatization, intelligent and green management", and improved the capacity of production bases.

As of the end of 2022:



## Continuous Manufacturing

Continuous manufacturing technology has the potential to boost production efficiency and improve product quality while containing the generation of "three wastes" at the source of the process, reducing energy consumption, and increasing resource utilization, thereby significantly reducing the environmental impact of the pharmaceutical industry. With its economic, environmental, and social benefits, continuous manufacturing technology has become a trend for pharmaceutical companies seeking sustainable development. In 2022, SPH achieved a major breakthrough in continuous manufacturing technology.

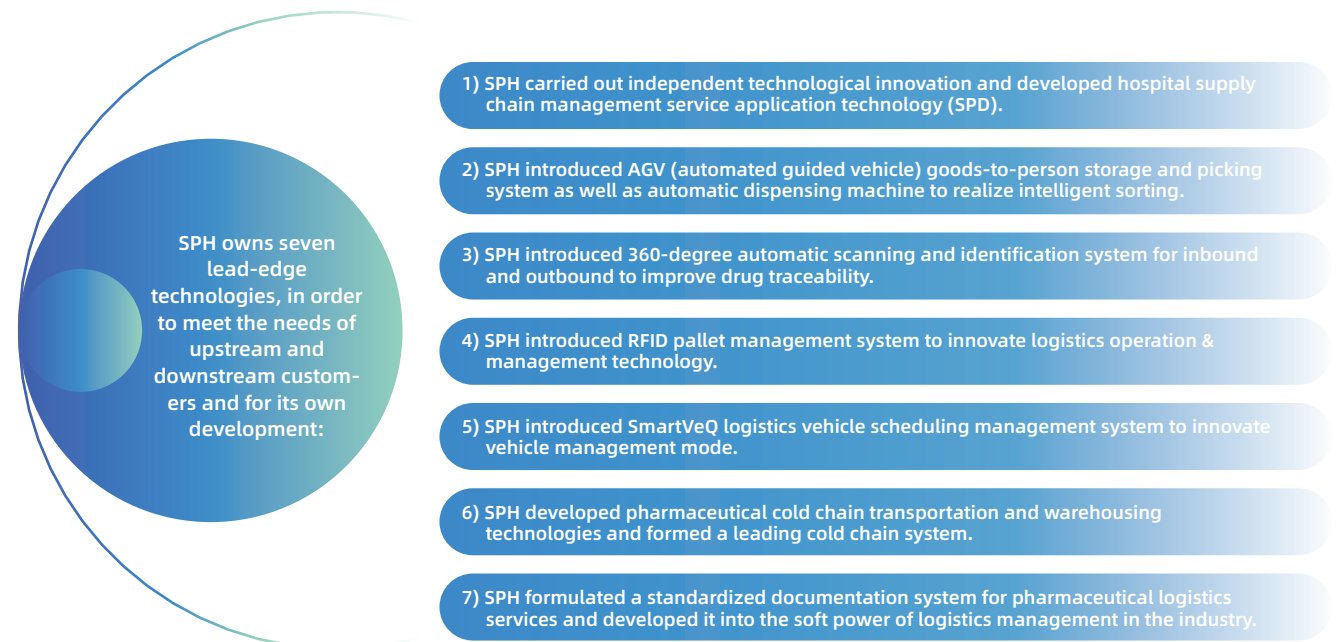
Under the municipal-level S&T major project of "Extreme Manufacturing", SPH SBPC has completed its research on the continuous synthesis technology for two products. The company is also conducting continuous synthesis research on six other products.

The joint lab for formulation continuous manufacturing technology, established by SPH in collaboration with Syntegon China, made strides in developing continuous manufacturing equipment, which has by far completed installation and testing.

## Logistics Management

SHAPHAR conducts regular QMS reviews of the logistics suppliers as per the laws and regulations including the *Drug Administration Law*, and *Good Supply Practice*. The company conducts comprehensive evaluations and follow-up to provide guidance and carry out supervision, thereby enabling sustained improvement of its quality management system.

SHAPHAR established a computer system that meets the requirements of management and quality control of the whole operation process, and each business system built a complete modern information management system through real-time interaction of data, mutual verification and mutual supplementation. The company realized real-time computer information exchange with logistics agents, such as the application of ERP system and WMS, TMS, OMS system direct connection, and the query and use of sample sheet accompanied with goods via OA system to realize data sharing.



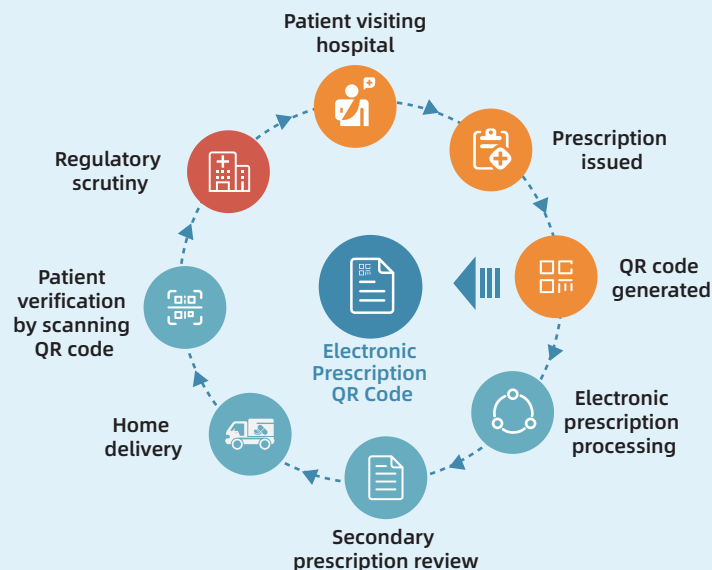
To meet business needs, SPH is equipped with warehousing facilities and equipment (including hardware and software), temperature and humidity monitoring equipment, transportation equipment and various other major facilities and equipment. The Company has adopted a series of modern information systems, including ERP system for enterprise resource planning, OA system for office collaboration and approval, CRM system for customer relationship management, Cloud School for online employee training, and EBS system for financial and business integration, for the complete information management of product procurement, distribution, storage and operation. It has automated equipment, used operation intelligence and decision digitization, and has led the supply chain management of the entire life cycle of pharmaceutical products.

SHAPHAR Logistics Center has warehouses, facilities and equipment suitable for different storage conditions and quality management requirements of various products. The specialty drug warehouse is also equipped with a professional perimeter alarm system, digital video monitoring system, 110 regional network alarm system, and electronic patrol system, face recognition access control system, to ensure the safe storage and transportation of specialty drugs. The Company utilizes equipment such as refrigerated trucks, refrigerated boxes or thermal containers to guarantee the transportation of cold chain commodities, and uses automatic temperature and humidity monitoring equipment to monitor the whole process.



### 【Case Study】Ensuring the Safety of Medication with End-to-End Traceability of Drug Delivery

SPH Health Commerce's digital "Cloud Pharmacy" receives electronic prescriptions from major medical institutions and generates a unique anti-counterfeit QR code for each prescription. This code can be used for data management and query by the hospital and is subject to effective supervision by the regulatory authority throughout the drug circulation process. Patients may scan the code to view every step from prescription generation to drug purchase and delivery. This end-to-end tracing of electronic prescriptions helps form an effective closed-loop management system.



## Recall and Disposal of Substandard Medicines

All member entities of SPH have put in place a system and the corresponding procedures for recovering and disposing of substandard drugs in strict accordance with legal and regulatory requirements. Efforts have also been made to standardize the procedures for recovering and disposing of substandard drugs to ensure they are under proper control.

Its subsidiaries signed a destruction agreement with an enterprise qualified for hazardous waste disposal, and declared on the "Shanghai Hazardous Waste Management Information System".The disposal company sent hazardous waste transport vehicles (with special identification) to deliver the drugs to the designated site.Special drugs were destroyed under the supervision of drug regulatory authorities.

Upon the receipt of goods, the subsidiaries checked the accompanying certifications to ensure the consistency of the invoice, account and product, and conducted lot-by-lot acceptance inspection according to GSP requirements, to prevent substandard drugs from being put into storage.It properly stored and maintained drugs according to warehouse conditions, external environment and quality characteristics of drugs, automatically tracked and monitored drug shelf life in stock and took measures such as early warning of products near their expiry date and automatic locking of products beyond their labeled expiration date, to prevent the sale of expired medications.All refrigerated and frozen goods should be delivered according to the cold chain management requirements.The transport contractors were audited and signed supplier agreements to clarify their quality responsibilities and supervise their behaviors.SHAPHAR strengthened the management of returned goods to ensure the quality and safety of drugs and prevent mixing with falsified drugs, set up a reporting mechanism for PVG, a drug recall mechanism and a system for the management and destruction of substandard products to ensure rapid response and provide effective guarantee and process traceability for safe medication.

## Drug Recall

All subsidiaries of the Company established a product recall system, to ensure fast and accurate recall of any batch of products with potential safety hazards.These enterprises have established management procedures and SOPs related to drug recalls, stipulated procedures for complaint registration, evaluation, investigation and handling for effective recalls,designated a person responsible for organizing and coordinating the recall work, and define corresponding responsibilities of relevant departments to enable the immediate recall at any time.

All subsidiaries of the Company established a drug traceability system, using an electronic supervision code system for rapid access to drug shipment records.Recalled products were identified and stored separately and properly, pending final disposal decisions.The progress of the recall should be recorded and reported, and the number of products shipped, the number recalled, and the balance of the number will be described in the report.The recall should be reported to the drug regulatory authorities on time.The enterprises regularly reviewed and analyzed complaint records, to identify and analyze areas of focus, and took appropriate measures for continuous optimization and improvement.In addition, the companies continuously evaluated the effectiveness of the recall system through activities such as mock recalls and annual self-inspections.SPH has always attached great importance to customer feedback, and achieved 100% complaint response rate and 100% resolution rate in 2022.

Index	Unit	2021	2022
Quantity of products recalled for safety and health	Case(s)	0	0
Percentage of products subject to recalls for safety and health in total products sold or shipped	%	0	0
Number of product and service complaints *	Case(s)	550	431
Customer complaint response rate	%	100	100
Customer complaint resolution rate	%	100	100

\* Note:The statistics cover 43 SPH subsidiaries involved in pharmaceutical preparations manufacturing. In 2022, the majority of complaints were related to damage packaging and were handled according to the company's standard operating procedures.

## Pharmacovigilance (PVG)

All member entities at SPH have put in place a pharmacovigilance policy system to standardize pharmacovigilance activities throughout the life cycle of drugs and to effectively monitor, identify, evaluate, and control adverse reactions related to drug use. This helps minimize drug safety risks and protect public health.

In compliance with Article 38 of the Drug Administration Law, which came into effect on December 1, 2019 ("Where the MAH is an overseas enterprise, an enterprise legal person within the territory of the People's Republic of China shall be designated to fulfill the obligations of the MAH and assume joint liability with the MAH"), SHAPHAR, an SPH subsidiary, took the role of enterprise legal person in China designated by the MAH to fulfill the obligations of the MAH for its operating drugs.It signed a consignment agreement with the MAH and started to fulfill the obligations of post-marketing adverse reaction monitoring, reporting and handling of the drugs in March 2020.

SHAPHAR set up a PVG management organization to carry out relevant work, with a clear organizational structure, and appointed the head of the PVG management organization and the PVG specialists.The PVG organization prepared the PVG QMS documentation, which includes the PVG Management System, PVG Quality Management Operating Procedure and PVG-related forms.All documents are updated in line with the Company's actual circumstances and the principles set forth in the latest regulations and guidelines from the National Medical Products Administration, including the Specifications for Pharmacovigilance Quality Management and the Guidelines for Pharmacovigilance Inspection, thereby ensuring their suitability, adequacy, and effectiveness.

## | Exceptional Service Experience

SPH sticks to a customer-centric strategy, respects and protects the legitimate rights and interests of customers, and is committed to providing them with efficient and excellent services and improving their experience.Clients of the Company mainly include distributors, healthcare institutions and retailers.According to their business model, the subsidiaries establish a diversified customized service management model.

## Customer Experience Improvement

In order to continuously improve service quality, listen to customers, and enhance customer satisfaction, SPH's subsidiaries optimize service experience through customer service training, establishment of service standards, and customer satisfaction surveys.

Retail clients	<b>Subsidiary of SPH Health Commerce - "Yiyao Pharmacy"</b> <ul style="list-style-type: none"><li>③ "Yiyao Pharmacy" sets up a special customer service center with well-trained staff to provide customers with professional services.</li><li>③ Yiyao Pharmacy's professional pharmacists provide patients with thoughtful and comprehensive pharmaceutical services, including medication consultation, usage instruction, medication reminder, and reminder to conduct regular tests. They also offer guidance on appropriate daily diet and healthy lifestyle.</li><li>③ In addition, Yiyao Pharmacy provides educational services by inviting experts and professors to deliver specific lectures to assist patients with their medication.</li></ul>
Healthcare institutions	<b>SPD Operation Center</b> <ul style="list-style-type: none"><li>③ SPD Operation Center regularly conducts satisfaction surveys on SPD customers and collects customer feedback.During the Reporting Period, SPD customer satisfaction surveys conducted by SHAPHAR demonstrated its outstanding performance in overall satisfaction for 2021. SHAPHAR received unanimous praise from upstream suppliers, hospital clients, business clients, and retail clients.</li></ul>
Distributors	<b>SHAPHAR, SPH Kyuan</b> <ul style="list-style-type: none"><li>③ SHAPHAR and SPH Kyuan carry out customer satisfaction surveys annually.It conducts statistical analysis on the collected questionnaires, issues an analysis report, and provides feedback on customer satisfaction results to the relevant departments, as a basis for review and improvement of high-quality services and exceptional experience.</li><li>③ Customers may call the receptionists or go through the official website for comprehensive and timely consulting services with excellent service experience.</li></ul>

## Customer Privacy Protection

Along with the development of digital technologies, privacy protection concerns have increased.SPH is well aware of the importance of privacy protection for customers and the company itself. Therefore, it strictly abides by the relevant provisions of the State and relevant departments on privacy protection, and according to the operating features of each business segment, builds a safe and credible service system to ensure user privacy.During the Reporting Period, the Company did not receive any complaint about customer privacy disclosure.

SPD Operation Center	SPH Health Commerce
The SPD system filters out patient information and surgery data, and only displays supplies information on the user interface, effectively protecting patient privacy.	<p>Risk management</p> <ul style="list-style-type: none"><li>③ In 2022, SPH Health Commerce organized a risk identification and evaluation for current data cooperation projects, and drafted the Guidelines for the Identification and Assessment of Risks in Data Cooperation based on the Guidelines for the Classification and Grading of Network Data.</li></ul> <p>System design</p> <ul style="list-style-type: none"><li>③ Privacy and data protection are top priorities in our business system design. SPH Cloud Health employs encryption, secure transmission, and data access control to ensure uncompromising security throughout the life cycle of the data.</li></ul> <p>Management of service terminals</p> <ul style="list-style-type: none"><li>③ In 2022, SPH Health Commerce updated the User Service Agreement and the Privacy Policy for the WeChat mini-program of Yiyao Mall and for PC program of Yiyao KDL Pharmacy. These updates clearly inform customers about the scope and methods of collecting and using personal information, make explicit the responsibilities and requirements for information protection and the principles for handling personal data, and improve the response procedures for confidential information leakage incidents.</li></ul> <p>Supply chain management</p> <ul style="list-style-type: none"><li>③ The protection of personal information by external service providers has been included as a necessary clause in standard texts. When negotiating contracts, especially clauses related to personal information protection, the sensitivity of the information is taken into account and the information protection ability of the service provider is evaluated. Based on project needs and evaluation results, a comprehensive due diligence investigation will be conducted on the external service provider.</li></ul>

## Customer Complaint Mechanism

In order to solve customer complaints in a timely manner, SPH's subsidiaries have established a standardized complaint mechanism and will promptly respond to and handle complaints upon receipt, and provide feedback on results.

Healthcare institutions	<b>SPD Operation Center</b> <ul style="list-style-type: none"><li>③ SPD Operation Center is responsible for collecting, reporting and managing adverse events of medical supplies as per the Management System of Adverse Event Monitoring and Reporting of SPD Operation Headquarters.</li></ul>
Retail clients	<b>SPH Health Commerce</b> <ul style="list-style-type: none"><li>③ SPH Cloud Health has set up a special complaint channel by e-mail (compliance@sphcchina.com), service hotline (4009200036) and contact number (021-32096606), to promptly respond to customer complaints.</li></ul> <b>Huashi Pharmacy</b> <ul style="list-style-type: none"><li>③ Huashi Pharmacy has prepared the Drug Supply Quality Management System and Operating Procedure (Retail Pharmacies), specifying the confirmation, classification, handling duration and methods and operating procedures of different complaints.Complaints and handling processes will be recorded in detail in the Quality-related Accident and Complaint Handling Record, to ensure that customer complaints are solved in a timely manner.</li></ul>
Distributors	<b>SHAPHAR, SPH Kyuan</b> <ul style="list-style-type: none"><li>③ SHAPHAR and SPH Kyuan have carried out standardized management through the Customer Satisfaction and Customer Complaint Management System, Quality Inquiry and Quality Complaint Management System, Customer Complaint Process, and specific patient complaints.Customers may give feedback via complaint hotline, mailbox, official website, letter and interview.</li></ul>



# Employees' Responsibilities

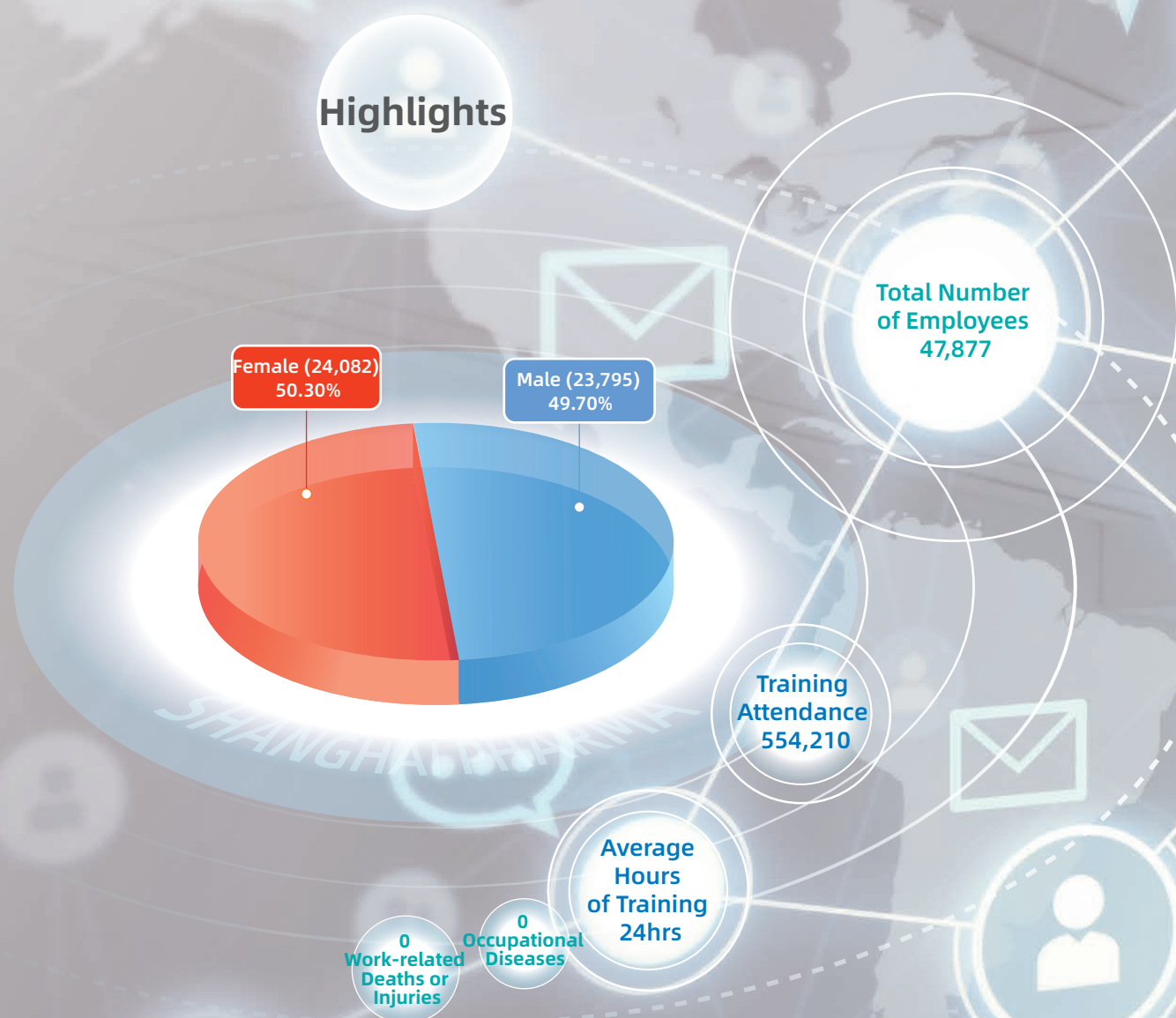
Put People First and Make Our Workplace Sustainable

- 59 Compliant Employment Management
- 63 Promising Career Development
- 67 Diversified Compensation and Welfare
- 68 Occupational Health Protection
- 73 Genuine Care for Employees





## Highlights



**A company's core competence lies in its talents.**

### As a Responsible Employer

SPH upholds the core values of **"Innovation, Integrity, Cooperation, Inclusiveness, and Responsibility"**. The Company is open and inclusive, and provides fair opportunities and a safe environment, as well as diversified incentive mechanisms and development opportunities.

**Vision of Human Resource Management:**

**People-oriented to empower and activate, and to be an excellent employer in China**

**Mission of Human Resource Management:**

**To give employees the power to fly high**



## | Compliant Employment Management

### Compliant Recruitment and Employment

SPH strictly abides by the *Labor Laws of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, and other national and regional labor regulations, rules, and policies. SPH has formulated corresponding internal management policies on recruitment, contract, and attendance in each subsidiary to ensure compliance and protect the rights and interests of employees.SPH conducts age confirmation in the recruitment process to prohibit child labor.The Company signs labor contracts with all employees, takes attendance and eliminates forced labor.The Company has also established trade unions to protect the rights and interests of employees and provide a communication platform for their feedback and complaints.SPH always conducts legal employment.There was no illegal use of child labor or forced labor during the Reporting Period.

### Diversity and Equal Opportunities

SPH always adheres to the principle of fairness and impartiality, and recruits employees based on job requirements without discriminating based on educational background, religion, nationality, marital status, gender, disease, or race. SPH adheres to the market-oriented employment mechanism and promotes talent selection through open recruitment.By establishing a unified recruiting management platform and standardized recruiting management procedures, the Company continuously strengthens its staffing and talent reserve through diversified talent acquisition methods such as social media recruitment, campus recruitment, internal recommendation, and internal recruitment. SPH is focused on high-quality talents in the fields of technology innovation, advanced manufacturing, quality management, marketing, and internationalization. SPH also actively promotes campus recruitment for fresh graduates every year.SPH has recently started using online recruitment to enable more graduates to remotely access job information and get employed in a timely manner.In 2022, SPH was awarded the title of Chines College Students' Favorite Employer and listed as one of China's 100 Model Employers.

### Honored Employer



2022 China HR Sirius Star Award  
by Moka

Chinese College Students' Favorite Employer in 2022  
by 51Job.com & yingjiesheng.com



2022 HR Digitalization Model  
by 51Job.com

2022 China's 100 Model Employers  
by 51Job.com

### Talent Structure

Index		Unit	2020	2021	2022
Total Number of Employees		Person(s)	48,136	47,056	47,877
Employment Type	Contract Employees	Person(s)	41,162	40,314	41,217
	Other Employees	Person(s)	6,974	6,742	6,660
Gender	Male	Person(s)	23,572	23,205	23,795
	Female	Person(s)	24,564	23,851	24,082
Age	50 and Above	Person(s)	7,916	7,790	7,971
	30-49	Person(s)	30,690	30,391	31,176
	Under 30	Person(s)	9,530	8,875	8,730
Educational Background	Other	Person(s)	16,984	16,172	17,084
	Associate Degree	Person(s)	15,732	15,121	14,611
	Bachelor's Degree	Person(s)	13,611	13,816	14,156
	Master's Degree and Above	Person(s)	1,809	1,947	2,026
Turnover Rate		%	19	10	7.8
Turnover Rate by Gender	Male	%	9	5	1.95
	Female	%	10	5	1.97
Turnover Rate by Age	50 and Above	%	4	2	0.5
	30-49	%	10	5	2.1
	Under 30	%	5	3	1.2
Turnover Rate by Location	The Mainland of China	%	19	10	7.8
	Hong Kong, Macao and Taiwan of China and Abroad	%	0	0	0

### Privacy Protection

SPH strictly abides by the *Personal Information Protection Law of the People's Republic of China* to protect the security of employees' personal information and prevent the intentional or unintentional disclosure of private information to non-related people.As for recruitment, assessment and salary, only authorized personnel can access employees' information.

## | Promising Career Development

### Ranking System Construction

In 2021, SPH introduced the Hay Job Evaluation Methodology to assess the value of each job position. This resulted in the creation of the SPH's own rank system. During the Reporting Period, the project team completed job grading for all positions within SPH. To the Company's five major sections (i.e. marketing, production, technology, management, and services), we have added a total of 49 corresponding sub-sections to form a complete value chain, laying a solid foundation for human resources management.

### Appraisal and Promotion

Every year, SPH carries out target setting and performance appraisal for each employee. The promotion channel for employees is divided into two tracks: professional and managerial. The promotion is linked to employees' performance, capability and needs. SPH piloted internal recruitment channels to provide employees with diversified development opportunities. SPH vigorously promotes a high-potential talent succession plan across all ranks and segments. In addition to the reserve management talent program implemented at different levels, SPH utilizes digital means to take stock of and assess talent in various business segments such as marketing, quality, finance, and safety. This effort has facilitated the implementation of personal development plans and provided strong support to employees' career development.

### Personnel Retention and Incentives

SPH set up medium and long-term incentive system for core managers and R&D personnel, including but not limited to equity incentive, incentive bonus, project bonus, and honorary recognition.

SPH advocates a performance culture and explores multiple performance allocation methods. Given the unique nature of R&D performance measurement, SPH embraces a market-oriented approach and continuously improves its standard position-based compensation system for R&D personnel, the overall performance assessment plan for the R&D Management Center, and the medium- to long-term incentive schemes for the innovative drug R&D team, with an aim to make incentives more targeted and to boost R&D efficiency.

At SPH, we place great emphasis on employees' dedication to the company. Since 2014, SPH has regularly conducted employee engagement surveys to create a two-way communication and feedback channel between management and employees. These efforts have provided us with a powerful tool to optimize management through concrete actions. The annual employee engagement survey conducted in 2022 showed an overall score of 80%, showing further improvement from the previous score of 78%, and surpassing the average level in the Chinese market and the healthcare industry. The survey results showed that 84% of employees said that they would not easily leave SPH, indicating a high overall willingness to stay.



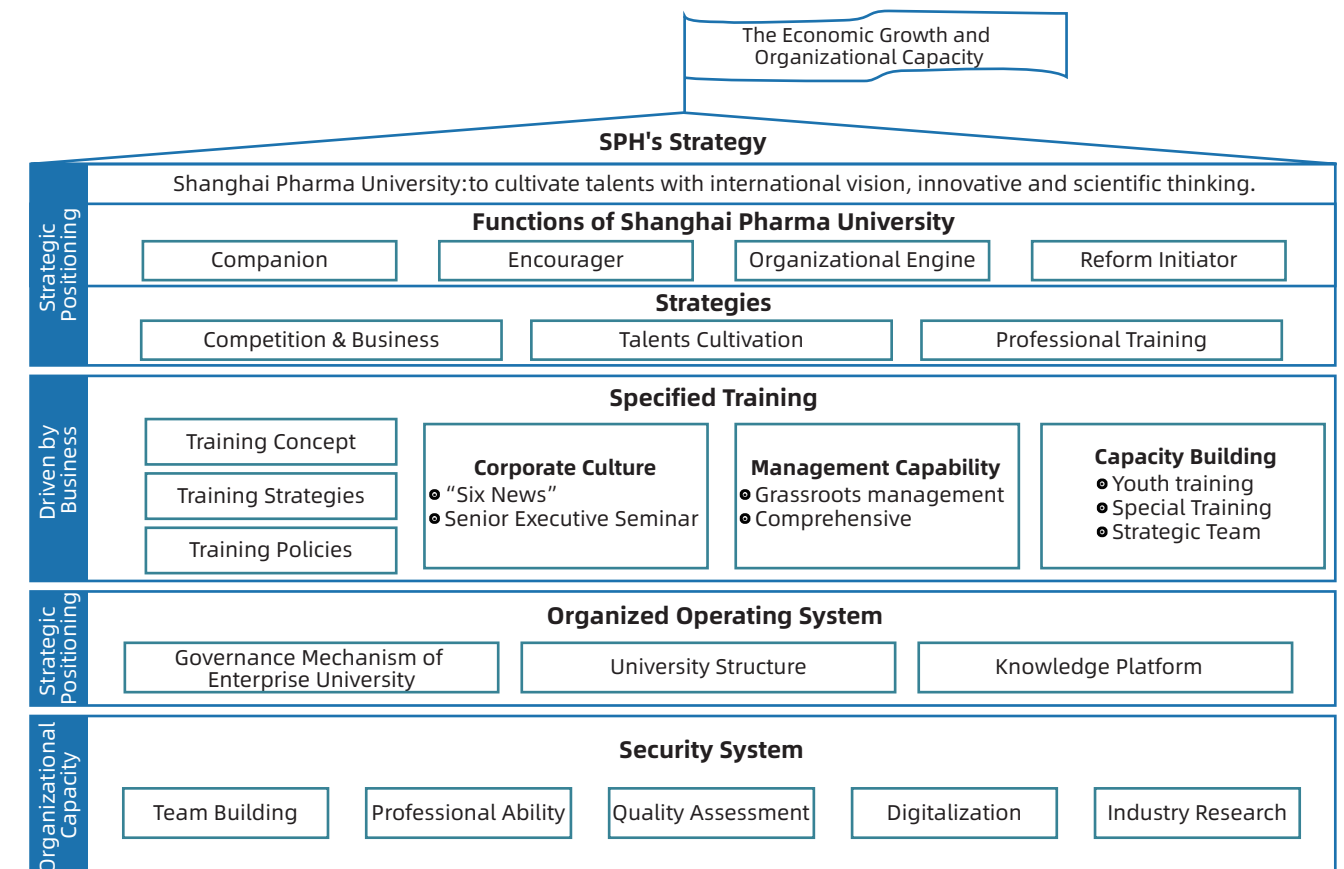
SPH won the "Best Practice Award for Talent Evaluation Digital System" during the 2022 China Talent Management and Leadership Development Selection by NormStar Research.

### Training System Construction

Employees' development is essential to enterprise growth. SPH is highly involved in the growth and development of its employees, providing a systematic training and specified learning and development channels.

Focusing on the Dynamic Development Strategy, SPH adheres to four basic principles: special attention, service strategy, comprehensive coverage, and integrated support. With Shanghai Pharma University as the core, we have designed a scientific and systematic training program and courses for employees of all levels and positions. The "4+1" training system includes the main program, professional program, special program, rotation program, and forums, to establish a talent cultivation system with a global vision. Employees can choose training courses according to their own development goals and job requirements. These efforts will help both employees and the Company in their growth journeys.

To enhance its human resources digital system, SPH proudly launched its e-learning platform named "SPH E-Academy" on July 22, 2022. This platform is available to all staff, integrates a variety of training resources, offers diversified training methods, manages training processes (i.e., assessment, learning, practicing, testing, and evaluation) in a closed-loop manner, and allows unified management of training data. In close collaboration with SPH's Human Resources Department, Executives Management Department, and Information Technology Center, Shanghai Pharma University released the Measures of Shanghai Pharmaceuticals Holding Co., Ltd. for the Management of Digital Learning Platforms (for Trial Implementation), thus establishing full-fledged management procedures and business norms and achieving the data integration of training management across the entire Group.



### Shanghai Pharma University 14th Five-Year Plan

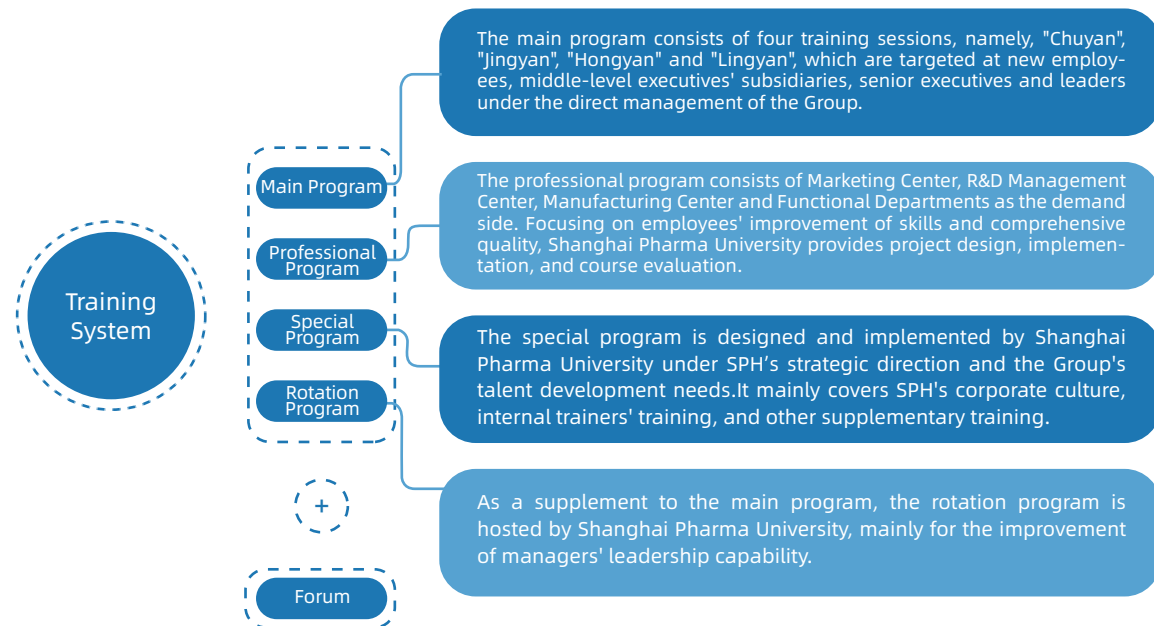


Shanghai Pharma University conducts annual research on overall demand for the next year. Based on the results, SPH accurately formulates annual teaching plans that meet its strategic development and employees' needs. In 2022, Shanghai Pharma University conducted **62** courses with a total of **12,802** participants online and offline. It also held **24** fora on topics such as pharmaceutical industry policies, professional skills, and management innovations.

Index		Unit	2021	2022
Percentage of Trained Employees		%	86	89
Percentage of Trained Employees by Gender	Male	%	85	90
	Female	%	86	89
Percentage of Trained Employees by Position	Managerial and Professional Personnel	%	100	100
	Technicians and Others	%	80	85
Training Attendees		Person-times	367,183	554,210
Training Hours		Hour(s)	1,724,157	1,003,314
Average Training Hours		Hour(s)	43	24
Average Training Hours of Employees by Gender	Male	Hour(s)	43	25
	Female	Hour(s)	42	24
Average Training Hours of Employees by Position	Managerial and Professional Personnel	Hour(s)	84	52
	Technicians and Others	Hour(s)	25	14

## Cultivation of Technicians

Shanghai Pharmaceuticals is one of the national models excelling at the integration of production and education. The Company actively promotes the cultivation of high-skilled personnel and has gradually built a mature training system. In 2022, SPH held systematic technician training. As a result, a number of technicians with excellent skills have emerged. As of the end of 2022, a total of 10 people have been awarded the title of "Shanghai Artisan" . Shanghai Pharma also pays attention to the cultivation of a high-skilled teams. The Company organized the 2022 SPH Group Vocational Skills Competition, including pharmaceutical preparation workers (advanced level), and drug inspectors (advanced level). 185 contestants from 28 SPH subsidiaries signed up for the competition. Before the competition, the Company carried out targeted theoretical training and operational training for the contestants. Through the competition, the Company enhanced training and practice. In the future, SPH will continuously improve the skills of front-line employees, and train high-skilled teams adept at learning and innovating, providing support for the development of Shanghai's biomedical industry.



## Training System

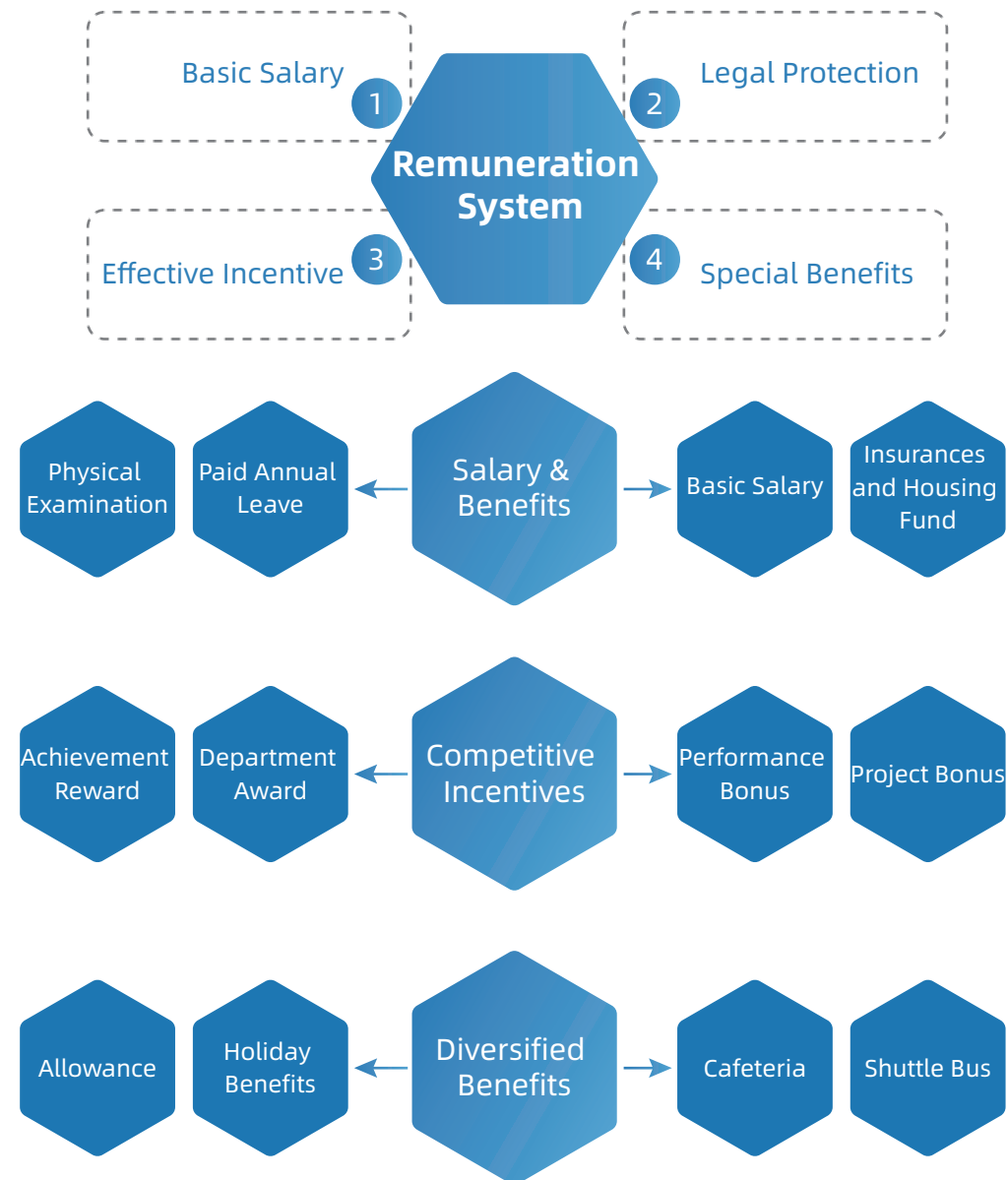


## "SPH E-Academy" Digital Learning Platform

## | Diversified Compensation and Welfare

SPH's remuneration principles are based on staff position, ability, performance, in addition to the market. The Company has set up a Remuneration Management System, to provide employees with salary increases and improve their income.

SPH's Remuneration Management System considers employees' positions, which includes management, marketing, R&D, quality management, and production. The system has boosted the morale and creativity of our staff in order to achieve the Company's strategic goals.



## | Occupational Health Protection

Employees' health and safety are a top priority for SPH. The Company provides a healthy and safe working environment for all. In compliance with relevant laws and regulations such as the *Production Safety Law of the People's Republic of China*, the *Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases*, the *Fire Protection Law of the People's Republic of China*, and the *Provisions on the Administration of Occupational Health at Workplaces*, SPH has established and continually refined its safety management and occupational health management systems.

### Structure & System of Safety Management

SPH has instituted a production safety responsibility system that adheres to the principles of shared responsibility between the Party committee and administrative organ, dual responsibilities for one position, joint management, and accountability for negligence. This system emphasizes the "three musts" principle (i.e. safety management, which mandates that safety must always be taken into account amid the management of industry, business operations, and production). SPH actively implements the Group's safety priorities, explores the establishment of new security management mechanisms under new circumstances, further fulfills its primary responsibility, enhances its policy systems, and strengthens risk management efforts to effectively prevent and reduce all types of accidents, thereby successfully achieving its annual objectives and ensuring that the workplace remains safe and secure.

SPH has established a production safety and work environment management committee (the "Safety Committee") run by heads of respective business units, functional departments and subsidiaries, as well as employee representatives. The Safety Committee is charged with guiding and planning the production safety management work of the entire Group. SPH's Security Department is tasked with supervising, inspecting, and guiding the security management work of each entity, as well as conducting mid-year audits and year-end performance assessments. Employee representatives can communicate, negotiate and solicit opinions about occupational health and safety affairs through the Safety Committee, the labor union, and other channels.

SPH regularly upgrades its production safety responsibility and evaluation systems, and has established a complete set of Management Standards and Systems of Production Safety, including 43 systems, such as Safe Production Management Standards, Safe Production Classification and Grading Measures, Performance Assessment of Safety Management and Environmental Management, and Accident Accountability System of Safe Production and Environmental Protection. These policies apply to all employees (including outsourced personnel). SPH has increased its support and investment in production safety funds, materials, technology, and personnel, in addition to relentlessly improving its production safety conditions, strengthening production safety standardization efforts, promoting IT-enabled and intelligent application of safety management, and boosting the efficiency of safety management. During the Reporting Period, SPH did not experience any incidents that contravened relevant laws and regulations pertaining to occupational health and safety.

### "Four No's and One Less" Safety Production Objectives



#### [Case Study] Implementing a Comprehensive Safety Responsibility System

In early 2022, SPH successfully inked work safety responsibility contracts with Party leaders and administrative directors of 31 subsidiaries and 19 functional departments. By the end of March 2022, all subsidiaries had completed the signing of production safety responsibility contracts with all their employees.



## Honors

3 National Demonstration Enterprises of Safety Culture Construction
11 Provincial & Municipal Demonstration Enterprises of Safety Culture Construction
1 Regional Demonstration Enterprise of Safety Culture Construction
SPH Sine Honored as "National Exemplary Enterprise in Corporate Culture Building" (new honor in 2022)
SHAPHAR Logistics Center and SPH Sine Honored as "Shanghai Exemplary Enterprise in Corporate Culture Building" (new honor in 2022)
SPH Growful and SPH Sine (Shandong) Honored with "Outstanding Entity" in the National "Ankang Cup" Competition for 2020-2021 (new honor in 2022)
SPH Herbapex Honored with "Outstanding Entity" in the Provincial "Ankang Cup" Competition for 2020-2021 (new honor in 2022)
SPH XTCM Honored with "Advanced Entity" in the Provincial "Ankang Cup" Competition for 2021 (new honor in 2022)

## Risk Identification and Management

In strict adherence to the *Production Safety Law* and relevant guidelines, SPH and its subsidiaries have comprehensively implemented risk management and the handling of dangerous situations. The Company has tightened the control over production safety risks, clamped down on common violations, persistently strengthened emergency response and fire safety measures, and enhanced the management of rental properties. In 2022, the Group and its subsidiaries completed the "Three-Year Action Plan for Special Production Safety Rectification" in compliance with the requirements of the Office of Shanghai Municipal Production Safety Commission, the State-owned Assets Supervision and Administration Commission, and higher-level companies, convening 32 special deployment meetings, issuing 38 rectification-related documents, and introducing 368 measures and policies, four of which were included into the exemplary cases database at SIIC. SPH conducted various inspection activities, such as Spring Festival "visits and investigations," high-temperature safety inspections, and special inspections during critical periods.

SPH urges its subsidiaries to implement corrective actions and develop continuous improvement measures for any safety hazard. During the Reporting Period, all subsidiaries achieved a 100% inspection rate, 100% reporting rate, and 100% rectification rate of all identified safety hazards. In 2022, SPH's Security Department conducted 90 daily online and offline safety inspections for 54 entities, achieving a 100% review of 993 special operations reported by 33 entities.

## Emergency Management

SPH has developed and continually improves the Comprehensive Emergency Response Plan, and strives to enhance the emergency response capabilities of its employees through various safety drills. In 2022, as part of the "Production Safety Month" and "Fire Prevention Month" events, a total of 587 emergency drills and other activities, covering 24,379 participants, were organized by SPH's subsidiaries.



### 【Case Study】

On November 9, 2022, under the guidance of SPH's Security Department, SPH SBPC kicked off a comprehensive emergency drill on production safety accidents under the theme of "Implementing the Guiding Principles of the 20th CPC National Congress and Pursuing a Whole-New Journey".

Index	Unit	2020	2021	2022
Health and Safety Investments	CNY'0,000	19,236	17,702	13,668
Manufacturing Accidents	Case(s)	7	10	7
Number of Work-Related Deaths (Accident of Production Safety)	Person(s)	2	0	0
Work-related Deaths	%	0.00006	0	0
Days Loss due to Work-Related Deaths	Day(s)	12,407	840	320

\* Statistics are from 31 secondary subsidiaries of SPH, an increase of 4 companies from the 27 subsidiaries in 2021.

\* In response to the work-related death (accident of production safety) in 2020, the Company conducted in-depth investigation and accountability review to prevent similar accidents in the future.

## Occupational Health and Safety System Certification

The Group encourages its subsidiaries to promote production safety, occupational health, and a safety management system, to improve and standardize production safety. As of the end of the Reporting Period, 13 subsidiaries completed the production safety standardization conformity review; 64 subsidiaries met the requirements for production safety standardization conformity, maintaining full coverage of standardized production safety management; and 26 subsidiaries were ISO 45001-certified.



## Safety Culture

SPH introduced the Administrative Measures for *Building a Characteristic Safety Culture* during the Reporting Period, to promote production safety as a corporate culture. SPH has launched a variety of distinctive safety culture activities to help shape a plan characterized by "one policy for every company" for promoting its unique safety culture. SPH also worked towards improving its systematic safety management system by kicking off unique safety culture activities. By implementing an employee responsibility system, SPH is committed to shaping itself as a stellar example of safety management and striving to advance the transition from "safety for me" to "I care about safety", "I understand safety", and "I am capable of ensuring safety", from "individual safety" to "overall safety", and from "passive safety" to "active safety".

### 【Case Study】"Production Safety Month" Activities in 2022

Following SPH Group's lead, all subsidiaries kicked off their respective "Production Safety Month" activities for 2022 under the theme of "Observing the Production Safety Law and Making Safety the Focal Point of Work", such as studying the important instructions given by President Xi Jinping on production safety, building a distinctive safety culture, promoting safety culture across work teams, participating in the "Ankang Cup" competition, and competing for the honor of "Model Posts of Production Safety".



Emergency Fire Drill Conducted by SHAPHAR



SPH Zhongxi Sunve's "Production Safety Month" Letter of Undertaking Signing Ceremony and "Ankang Cup" Competition Launch Ceremony

## Safety Management Training

Aside from constantly improving its Regulations on Safety Education and Training, SPH has recently introduced the Measures for the Management of High-Potential Security Management Personnel to establish training mechanisms for security management personnel and to roll out regular training programs for them. The training plans are tailored to staff at different hierarchy levels and effective assessment methods were developed to enhance employees' safety awareness and operational skills. In 2022, the employees subject to statutory training were 100% certified and 100% of the new employees were trained. Over 3,000 individuals directly participated in training sessions on 5 major safety themes organized by the Group.

Index	Unit	2020	2021	2022
Safety Training	%	100	100	100
Hours of Safety Training	Hour(s)	1,538,316	1,667,117	1,574,180
Number of Safety Drills	Time(s)	511	639	587
Number of Participants in Safety Drills	Person(s)	29,579	32,636	24,379

\* Statistics are from 31 secondary SPH subsidiaries, an increase of 4 companies from the 27 subsidiaries in 2021.

\* In 2021, the safety training coverage rate was calculated by dividing the cumulative total number of trainees by the total number of employees. In 2022, it was changed to the ratio of the number of actual trainees to the number of personnel to be trained.

## Management of Special Drugs

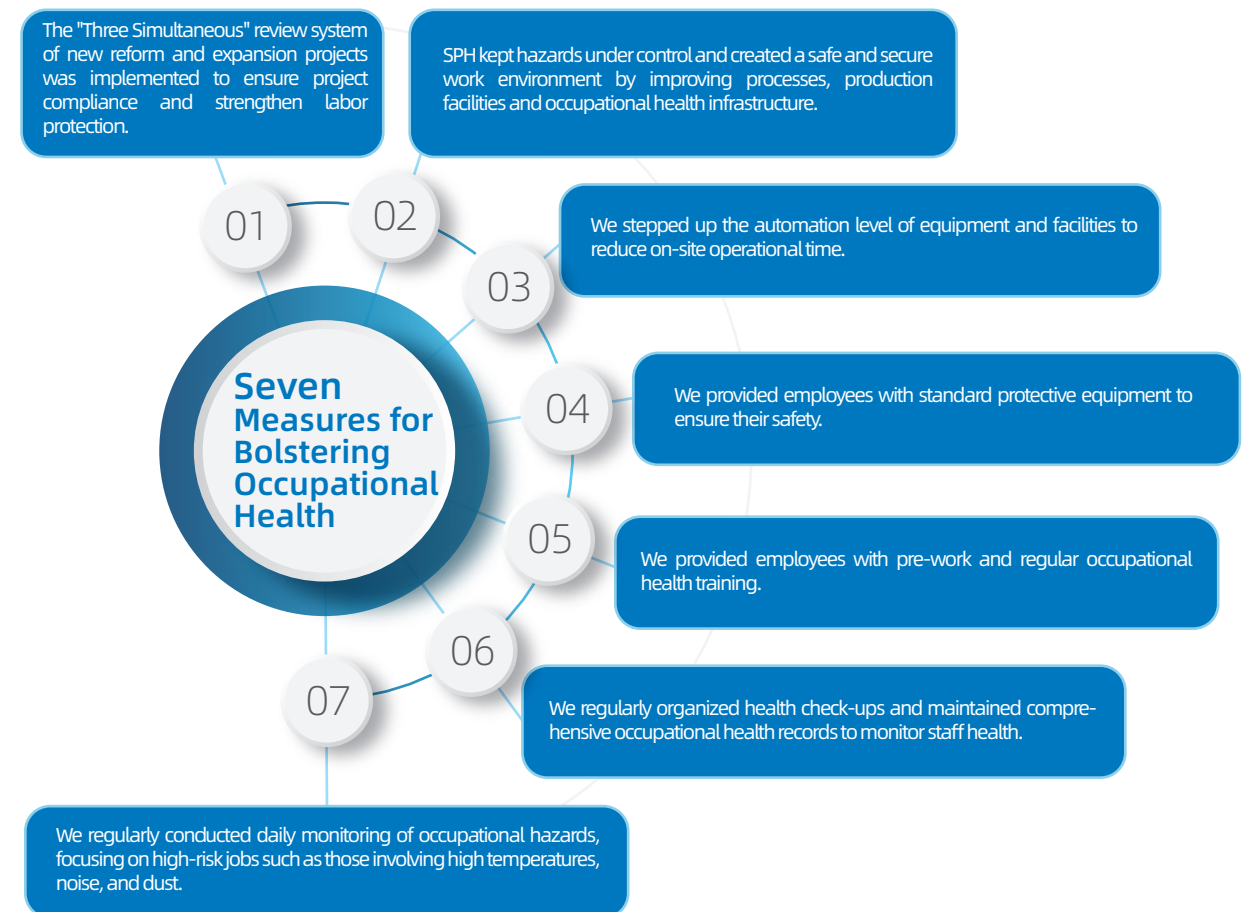
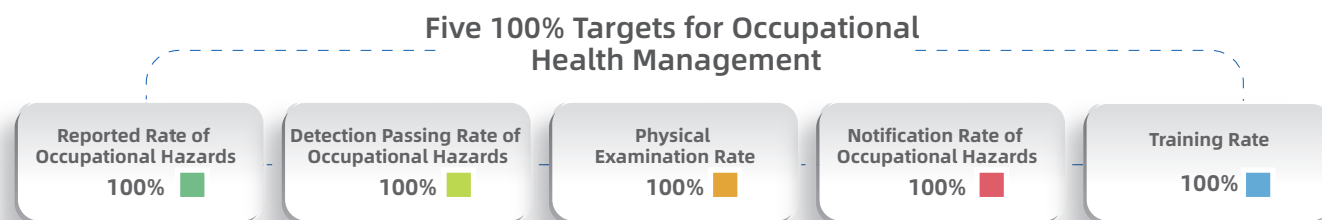
The Group has formulated a safety management system and emergency plan for special drugs, appointed staff responsible for the production and safety management of special drugs, and determined the responsibilities of each department. SPH also conducted regular training to emphasize the importance of the safety of special drugs, and strictly followed the production plan and operation procedures. The special drugs are managed by double securities, with cameras and automatic alarm systems installed to avoid occupational hazards during production.

## Hazardous Chemicals Management

All subsidiaries continued to uphold the guiding principles set forth in the *Three-Year Action Plan for Production Safety Rectification* issued by the Work Safety Committee of the State Council. Based on the continuously improved "1+2+X" implementation plan and the clarified "two lists", SPH's subsidiaries kicked off and completed 11 rectification projects to ensure the safety of hazardous chemicals. Following three years of relentless efforts, SPH has tackled and eliminated all outstanding issues or major hazards as outlined in the *SIIC Implementation Plan for the Three-Year Action Plan for Production Safety Rectification*. Specifically, the rectification program entitled "Compliance in the Procurement, Storage, and Use of Hazardous Chemicals" was named as an exemplary case in *SIIC's Three-Year Action Plan for Production Safety Rectification*.

## Occupational Health

SPH set up the Occupational Health Management System, with the objective of "Five 100%" to protect the health, safety and interests of employees. The Company is dedicated to achieving full occupational hazard management and ensuring that no work-related illnesses occurred throughout 2022. During the Reporting Period, SPH increased investment, with 53 subsidiaries investing nearly CNY 10 million to protect employees' occupational health.



## Performance

Index	Unit	2020	2021	2022
Physical Examination Rate	%	100	100	100
Number of People Completing Physical Examination	Person(s)	5,358	5,693	5,581
Employees with Work-related illnesses	Person(s)	0	0	0
Reported Rate of Occupational Hazards	%	100	100	100
Detection Passing Rate of Occupational Hazards	%	100	100	100
Notification Rate of Occupational Hazards	%	100	100	100

**【Case Study】**  
SPH Sine replaced inkjet printers with label markers to eliminate safety hazards.



**【Case Study】**  
SPH Leiyunshang installed water curtain dust remover to reduce harmful substances.





## | Genuine Care for Employees

SPH deeply cares for the work and life of its employees. The Trade Union's high-quality services provided great support to all employees. Moreover, SPH actively responded to employees' strive for a better life through various forms of support, helping our employees' growth, happiness, and security.

### Democratic Management

In compliance with relevant laws and regulations such as *the Trade Union Law of the People's Republic of China* and *the Constitution of Trade Unions*, SPH follows a democratic management system underlain by the Employees' Representatives Conference. Through collective bargaining, specialized salary negotiations, and open plant affairs, SPH stays committed to safeguarding employees' democratic rights, including their right to information, participation, expression, and supervision. SPH's strong support for employees' participation in the democratic management of their company and its unyielding efforts to protect their legitimate rights and interests have contributed to the sustained and healthy development of the Group.

### Employees' Representatives Conference

In strict adherence to relevant laws and regulations related to democratic management, as well as *the Regulations of Shanghai Municipality on Employees' Representatives Conference*, SPH, along with its shanghai-based subsidiaries (70 companies in total) held their Employees' Representatives Conference routinely. SPH set up a multi-level system for Employees' Representatives Conference, with different focuses on various positions, to effectively link functions in the multi-level Employees' Representatives Conference.



#### [ Case Study ]

On October 24, 2022, SPH kicked off the First Session of the Third Employees' Representatives Conference, themed "Unite to Forge Ahead and Create a Whole-New Chapter." Over 200 employee representatives from various business units of the Group gathered to discuss and contribute to the Company's strategic development.

### Open Factory Affairs

SPH is dedicated to promoting the establishment and improvement of democratic management systems at all levels of the Group, in addition to strengthening their organizational structures and leadership and work institutions. By being open and transparent, SPH strives to ensure that employees have the right to information and supervision. By focusing on major issues crucial to corporate development, hot issues of public concern, and issues that affect the vital interests of employees, SPH continuously improves its public disclosure channels such as Party-administration joint meetings, meetings of cadres and employees, meetings of team leaders, and factory press conferences. SPH also expands these channels via public boards, enterprise OA, emails, internal television, and newspapers. In 2022, the Group's Trade Union conducted a comprehensive survey on the following matters: organizational, employees' representatives' conference, collective bargaining, employee director and supervisor, and the disclosure of factory affairs in subsidiaries at all levels. This survey helped identify key areas of improvement in furthering the implementation of democratic management.

### Fostering Harmonious Labor Relations

SPH leverages the organizational strengths of its Trade Union to reach out to its employees and forge harmonious labor relations. Through consultation and a collective contract system, the Company gives a voice works to employees. It has developed a way to share benefits between the Company and its employees. The Trade Union in each subsidiary directly negotiates with management about rules, regulations, and major issues that impact employees' interests (i.e. compensation, working hours, annual leave, labor safety and health, insurance benefits, employee training, and labor discipline). In addition, specific collective contracts are signed on salary, for female workers, and on labor safety and health. During the Reporting Period, the signing rate of collective contracts for state-owned and state-controlled enterprises across the Group reached 100%; the signing rate of collective contracts for primary entities was 100%; and the signing rate of yearly special collective contracts for salary stood at 91%. In accordance with the requirements of the Shanghai Municipal Federation of Trade Unions, SPH provided essential guidance to its subsidiaries over the building of harmonious labor relations. SPH also engaged professional legal consultants to improve the Company's labor law supervision capabilities.

### Promoting Employee Technology Innovation Activities

Given the unique characteristics of the pharmaceutical industry, SPH closely monitors key challenges arising from its production and operations and widely promotes employee technology innovation activities.

#### Focusing on the Improvement of Employees' Skills

In line with the "Opinions on Strengthening the Construction of High-skilled Talent in the New Era" issued by the General Office of the Communist Party of China and the General Office of the State Council, and in response to the Company's pressing need for fostering a high-quality industrial workforce, SPH put primarily focused on improving employees' vocational and general skills, to continuously develop its industrial workforce. SPH is also dedicated to fostering a culture of craftsmanship and improving its talent selection and training systems.

#### Providing an Innovation and Creativity Platform for Employees

Starting with the Continuous Improvement Campaign themed "My Job, My Innovation", SPH advanced its innovation and development plan by guiding employees to focus on their roles, enhance their awareness of innovation, and develop innovative thinking, and inspiring employees to unleash their creativity.

#### Kicking off Skills Competitions

Based on development goals outlined in the Company's "14th Five-Year Plan", SPH mobilized employees to take part in skills competitions across different business segments. These competitions focused on R&D progress, cost reduction, technological innovation, and marketing innovation.



Shanghai Biopharmaceutics Industry Drug Inspector Skills Competition (Final)



## Enriching the Life of Employees

We attach great importance to stimulating employees' sense of ownership to serve the overall development of the enterprises. By building various platforms and organizing various cultural and sports activities, we promote employees' work-life balance and all-round development, to enhance their sense of belonging and mission.



**SPH Foreign Language Talent Show**

**SHAPHAR Corporate Sports Day**

**"See Shanghai, Taste Shanghai, and Love Shanghai" Themed Event**

## Supporting and Protecting Employees

The Group's Trade Union is committed to serve employees through simple, diversified and targeted initiatives, continuously striving to help the Group's high-quality development through exceptional services.

Building a Comprehensive Support Network	Deepening Practical Projects for Employees	Providing Care and Support to Employees
<ul style="list-style-type: none"> <li>◆ Establishing a multi-tiered relief system to address the difficulties faced by employees and pressing trade unions at all levels to establish their own assistance mechanisms;</li> <li>◆ Taking traditional initiatives, such as providing relief to the needy, offering financial assistance to impoverished students, and giving holiday greeting gifts;</li> <li>◆ Persistently promoting the "Love Day Donation" campaign;</li> <li>◆ Expanding the reach of "Love and Help" program.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Developing a multi-layered employee medical insurance system, supplemented by mutual aid support and in collaboration with commercial insurance, with corporate medical assistance serving as a safety net;</li> <li>◆ Promoting the normal functioning of union membership card issuance, insurance enrollment, and claims handling, and encouraging all employees of Shanghai-based subsidiaries to participate in the Shanghai Workers' Mutual Aid Insurance Plan;</li> <li>◆ Encouraging subsidiaries to actively participate in various group medical insurance programs to gradually strengthen medical protection for employees;</li> <li>◆ Joining SPH Specialty Drug Insurance for Employees.</li> </ul>	<ul style="list-style-type: none"> <li>◆ Allocating over CNY 2.5 million in special funds for anti-COVID efforts, with an additional CNY 600,000 granted by Shanghai Municipal Federation of Trade Unions;</li> <li>◆ Implementing a targeted and tiered employee care system;</li> <li>◆ Distributing essential supplies such as anti-COVID drugs, food and camp beds to those charged with ensuring stable production;</li> <li>◆ Providing live online classes on psychological counseling, traditional Chinese medicine, and vaccination to employees working from home;</li> <li>◆ Organizing staff members charged with ensuring stable production and supporting key projects during the outbreak.</li> </ul>



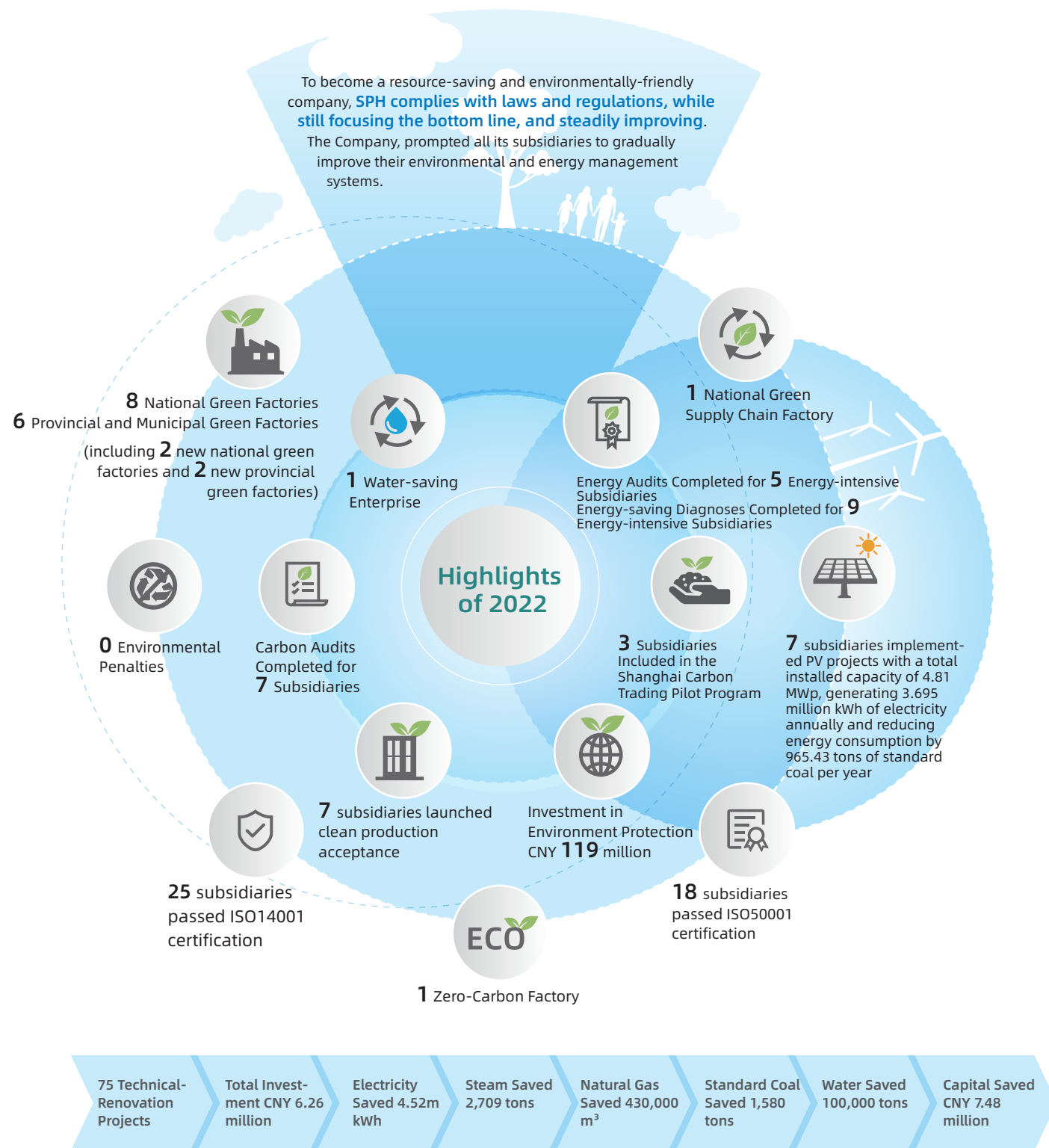
# Environmental Responsibilities

## Build a Beautiful China through Green Development

- 79 Environmental Management Improvement
- 84 Response to Climate Change
- 85 Resources Management Optimization
- 92 Targeted Pollution Control
- 94 Deepened Green Operation
- 95 Biodiversity Conservation







\*Note: This report presents the energy consumption and emission data of 49 industrial subsidiaries of SPH. Changes from 2021: Chiatai Qingchunbao (Deqing) Pharmaceutical Co., Ltd. merged with Chiatai Qingchunbao Pharmaceutical Co., Ltd. Please refer to the appendix for a detailed table of environmental performance.

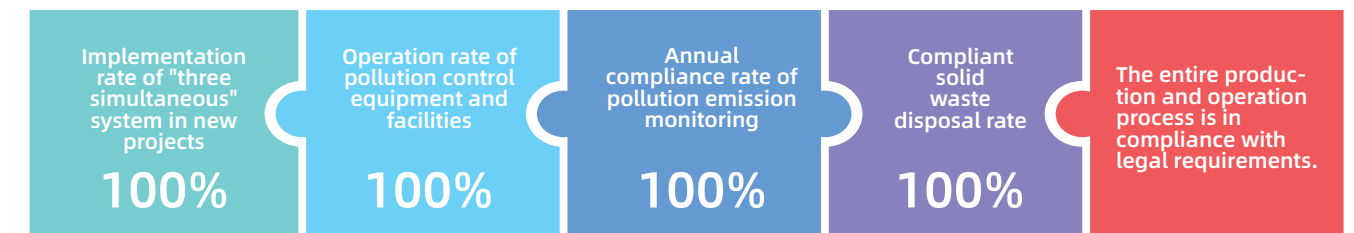
## Environmental Management Improvement

### Environmental Management System

In compliance with local laws and regulations, and industry standards related to environmental protection, (e.g., *Environmental Protection Law of the People's Republic of China*, *Energy Conservation Law of the People's Republic of China*, *Law of the People's Republic of China on Prevention and Control of Water Pollution*, *Law of the People's Republic of China on Prevention and Control of Atmospheric Pollution*, *Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste*, *Cleaner Production Promotion Law of the People's Republic of China*, *Regulations on the Administration of Construction Project Environmental Protection*) SPH established a sound environmental management system, including an Environmental Protection Responsibility System, an *Environmental Events Reporting System*, *Measures for Safety Management and Environmental Management Performance Assessment*, *Accountability System for Safety Production and Environmental Protection Accidents*, and *Energy Information Management Measures for Energy-Using Enterprises*, and prepared a series of normative documents such as *Basic Requirements for Enterprise Environment*. All subsidiaries should strictly abide by applicable regulations and company requirements, to minimize the impact of operations on the environment. The Company strictly complies with laws and regulations such as the *Environmental Protection Tax Law of the People's Republic of China* and fully pays all relevant environmental protection taxes and fees.

SPH has established a full-fledged organizational structure to coordinate environmental management efforts throughout the Company. The Group's Security Department is responsible for the Company's environmental and energy management, formulating relevant management systems, and implementing daily supervision. The subsidiaries strove to meet various energy conservation and environmental protection management requirements in daily production and operation, and regularly summarized and reported the progress on saving energy and protecting the environment. In 2022, the Security Department set up 5 specialized teams to assist in SPH's environmental management efforts (i.e., Policy and Regulation Team, Environmental Management Team, Engineering and Technology Team, Training and Education Team, and Support Team). These teams work together to effectively bolster SPH's environmental management capabilities.

### Environmental Responsibility Goals



### Environmental Management and Supervision Measures

- Signed a yearly environmental protection responsibility agreement to fulfill its primary responsibility for environmental protection.

- Organized special environmental protection activities such as "Cleaning up Everything" to identify areas for improvement, in addition to implementing special measures during the outbreak to ensure smooth business operation.

- Conducted performance evaluations based on benchmarks and linked environmental performance to the remuneration and performance of management personnel.

01 Alignment at the beginning of the year

- Assisted subsidiaries in improving their annual work plans by clarifying green objectives and determining key tasks for the year.

02 Responsibility agreement signing

03 Routine inspections

- Regularly tracked work progress, conducted monthly environmental risk inspections, submitted monthly work summaries, maintained timely records and archives, and regularly conducted self-examinations and self-corrections.

04 Special inspections

05 Mid-year audit

- Conducted energy-saving and environmental protection audits to identify and address potential hazards and propose improvements.

06 Year-end assessment

- During the Reporting Period, SPH's subsidiaries received no penalties for environmental violations, and excessive or illegal pollutant discharges.



## Awards in 2022



## Environmental Management System Certification

SPH has been actively pursuing environmental management system certification for its subsidiaries, mandating that all direct subsidiaries establish an ISO14001 environmental management system. In 2022, 25 subsidiaries were certified to ISO14001 (compared to 22 in 2021).

### List of Enterprises Certified by ISO14001 Environmental Management Systems

No.	Name of enterprises
1	Shanghai SPH Xingling Sci. & Tech. Pharmaceutical Co., Ltd.
2	Shanghai Zhonghua Pharmaceutical Co., Ltd.
3	Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd., General Factory
4	Shanghai Sine No.2 Pharmaceutical Laboratories Co., Ltd.
5	Shanghai Harvest Pharmaceutical Co., Ltd.
6	Shanghai Sine Tianping Pharmaceutical Co., Ltd.
7	Shanghai Sine Wanxiang Pharmaceutical Co., Ltd.
8	Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.
9	SPH No. 1 Biochemical & Pharmaceutical Co., Ltd.
10	Shanghai SPH New Asia Pharmaceutical Co., Ltd. Pioneer Pharmaceutical Factory
11	Shanghai SPH New Asia Pharmaceutical Co., Ltd. New Asia Pharmaceutical Factory
12	SPH New Asia Pharmaceutical (Minhang) Co., Ltd.
13	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.

No.	Name of enterprises
14	Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.
15	SPH Qingdao Growful Pharmaceutical Co., Ltd.
16	Shandong Sine Pharmaceutical Co., Ltd.
17	Liaoning Meiya Pharmaceutical Co., Ltd.
18	Zhejiang SPH Jiuxu Pharmaceutical Co., Ltd.
19	Changzhou Pharmaceutical Factory Co., Ltd.
20	Nantong Changyou Pharmaceutical Technology Co., Ltd.
21	Chiatai Qingchunbao Pharmaceutical Co., Ltd.
22	SPH Dongying (Jiangsu) Pharmaceutical Co., Ltd.
23	Shanghai Pharma Group Changzhou Kony Pharmaceutical Co., Ltd.
24	Hangzhou Huqingyutang Pharmaceutical Co., Ltd.
25	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.



## Environmental Emergency Plan

In compliance with the requirements of the Department of Environmental Protection, SPH carried out risk assessments and improved risk prevention measures for environmental emergencies, identified and controlled potential environmental safety hazards, prepared emergency plans for environmental emergencies and conducted drills, and enhanced environmental emergency response capabilities. In accordance with the Corporate Emergency Plan for Environmental Emergencies, all subsidiaries organized emergency drills and training sessions.



## Environmental Protection Training

Enhancing the professional skills of environmental management personnel and developing professional talent is a key aspect of SPH's commitment to environmental protection. Every year, SPH devises an environmental management training plan in line with new regulations and management requirements to improve the proficiency of its environmental management personnel and to better fulfill its primary responsibility for environmental protection. In 2022, SPH strengthened its technical support for training through the newly established Environmental Management Professional Team, upgraded its training system, and introduced regulatory briefings, bimonthly publications, and an array of training programs on environmental policies and regulations, environmental management techniques, and practical cases, in an unwavering drive to bolster the its environmental team.



## | Response to Climate Change

Acknowledging that climate change is a global issue with potentially significant physical and financial impacts on business operations, SPH has worked towards identifying climate risks and opportunities in accordance with the disclosure recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) and taken proactive countermeasures.

### Identification of Climate-Related Risks and Opportunities

Identification of Climate-Related Risks and Opportunities			Potential Financial Impact
Risks	Policy and Legal Risk	Climate-related laws and policies will continue to be updated, putting forward higher requirements for environmental management compliance.	Increased operating costs
	Technical Risk	The development and use of new energy technologies and equipment upgrades will increase production costs in the short term and weaken product competitiveness.	Increased operating costs
	Reputation Risk	Under the Dual-Carbon goal, the Company is actively answering the call to adapt the climate change and low-carbon transformation, the result will affect the views of investors and the public, and if that is doesn't go well, it may affect SPH's reputation.	Decreased operating revenue
	Market Risk	The market's increasing focus on the environmental friendliness of products and services may affect the demand for certain products and services.	Increased operating costs Decreased operating revenue
	Acute Physical Risks	Extreme weather conditions (e.g. typhoons, floods) may result in company shutdowns, asset damage, and casualties.	Increased operating costs Decreased operating revenue
	Chronic Physical Risks	Continued hot weather and intense heat may cause the Company to suspend production and pose a health risk to employees.	Increased operating costs Decreased operating revenue
Opportunities	Products & Services	Climate change has widespread impacts on human health, increasing illness, death and injury, and raising the demand for certain medical treatments. The Company develops and manufactures targeted drugs, which will enhance the competitiveness of its products while meeting health needs.	Increased Operating Revenue
	Energy Source	The development and use of new energy technologies will help achieve the dual carbon goal and reduce energy costs in the long run.	Decreased operating costs
	Resource Efficiency	The application of energy-efficient technologies will improve resource efficiency, cut emissions, reduce resource consumption expenditures, and mitigate climate change.	Decreased operating costs
	Resilience	The Company's continuous efforts in reducing energy conservation and consumption will improve its climate change resilience.	Decreased operating costs

### Responses to Climate Risks

Developing a plan on "carbon peak & carbon neutrality"	In response to the "carbon peak & carbon neutrality" targets, SPH has called for its industrial subsidiaries to achieve its "carbon peak" goal by 2030. Five energy-intensive subsidiaries consuming over 5,000 tons of standard coal per year have already devised their plans for achieving their "carbon peak" goal.
Conducting carbon audits	SPH has mandated energy-intensive subsidiaries to conduct carbon audits, and seven of them completed the audit within the Reporting Period.
Engaging in carbon trading	During the Reporting Period, three subsidiaries were included in Shanghai's list for carbon emission quota management. SPH will engage with relevant subsidiaries to gain experience in carbon trading, thus preparing more of them to enter the carbon market.
Strengthening energy management	SPH strengthened energy management and continued to promote energy conservation and consumption reduction, and set carbon emission reduction targets (see "Energy Management" for details).
Coping with extreme weather	In order to proactively address climate-related risks, SPH issued a "Key Work Plan for Production Safety, Environmental Protection, and Public Security", mandating all subsidiaries to implement necessary control measures during major events, high temperatures, typhoons, heavy rains, and cold waves. The Plan also accentuates the importance of disaster relief preparations, emergency drills, and strengthened duty and standby shifts to ensure that "responsibility is assigned, materials are adequately prepared, contingency plans are detailed, emergency response is feasible, and information communication is smooth."
Enhancing professional knowledge	SPH kicked off training on "carbon peak & carbon neutrality" policies and energy conservation to enhance the managerial staff's ability to advance the Company's own "carbon peak & carbon neutrality" agenda in accordance with national and corporate requirements.

Some Environmental Management Training Courses at SPH in 2022

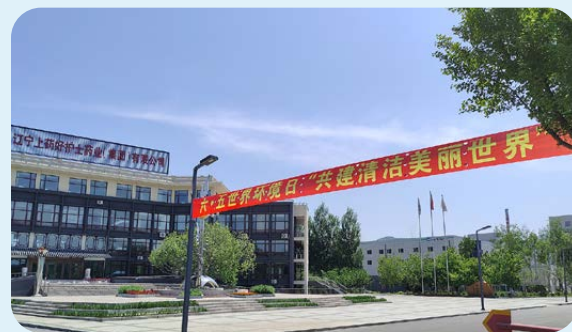
Category	Trainee	Training Theme	Training Time
Pre-job Training	New employees	National regulations and standards; SPH's pollution prevention and control measures and management requirements	Before newly recruited staff start to work
Regular Training	Pollution control equipment operators	Operation of pollution control equipment	Twice a year
Special Training	Industrial enterprises	Technical support for resumption of work and production and interpretation of the latest policies on environmental protection	May 2022
Special Training	Industrial enterprises	Post-discharge-permit management; standardized management of hazardous waste; standardized self-monitoring management	June 2022
Special Training	Industrial enterprises	General solid waste management	July 2022
Special Training	Key pollutant-discharging enterprises	Interpretation and training on the Guidelines for Information Disclosure on Environmental Protection by Enterprises	December 2022
Online self-learning	Industrial enterprises	Policies and regulations	Once every two months

### Environmental Protection Publicity

SPH promotes environmental awareness, advocates green life and pursues green development. The Company carries out diversified environmental protection publicity activities around Environment Day.

#### 【Case Study】World Environment Day

On May 12, 2022, the Company issued the Notice on Carrying out 2022 Environment Day Publicity Activities, requiring subsidiaries to conduct environmental protection activities on June 5 (World Environment Day), and submit summary reports. On World Environment Day, SPH headquarters released a promotional poster themed "Scientific Disinfection against COVID-19 to Build a Clean and Beautiful World" and launched an online quiz on disinfection knowledge, which aimed to inspire all employees of SPH's subsidiaries to become environmental protection advocates. The event was attended by 130 employees from the headquarters. SPH's subsidiaries also kicked off a variety of online and offline activities, including meetings, bulletin boards, posters, quizzes, and videos, to promote World Environment Day with a clear focus, rich content, and diverse formats.





### 【Case Study】SPH's All-Out Efforts to Protect Against Typhoon Muifa and Ensure Employee Safety

In September 2022, Typhoon Muifa was the strongest since 1950 to struck Shanghai. SPH took proactive measures by making early preparations. A total of 685 staff members, including 72 departmental leaders, were on standby for emergency response. Additionally, 493 patrols were conducted, 93 repair teams were dispatched, and 264 people were evacuated. Thanks to these efforts, SPH was able to prevent any accidents or loss of life, effectively protecting its employees and their properties.

### 【Case Study】SPH's Full-Scale Measures to Prevent and Address High-Temperature Weather

During the summer of 2022, many parts of China experienced a prolonged heatwave, prompting meteorological authorities to issue multiple high-temperature warnings. To ensure the safety of its workforce, SPH conducted a comprehensive safety inspection at 19 of its subsidiaries, identifying 58 areas for improvement and providing 41 optimization suggestions. Furthermore, SPH developed the *Work Guidelines for Production Safety Inspections in the Summer of 2022* and established 12 special management requirements and eight standards for high-temperature inspections, thus providing essential guidance to all its subsidiaries on how to effectively implement heatstroke prevention and safety measures. Thanks to these efforts, SPH was able to ensure the safety of its employees and maintain its productivity.

## Resources Management Optimization

SPH consistently adheres to the principle of green development and actively responds to the national "Carbon Peak & Carbon Neutrality" strategy by setting its own "carbon peak" goal. SPH is optimizing energy structure, improving production processes, enhancing energy efficiency, and promoting energy conservation and emission reduction to establish itself as a resource-saving enterprise and to contribute to China's realization of "Carbon Peak & Carbon Neutrality" targets.

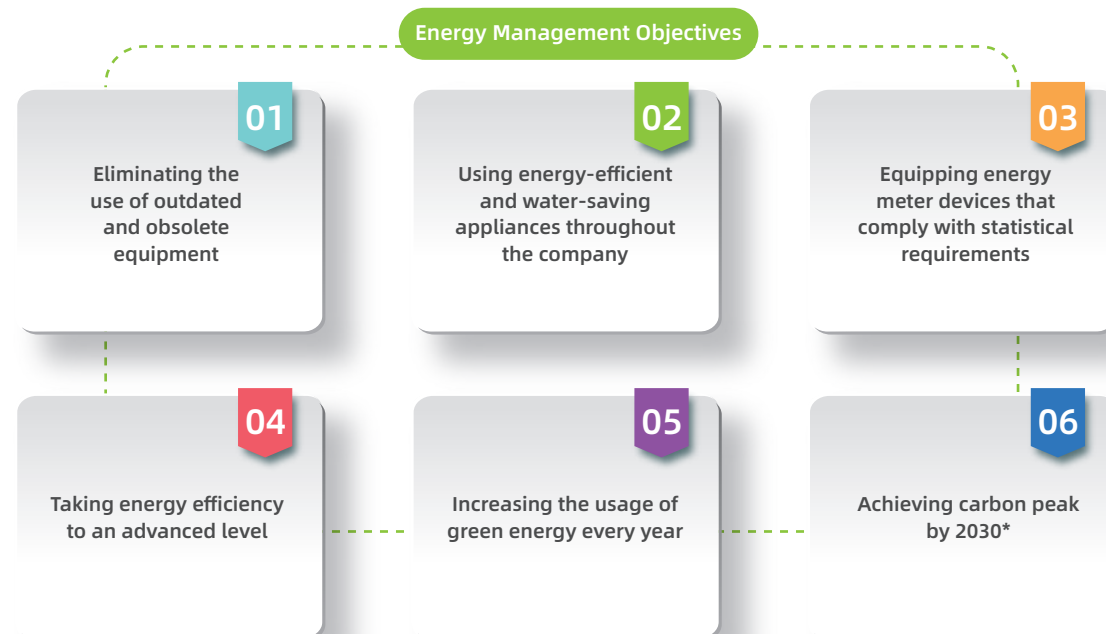
In 2022, subsidiaries carried out 75 technical renovation projects for energy, with a total investment of CNY6.36m, saving 4,520,000 kWh of electricity, 2,709 tons of steam, 430,000 of natural gas, 100,000 tons of water, 1,580 tons of standard coal and 4,108 tons of carbon dioxide emissions, with a total saving of CNY7.48m.

### Energy Management

Energy management is a top priority in SPH's environmental management efforts. The Company strictly adheres to laws and regulations such as the *Energy Conservation Law of the People's Republic of China*. It has established a robust energy management system through organizational structure, responsibilities for respective departments and their staff, key energy-intensive subsidiaries and essential policies on internal energy audits, tracking management and consumption statistics.

Every year, SPH devises an energy work plan that includes green work tasks, yearly energy consumption targets, and energy intensity indicators.

SPH implements a variety of measures to comprehensively promote energy conservation and consumption reduction (i.e. energy efficiency evaluations, energy benchmarking, energy-saving technological transformations, the elimination of outdated equipment, the construction of energy centers, contract energy management, clean production, green manufacturing, and photovoltaic projects). At the end of each year, SPH conducts energy-saving and green work assessments to ensure that all goals are met.



\*Note: SPH aims to achieve carbon peak by 2030 for its pharmaceutical subsidiaries.

SPH has been steadfastly advancing the development of its energy management system, mandating that all subsidiaries establish an ISO 50001 energy management system. During the Reporting Period, 18 subsidiaries were certified to ISO 50001 (compared to 15 in 2021).



### List of Enterprises Certified by ISO50001 Energy Management Systems

No.	Name of enterprises
1	Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.
2	Shanghai Sine Tianping Pharmaceutical Co., Ltd.
3	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.
4	Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.
5	SPH No. 1 Biochemical & Pharmaceutical Co., Ltd.
6	Shanghai SPH New Asia Pharmaceutical Co., Ltd.
7	Shanghai SPH New Asia Pharmaceutical Co., Ltd. Pioneer Pharmaceutical Factory
8	Shanghai SPH New Asia Pharmaceutical Co., Ltd. New Asia Pharmaceutical Factory
9	SPH New Asia Pharmaceutical (Minhang) Co., Ltd.
10	Shanghai Zhonghua Pharmaceutical Co., Ltd.
11	Hangzhou Huqingyutang Pharmaceutical Co., Ltd.
12	Liaoning Meiya Pharmaceutical Co., Ltd.
13	Changzhou Pharmaceutical Factory Co., Ltd.
14	Shandong Sine Pharmaceutical Co., Ltd.
15	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.
16	SPH Qingdao Growful Pharmaceutical Co., Ltd.
17	Xiamen Traditional Chinese Medicine Factory Co., Ltd.
18	Nantong Changyou Pharmaceutical Technology Co., Ltd.



### Energy Audits

In Shanghai, audits were conducted for **5** energy-intensive subsidiaries consuming over 5,000 tons of standard coal per year. Through these audits, SPH devised **15** energy-saving plans that require an estimated investment of CNY **19.31** million and will save **2,209** tons of standard coal and CNY **4.21** million.



### Energy-saving Diagnoses

In Shanghai, audits have been conducted for **9** subsidiaries consuming 2,000-5,000 tons of standard coal per year. Through these audits, SPH devised **30** energy-saving plans that require an estimated investment of CNY **25.89** million and will save **3,554** tons of standard coal and CNY **9.34** million.



### Technical Renovation

Changzhou Pharmaceutical Co., Ltd., an SPH subsidiary, renovated its nitrogen gas supply pipeline by replacing the original stand-alone air compressor units with power center air compressor units, resulting in daily electricity savings of **200** kWh. SPH Qingchunbao utilized the waste heat from the flash evaporator of the cooling pool on the west side of the pre-treatment workshop to preheat the CIP cleaning water, thus replacing the use of industrial steam and reducing its consumption.



### Eliminate Outdated Equipment

Chifeng Arker Pharmaceutical Technology Co., Ltd., an SPH subsidiary, replaced the inefficient and unsafe glass condenser with a more efficient spiral-wound heat exchanger, resulting in daily steam savings of 2 tons.



### Green Buildings

New projects are required to undergo energy assessments and ensure energy-efficient designs, in addition to implementing energy-saving measures such as green buildings, green lighting, efficient equipment, recycling and reuse, pressure and waste heat recovery, efficient heat pumps, photovoltaic projects, clean energy utilization, cascade energy utilization, eco-friendly refrigerants, new energy transport vehicles, carbon sequestration through afforestation, and intelligent metering and monitoring.



### Using Clean Energy

SPH encourages its subsidiaries to embrace new energy sources such as hydropower, wind power, hydrogen energy, biomass energy, geothermal energy, and waste heat. **7** subsidiaries implemented PV projects and achieved grid-connected power generation. In 2023, **4** subsidiaries are going to implement PV projects.



### Clean Production

SPH encourages its subsidiaries to take an active part in cleaner production audits. Most of our subsidiaries have completed clean production audits, and some have started second and third rounds. In 2022, **7** subsidiaries launched clean production acceptance.

### 【Case Study】Establishing Zero-Carbon Factories

In 2021, SPH Zhongxi Sunve launched its "carbon peak & carbon neutrality" initiative and developed an implementation roadmap for the initiative. Building on the ISO50001 energy management system and its established energy management system, electric power monitoring system, and air compressor control system, SPH Zhongxi Sunve is able to skillfully manage energy-saving targets and efficiency benchmarks, constantly improve and optimize energy balances, and effectively advance its energy conservation and carbon reduction goals.

In 2020, SPH Zhongxi Sunve utilized green electricity purchased from the London-based IEC and the national certified emission reduction credits purchased from the Shanghai Environment and Energy Exchange to offset its carbon emissions. In 2021, SPH Zhongxi Sunve utilized the CDM credits purchased from the Shanghai Environment and Energy Exchange to offset its carbon emissions.

In June 2022, SPH Zhongxi Sunve initiated the creation of a zero-carbon factory in accordance with the requirements outlined in the Technical Specification for the Creation and Evaluation of Zero-Carbon Factories (T/SEESA009-2022), an association standard published by Shanghai Energy Conservation & Environmental Service Association (SECESA). During the Reporting Period, SPH Zhongxi Sunve successfully passed the zero-carbon factory evaluation conducted by Shanghai Municipal Commission of Economy and Informatization, and was selected as one of the first batch of exemplary zero-carbon creation companies in Shanghai.



### 【Case Study】Green Buildings at SHAPHAR Logistics Center

The ongoing phase-II project of SHAPHAR Logistics Center on Suide Road best exemplifies eco-friendly and low-carbon designs. In addition to using glass and eco-friendly insulation materials and facades, high-efficiency equipment was also selected for mechanical and electrical devices, allowing the project to pass various government evaluations. In particular, the auxiliary industrial building meets the requirements for two-star green buildings. The construction process adheres to national regulations on modular construction to meet energy-saving and consumption-reducing requirements, thereby saving resources while safeguarding the health of employees.





## Water Resources Management

SPH is dedicated to advocating water conservation and strengthening scientific water management. The Company's water consumption, which primarily comes from operations in industrial subsidiaries, and daily use in the Company's offices, originates from municipal water supplies. SPH continuously promotes the implementation of water balance tests for key energy-intensive subsidiaries. In 2022, two subsidiaries completed water balance tests and one subsidiary was granted the title of "Water-saving Enterprise". In the coming years, SPH will continue to strengthen water resources management through measures such as the use of water-saving equipment, optimization and improvement of industrial processes, and recycling of water.



## Green Packaging

In response to the call for green economy and low-carbon lifestyles and the growing public concern about environmental pollution and ecological damage caused by packaging, promoting sustainable packaging is increasingly seen as a way forward for green development across the industry. SPH has implemented various measures to optimize product packaging, minimizing waste.



Usage of Key Packaging Materials in 2022

Dosage Form	Packaging	Material	Unit	Amount
Tablet	Primary Containers	Plastic bottles, aluminum foil, hard films, aluminum films, etc.	kg	1,579,276
	IFU	Paper	kg	341,385
	Pack	Paper	kg	1,783,815
	Carton	Gold cardstock	kg	14,624.7
	Bottle labels	Paper and adhesive labels	kg	2,771
	Container	Cardboard	kg	874,870
Capsule	Primary Containers	Plastic, aluminum film	kg	194,076
	IFU	Paper	kg	19,767
	Pack	Paper	kg	157,734
	Container	Cardboard	kg	102,606
Injection	Primary Containers	Glass, tube-type bottles, aluminum-plastic caps with rubber stopper, etc.	kg	2,093,159
	IFU	Paper	kg	43,959
	Bottle Labels	Coated Paper	kg	3,209
	Pack	Paper	kg	295,489
	Container	Cardboard	kg	214,391
Pill	Primary Containers	Polypropylene, polycarbonate, aluminum foil, plastic, etc.	kg	90,227
	IFU	Paper	kg	11,603
	Pack	Paper	kg	151,284
	Container	Cardboard	kg	50,489
Other Dosage Forms	Primary Containers	Polyester, aluminum, polyethylene, glass, plastic, etc.	kg	334,556
	IFU	Paper	kg	24,340
	Pack	Paper	kg	166,498
	Label	Paper	kg	1,367
	Carton	Paper	kg	9,770
	Container	Cardboard	kg	105,453
APIs	Primary Containers	Plastic bags, PE	kg	6,105
	Barrels	Paper, aluminum	kg	4,018

## | Targeted Pollution Control

Strictly following the *Law of the People's Republic of China on Prevention and Control of Pollution from Environmental Noise*, SPH strictly controlled emissions of exhaust gas, waste water, solid waste, noise and other pollutants in its production and operation activities, and reduced the emissions through pre-control, continuous monitoring, self-examination and self-correction, to alleviate its environmental impact: During the Reporting Period, the total amount and concentration of exhaust gas and waste water discharged met standards.

- All manufacturing subsidiaries obtained national pollutant discharge permits or registered through the *Classification Management Catalogue to Pollutant Emission Permit for Stationary Sources of Pollution*.
- The subsidiaries carried out self-monitoring and reporting of pollutant discharge permit implementation reports in accordance with regulatory requirements.
- According to the self-monitoring plan, all subsidiaries entrusted qualified third-party monitoring agencies for annual monitoring of all discharge outlets, to ensure stable and compliant pollution emissions.

01	Solid Waste Discharge Objectives	◆ Managing and handling solid wastes in compliance with legal requirements to meet the relevant discharge standards.
02	Gaseous Waste Discharge Objectives	◆ Gaseous waste discharge must comply with requirements of environmental impact assessment and discharge permits; ◆ The discharge concentration of gaseous waste must comply with national, industry and local standards for air pollutants; ◆ Annual gaseous waste emissions and major pollutant emissions must conform to the total emission control targets approved by the ecological and environmental authority or outlined in the discharge permits.
03	Wastewater Discharge Objectives	◆ Wastewater discharge must comply with requirements of environmental impact assessment, discharge permits, drainage permits, and relevant agreements; ◆ When industrial wastewater and domestic sewage are discharged into the urban drainage system, their water quality must comply with the relevant standards for discharging into the city sewer; ◆ Annual sewage discharge and major pollutant emissions must also meet the total emission control targets outlined in the discharge permits.

## Hazardous Waste Management

The hazardous wastes generated by the Company include waste residues and organic waste liquids from production as well as contaminated packaging materials. SPH attaches great importance to the management of hazardous waste. The Company developed standards for hazardous waste management, requiring manufacturing subsidiaries to establish hazardous waste management systems and procedures; set up temporary storage warehouses; put up signs and labels; entrust qualified institutions to handle hazardous wastes; and fill in duplicate forms for transfer of hazardous waste, document the process and keep records. In 2020, hazardous waste management was standardized.

## General Solid Industrial Waste Management

The Company formulated and issued the Notice on Further Regulating General Industrial Solid Waste Management, requiring subsidiaries that generate general industrial solid wastes to strengthen internal management; execute the discharge permit management system; establish a sound system of responsibility for pollution prevention and control of the entire process of general industrial solid waste generation, collection, storage, transportation, utilization and disposal; account for general industrial solid waste management; and truthfully record the type, quantity, flow direction, storage, utilization, disposal and other information of industrial solid waste to allow traceability, and take measures to prevent industrial solid waste from polluting the environment.

In August 2022, the Company launched the “Cleaning up Everything” special environmental rectification campaign to standardize the general solid waste management, in addition to releasing a policy on the standardized management of general solid waste, which outlines clear standards for the management, identification, categorization, storage, labeling, and record-keeping of general solid waste. As a result of these efforts, all subsidiaries have seen significant improvement in general solid waste management.



## Waste Gas Management

The Company's exhaust gas typically includes non-methane hydrocarbons, nitrogen oxides and sulfur dioxide. The Company has installed waste gas treatment facilities in compliance with regulatory and environmental assessment requirements, while its subsidiaries also fulfill the waste gas management requirements in strict adherence to the Basic Requirements of SPH for Environmental Protection and the Requirements for the Standardized Management of Waste Gas Treatment Facilities. They also develop self-monitoring plans and conduct self-monitoring tests in accordance with the requirements outlined in the pollutant discharge permits. These tests lead to formal monitoring reports.



## Waste Water Management

In the Basic Requirements of SPH for Environmental Protection, the Company has outlined over 30 management requirements pertaining to the monitoring, collection, treatment, and discharge of wastewater. All subsidiaries strictly fulfill these management requirements and carry out standardized renovation of their wastewater treatment facilities in compliance with the Requirements for the Standardized Management of Waste Water Treatment Facilities to ensure their normal operation.



Steps	Measures of Wastewater Management
Wastewater Transmission	<ul style="list-style-type: none"> <li>Production wastewater, domestic sewage, and rainwater shall be transported separately. There shall be accurate, detailed and up-to-date sewage network maps.</li> <li>Sewage pipelines that transport wastewater containing toxic, harmful or corrosive substances shall be laid above ground or in dedicated trenches, with leak-proof or corrosion-resistant measures taken for ditches and sewage wells.</li> <li>Sewage pipelines that are laid underground must undergo professional inspections every year to ensure that sewage does not pollute soil and groundwater.</li> </ul>
Wastewater Disposal	<ul style="list-style-type: none"> <li>Waste water treatment facilities shall be built or installed in accordance with regulatory and environmental assessment requirements.</li> <li>Wastewater or waste gas that contains active pharmaceutical ingredients must undergo pretreatment or inactivation before being discharged from the workshop.</li> </ul>
Wastewater Monitoring	<ul style="list-style-type: none"> <li>Online monitoring devices for major pollutants such as COD must be installed.</li> <li>The effectiveness of wastewater treatment must be tracked and monitored. Monitoring &amp; sampling points shall be set up in accordance with relevant pollutant emission standards and the Technical Specifications for Surface Water and Wastewater Monitoring (HJ/T91).</li> <li>Monitoring tests must be completed and there must be formal monitoring reports.</li> </ul>
Wastewater Discharge	<ul style="list-style-type: none"> <li>The number of discharge outlets must comply with the requirements of environmental impact assessment. Sampling points must meet requirements and wastewater must be discharged in compliance with relevant requirements.</li> </ul>

### [Case Study]

In February 2022, Changzhou Pharmaceutical Co., Ltd., an SPH subsidiary, invested CNY 3 million to introduce a new MVR evaporation facility aimed at pre-treating high-concentration wastewater. This facility enhances the stability of the existing biochemical treatment process and reduces the generation of hazardous waste by 70% during wastewater pre-treatment. It is estimated that the disposal cost of hazardous waste will be cut by CNY 2 million per year.

## Noise Management

The Company requires all its manufacturing subsidiaries to use low-noise processes and equipment, and if necessary, to take noise reduction control measures such as noise elimination, sound insulation and sound absorption. The noise reduction devices for venting of pressurized gas should be tailored to the gas. The noise from production equipment to the factory boundary shall not exceed the provisions of the national standard *Emission Standard for Industrial Enterprises Noise at Boundary* (GB12348). Each enterprise prepared a self-monitoring plan in accordance with the pollutant discharge permit requirements, and entrusted a third party to carry out routine noise monitoring at the factory boundary, and all monitoring results were up to standard.

## | Deepened Green Operation

### Green Office

SPH actively advocates low-carbon, eco-friendly and economical work habits, and continuously raises employees' awareness of energy conservation and environmental protection.



### Green Factory

SPH is on a path to "green manufacturing". By 2022, we have 8 national-level, 6 provincial or municipal-level green factories, adding 2 national-level, 2 provincial or municipal-level green factories compared to ones in 2021.

No.	Honors	Name of Enterprises
1	National Green Factories	Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd.
2	National Green Factories	SPH No. 1 Biochemical & Pharmaceutical Co., Ltd.
3	National Green Factories	Shanghai SPH New Asia Pharmaceutical Co., Ltd.
4	National Green Factories	SPH New Asia Pharmaceutical (Minhang) Co., Ltd.
5	National Green Factories	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.
6	National Green Factories	Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.
7	National Green Factories	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.
8	National Green Factories	SPH Qingdao Growful Pharmaceutical Co., Ltd.
9	Green Factory in Jiangsu	Changzhou Pharmaceutical Factory Co., Ltd.
10	Green Factory in Shandong	Shandong Sine Pharmaceutical Co., Ltd.
11	Green Factory in Shanghai	Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.
12	Green Factory in Shanghai	Shanghai Sine Tianping Pharmaceutical Co., Ltd.
13	Green Factory in Hangzhou	Hangzhou Huqingyutang Pharmaceutical Co., Ltd.
14	Green Factory in Huzhou	Chiatai Qingchunbao (Deqing) Pharmaceutical Co., Ltd.

## | Biodiversity Conservation

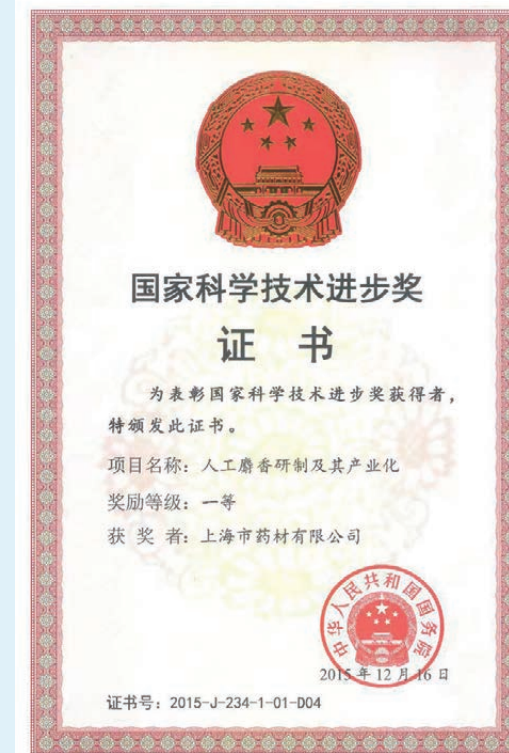
Biodiversity is an important foundation for human well-being, survival and development. SPH pays particular attention to the biodiversity in all its production locations, is actively engaged in the protection of rare and endangered animals and plants, relieves the pressure on natural resources, and devotes itself to the cause of biodiversity conservation.

- 1 Strict adherence to the "Three Simultaneous" policy and the pollutant discharge permit policy in engineering construction projects.
- 2 No endangered animals in animal experiments.
- 3 Ethical animal testing.
- 4 Standardized raw material bases and conservation of wild species.
- 5 Compliant source of medicinal materials and prevention of damage to wild vegetation.

### [Case Study] National First-class Rare and Endangered Plant —— Taxus Chinensis Growing Base

Taxus chinensis, also known as purple fir and red cypress pine, is a rare anti-cancer plant recognized worldwide as being on the brink of extinction. It is an ancient tree species that survived the fourth glacial period approximately 2.5 million years ago. Paclitaxel is an anti-cancer drug that pertains to the class of cell inhibitors and is the preferred medication for cancer patients around the world. Over the years, the incidence of tumors has continued to rise in various countries, with malignant tumors such as lung cancer, breast cancer, and ovarian cancer showing an upward trend. These cancer patients are the main users of paclitaxel. 10DABIII is a key ingredient of the commonly used anti-cancer drugs such as paclitaxel, docetaxel, and cabazitaxel.

Since 2015, SPH has gradually built up a Taxus chinensis growing base covering an area of 3,333 hectares in Dali Prefecture, Yunnan Province, which is among the largest in China. Tests have shown that the Taxus chinensis growing here has one of the highest 10DABIII concentration found so far. The growing base not only meets SPH's needs for medicinal raw materials but also helps the Company accumulate considerable experience in species breeding and growth.



### [Case Study] Pioneering Innovation Facilitates the Advancement and Industrialization of Synthetic Musk

For over two millennia, musk has been utilized in traditional Chinese medicine for its ability to stimulate the mind, invigorate the body, promote blood circulation, reduce inflammation, and alleviate pain. Extracted from the secretions of male musk deer, it is an essential component in Chinese medicine. In 2003, China designated musk deer as a first-class protected species and strictly prohibited musk deer hunting.

In response to the musk shortage and to preserve ecological balance, relevant authorities initiated a research project on synthetic musk in the 1970s. SPH TCM, an SPH subsidiary, participated in the "Research on the Development and Industrialization of Synthetic Musk" project under the guidance of the Ministry of Health. Over two decades, SPH TCM's technical team ingeniously developed the core technologies for industrializing the production of two musk components. They overcame numerous challenges from laboratory experimentation to small-scale production and eventually large-scale industrial production. The synthetic musk produced using bionic technology was ultimately successful. The results indicated that synthetic musk has therapeutic effects and a range of applications comparable to natural musk. Completely safe, it can serve as a substitute for natural musk as a medicinal ingredient, thus effectively mitigating the scarcity of natural musk. In 2015, this project was awarded the prestigious "National Science and Technology Progress Award" for its groundbreaking research on medicinal substitute for endangered animals in China. Its innovative approach of combining experimental research with practical application has set a stellar example in the field of Chinese medicine.

Since 2022, SPH has been at the forefront of efforts to breed and raise endangered and rare animals, particularly those related to its key medicinal ingredients, such as the natural musk used in the Babaodan and Liushen Wan.

In 2022, SPH launched an ambitious project to domesticate first-class protected animals such as forest musk deer at its Taxus chinensis growing base in Dali Prefecture.

The project has been approved and is currently in the design and construction phase.





# Community Responsibilities

Have the Courage to Shoulder Responsibilities and Strive to Act on What We Believe In

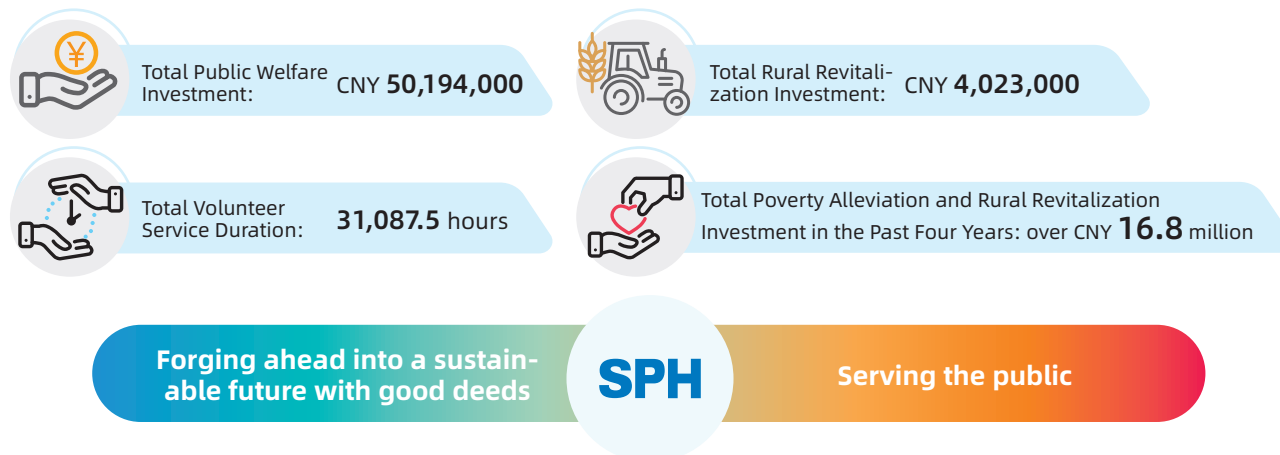
99 Focus on Public Welfare

105 Ensure Stable Production and Sufficient Supply

109 Rural Revitalization



## Highlights

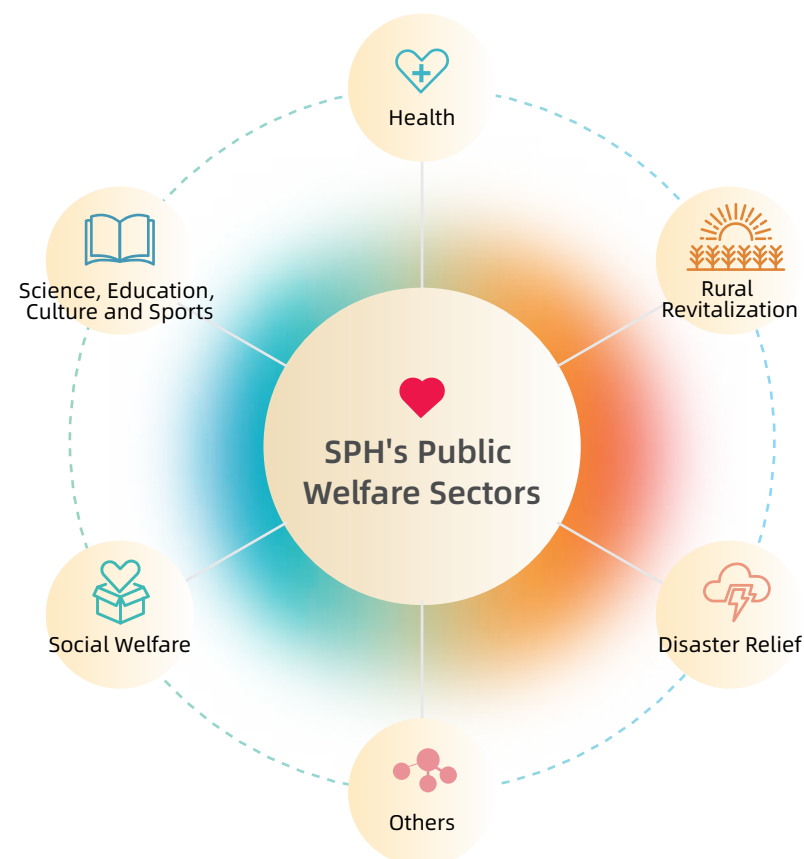


## Focus on Public Welfare

SPH is deeply committed to charitable causes as a means of promoting social equality, achieving common prosperity and strengthening the social security system. Guided by its mission to "persistently improve people's health and quality of life", SPH takes its corporate social responsibility seriously and has a long history of active involvement in public welfare and charity, giving back to society, people, and the nation through proactive, sustained, and standardized charitable actions.

### Standardizing the Management of Charitable Programs

SPH is dedicated to exploring sustainable ways to manage its charitable programs. During the Reporting Period, in strict adherence to the *Charity Law of the People's Republic of China* and the *Law of the People's Republic of China on Public Welfare Donations*, SPH introduced the Interim Measures of SPH for the Management of Charitable Programs. Through effective means such as categorization, budgeting, hierarchical approval, and record-keeping, SPH established a mechanism for managing charitable donations, thus enhancing proactivity, sustainability, and standardization of these programs. Currently, SPH's charitable programs encompass categories such as health, science, education, culture and sports, social welfare, disaster relief, and rural revitalization.



## Quantitative Performance

Index	Unit	2022
Public Welfare Activities	Time(s)	154
Volunteer Service	Person-times	6,070
Volunteer Service Duration	Hour(s)	31,087.5
Total Donation Amount	CNY'0,000	5,019.4
Health	CNY'0,000	3,932.45
Rural Revitalization	CNY'0,000	402.3
Science, Education, Culture and Sports	CNY'0,000	387.30
Disaster Relief	CNY'0,000	169.41
Social Welfare	CNY'0,000	123.60
Others	CNY'0,000	4.31

## Creating a Cooperation Platform

The Company has established strategic partnerships with charitable leaders, such as China Welfare Institute, China Youth Development Foundation, Shanghai Charity Foundation and others, seeking to create an open and cooperative public welfare platform and jointly push forward the healthy development of public charity.

### [Case Study] SPH and Hengrui Pharma Set Up and Promoted the "Shangyuan Charity" Special Fund

In 2021, SPH and Hengrui Pharma each contributed CNY 5 million to jointly set up the "Shangyuan Charity" Special Fund. This fund will mainly be used for philanthropic projects in the medical, pharmaceutical and healthcare sectors, and public welfare projects including assistance for children with disabilities in Shanghai and regions requiring support, such as Xinjiang, Tibet, Yunnan and Qinghai, covering rural revitalization, disease relief, physician training and care for disadvantaged groups. The companies contribute to serve Shanghai in the east-west cooperation and paired-up assistance. Currently, most of the charitable programs supported by this special fund are running successfully.

#### Assisting in the Construction of Health Centers in Yunnan Province

The first phase of this program involves the construction of **11** village health centers. As of the end of 2022, the program has donated CNY **1.71** million and initiated the construction of **3** village health centers located in Xinmin Village of Wuyin Township, Yunhe Village of Miaojie Town and Xinjian Village of Zijin Township in Weishan County, Dali Prefecture. These centers are expected to be completed and operational in 2023.

#### Supporting the Visually Impaired Youth Art Troupe

This program aims to help visually impaired youth smoothly integrate society. By fostering cooperation and communication through artistic performances between visually impaired and healthy participants, this program fosters mutual understanding between the two groups and achieves deep integration between disabled and non-disabled groups. SPH will support this program for three consecutive years with an annual funding of CNY **300,000**. The first year's funding was completed in 2022.

#### Supporting Two Charitable Programs at the International Peace Maternity & Child Health Hospital of China Welfare Institute

SPH successfully completed the "Life Message" charitable event by creating a rail-transit-themed train and launching an interactive charitable platform, achieving significant social impact. SPH also initiated the "Two-Cancer Screening" program aimed at improving the health of underprivileged women through the early detection, early diagnosis, and early treatment of cervical and breast cancers.



## Our Actions

### ● Health



#### 【Case Study】SHAPHAR Donated CNY 980,000 to Zunyi Charity Federation

The "Yihai Health Assistance Fund" of Zunyi Charity Federation offers full assistance to patients who meet criteria for their out-of-pocket medical expenses during treatment and provides them with living allowances. In 2022, SHAPHAR donated CNY 980,000 to the fund. The donation was specifically allocated for the construction of Shiping Miao and Yi Township Health Center in Zheng'an County, Zunyi City, and the Zunyi Medical Training Center. Shiping Miao and Yi Township Health Center was completed and put into use in June 2019. Through the initiative of "Shanghai-Zunyi Healthcare Professional Training Institute", a total of 145 healthcare professionals from Zunyi have been trained in four batches at the First People's Hospital Affiliated to Shanghai Jiao Tong University. This initiative has greatly benefited the build-up and enhancement of Zunyi's medical talent pool and has also helped improve the clinical and medical service skills and capabilities of Zunyi's healthcare professionals.



#### 【Case Study】SPH XTCM and Xiamen Blood Center Jointly Organized a Blood Donation Event

On March 23, 2022, the Youth League Committee of SPH XTCM partnered with Xiamen Blood Center to stage a blood donation event. The blood donation team was composed of company executives who regularly donate blood each year and new employees who had just joined the company. In total, 39 employees successfully donated blood, with a total of 9,200 ml collected. SPH XTCM showed its appreciation for those who participated in the voluntary blood donation event by providing QiZao granules and exquisite commemorative gifts. Through this voluntary blood donation event, every participant contributed to the charitable causes and safeguarded the health of more people with love and their concrete actions.



#### 【Case Study】SPH New Asia Assisted in JD Health's Emergency Medicine Box Program

In an effort to better help people enhance their ability to respond to sudden illnesses and injuries, JD Health and China Social Assistance Foundation jointly launched the "JD Health Emergency Medicine Box Program" to provide emergency medical support to people through the provision of emergency medicine boxes, which contained commonly used emergency medical supplies such as first aid medical equipment and basic medicines. As a caring enterprise, SPH New Asia donated 1,600 bottles of its far-famed product, Lincomycin Hydrochloride and Lidocaine Hydrochloride Gel, with a total value of CNY 8,640. This donation assisted JD Health and China Social Assistance Foundation in completing the donation of 1,600 emergency medicine boxes to 730 township- or village-level service stations in 17 cities across Henan Province. This initiative benefited more than 87,000 villagers.

#### 【Case Study】Huqingyutang Pharma Carried on with the "Consulting Expert Doctors" Campaign

In January 2022, Huqingyutang Pharma visited a unit in the Eastern Theater Command and Esan Township in Tonglu County, Hangzhou City, and presented the soldiers and the elderly and children of the She ethnic group in Esan Township with a new version of the self-compiled "Winter Health Handbook for the Elderly" and "Winter Health Handbook for Children". This gesture allowed soldiers to show their loyalty to the nation while also showing filial piety to their loved ones in their hometowns, carrying forward the traditional culture of respecting the elderly and loving the young.

On November 19-20, 2022, Huqingyutang Pharma's medical health service team donated nearly CNY 20,000 worth of health products to old CPC members, veterans, model soldiers, and martyrs' families in Yantou Town, Yongjia County, Wenzhou City. This town was a revolutionary base where the 13th Army of the Chinese Workers' and Peasants' Red Army was stationed. Huqingyutang Pharma aimed to express its highest respect to the recipients.

On December 4, 2022, Huqingyutang Pharma participated in the "Consulting Expert Doctors - Yunxi Stop" charitable clinic campaign. Medical experts from prestigious provincial hospitals volunteered to visit and care for local elderly residents in Daijia Village, Esan Township, Tonglu County using traditional medicine. They also donated healthcare supplies to villagers and self-compiled health and TCM reading materials to the local library to promote health culture. Huqingyutang Pharma donated drugs worth more than CNY 7,000.



#### 【Case Study】SPH Health Commerce Received Two Awards at the 12th Philanthropy Festival in 2022

SPH Health Commerce, a leader in China's charitable assistance service industry, collaborated with China Patient Assistance Alliance and China Philanthropy Research Institute of Beijing Normal University to formulate the PAP Pharmacy Certification Standards and the PAP Pharmacy Donation Operation Guidelines. As the largest charitable assistance package service organization in China, SPH Health Commerce provides services to over 330,000 patients annually and donates medicines worth over CNY 7 billion each year through its sprawling "Yi Yao-PAP" network. For the past seven years, SPH Health Commerce has remained committed to serving patients and benefiting society in close collaboration with numerous domestic and international pharmaceutical companies, research institutions, local governments, medical institutions, charitable funds, commercial insurance firms, and other payment entities.

SPH Health Commerce has been honored with two awards — the "2022 Social Responsibility Pioneer Award" and the "2022 Public Welfare Case Award" — in recognition of its outstanding performance in the charity and public welfare sphere and its innovative practices and excellent results in providing the "home delivery of medicines" service for patients during the COVID-19 outbreaks.





## Science, Education, Culture and Sports

### 【Case Study】SPH Sine Launched a Variety of Health Education Programs

SPH Sine hosted the well-established science communication event called "Million Citizens Visit SPH Sine" for 23 consecutive years. This event welcomes visitors from various communities and schools to its science communication base to promote knowledge on safe and reasonable drug use. In 2022, a total of 1,124 visitors were received and 12 health education lectures were delivered.

SPH Sine also took an active part in a variety of science communication activities and training programs at city, district and county levels, through which it disseminated correct and reasonable medication practices to over 10,000 community residents.

It also participated in the "Science Communication Study Tour" jointly organized by the Science and Technology Commission of Shanghai Municipality and the Shanghai Municipal Education Commission. This program welcomed students from Zhuyuan Primary School and Jinyang Primary School for three offline activities and conducted online lectures with expert Q&A sessions.

In addition, SPH Sine produced the microfilm Cry Out to raise public awareness on Wilson disease and to encourage patients with rare diseases to overcome their challenges and return to normal life.



## Social Welfare

### 【Case Study】Growful Participated in the "Hope Houses" Children's Care Program Launched in Qingdao

The Youth League Committee of SPH Growful assembled a team of young employees to participate in the fundraising campaign for the construction of "Hope Houses" in Qingdao City during the "520 Tencent Charity Day" and "99 Giving Day" events. A total of 1,547 employees participated in the online campaign, raising a donation of CNY 5,780.45. In recognition of its contribution to the construction of 357 "Hope Houses" in Qingdao, SPH Growful was awarded the honorable title of "Caring Enterprise".

### 【Case Study】SPH SBPC Extends Support to Shanghai Children's Home

SPH SBPC regularly organizes public service activities such as "March 5th Learn from Lei Feng Day" and visits to the elderly during holidays. It also encourages new employees to participate in community volunteering activities to gain a better understanding of society while serving the public. As part of its community service efforts, SPH SBPC has strongly supported the Shanghai Children's Home for years. The company provides assistance and support based on the specific needs and organizes its employees to interact closely with children, bringing them warmth and care.



## Support for the Military and Preferential Treatment for Families of Service Personnel and Martyrs

### 【Case Study】SPH Shangke Contributed to the "Supporting the Military Program"

In 2022, SPH Shangke donated both monetary funds and supplies worth a total of CNY 304,000 to the "Supporting the Military Program" launched by Shanghai Foundation for Supporting the Military and Families in providing services to national defense agencies, the military, and the families of martyrs, offering financial aids to local based troops, providing social assistance beyond state-mandated benefits to the families of disabled military personnel, martyrs and retired military personnel, and supporting job training and other related work for military veterans.

### 【Case Study】SPH Supported the Music in the Summer Air (MISA) for the Sixth Consecutive Year

In July 2022, the 13th Music in the Summer Air (MISA) festival officially opened at the Shanghai Symphony Orchestra Concert Hall, marking the sixth consecutive year of SPH's support to this festival. A blending of the concept of health and music presents a nice therapy to enhance people's quality of life for the public. Such support has undoubtedly added tremendous value to the city's soft power and cultural appeal. During this year's MISA, SPH launched a special initiative called the "Love Coffee House." Three designated stations were set up in Huangpu, Xuhui, and Jing'an districts to provide free coffee to citizens who had made significant contributions to Shanghai's anti-COVID efforts. These included medical staff, supply chain workers, and volunteers in support of makeshift hospitals and communities. This initiative served as a heartfelt tribute to the bravest heroes in the fight against the outbreak in Shanghai.

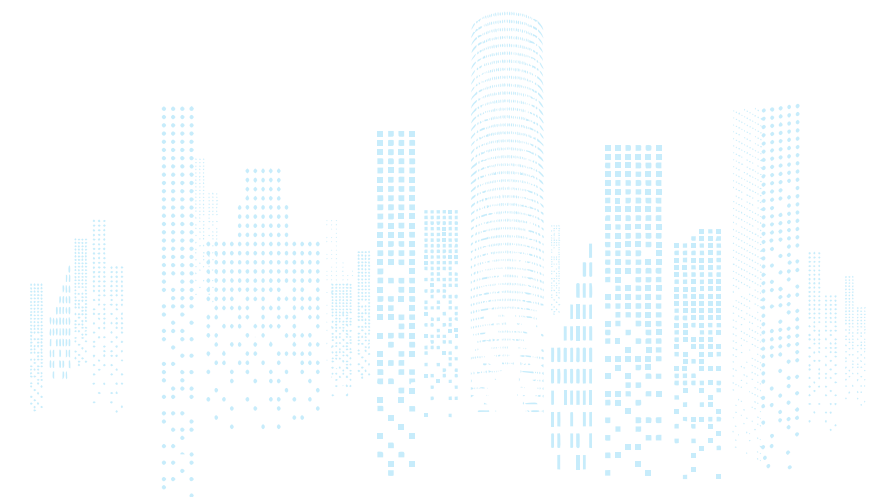




## | Ensure Stable Production and Sufficient Supply



SPH has always put the public's safety and health first. In 2022, as a responsible state-owned enterprise, the Company took the initiative to respond to the challenges presented by the COVID-19 outbreak by proactively deploying essential resources and organizing emergency responses.



## United as One in Working Towards "Recovery"

In the first half of 2022, SPH coordinated efforts to secure emergency medical supplies, ensure the production and supply of drugs, and implement rigorous internal anti-COVID measures. Its actions provided strong and solid support for the supply of medical necessities for Shanghai's anti-COVID efforts.

### Stable Production

Nearly fifty SPH subsidiaries were included in the first to fifth batches of "white lists" for resuming production. Engaging over **2,000** factory employees in closed-loop production, SPH played a pivotal role in ensuring the supply of anti-COVID products and medical necessities.

#### SPH's Industrial Business Segment Updates from March 1 to May 31

- Produced a total of **1,094,100** boxes of Liushen Wan, **28,000** boxes of Jingyin Granules, **182,700** An-Gong Niu-Huang Pills, **224,400** Shenmai Injections, **3.14** million bottles of Shengmai Drink, and **171.8** million Peifeikang pills.
- Supplied a total of **345.7** tons of Chinese medicinal materials and produced and shipped **1,593,200** million pieces of approved prescriptions.
- Produced a total of **26** batches (**7.08** million doses) of COVID-19 vaccine Convidecia®, and released a total of **34** batches (**9.11** million doses) to the market.

In January 2022, CanSino SPH rolled out its self-developed recombinant COVID-19 vaccine Convidecia® (Adenovirus Type 5 Vector) in Shanghai. On May 1, CanSino SPH successfully passed the three-in-one field inspection for production permit, GMP compliance, and registration review by the National Medical Products Administration and Shanghai Municipal Medical Products Administration. On August 3, CanSino SPH obtained the supplementary registration approval for its No.1 raw material production line and No.1 formulation production line, establishing itself as the only company in China that provides entrusted vaccine production services covering the entire manufacturing process - from raw material to formulation.

### Sufficient Supply

More than **2,500** employees in various front-line positions in the commercial sectors of SPH Logistics, hospital supply chain, Internet Hospital, SPH Health Commerce, and retail pharmacies worked non-stop and stayed on the front line to ensure the supply of various medical materials.

#### SPH's Pharmaceutical Services Segment Updates from March 1 to May 31

- Supplied a total of more than **24,087,700** masks, **7,503,500** sets of medical gowns and medical isolation suits, **3,255,800** goggles (full protection) and protective face shields, **17,064,800** pairs of gloves, and DNA/antigen detection reagents for **750** million people to **42** public hospitals, charities, sub-districts and front-line units related to urban operation and epidemic prevention and control work in Shanghai;
- Purchased a total of **33.1** million boxes of Lianhua Qingwen (including capsules and granules) and **36,500** boxes of Paxlovid;
- Provided nearly **760,000** home delivery services for citizens (including peritoneal dialysis solution, Internet hospital prescriptions, extended prescriptions, new special drugs, and charitable drug donations), and timely met people's medication needs for common diseases, serious diseases, rare diseases, and more;
- Retail stores received and processed more than **500** orders per day from online platforms, and some pharmacies received more than **800** orders per day.

The entire company took action, and the majority of CPC members and cadres actively responded to the call to action. **1,377** CPC members and **15,436** members of Communist Youth League of China (CYLC) participated in volunteer services in Shanghai. The volunteer team organized by the company recruited nearly **600** members in total, actively supporting the urgent and difficult tasks at SPH Logistics and SPH Health Commerce.

## A Comprehensive Approach to Ensure the Anti-Epidemic Supply in the Country

At the end of 2022, with the release of the "Ten New Measures", the epidemic prevention and control entered a new phase. SPH set steady supply as its top priority, making every effort to ensure the market supply of various antipyretics, analgesics, cold medicines and related materials.

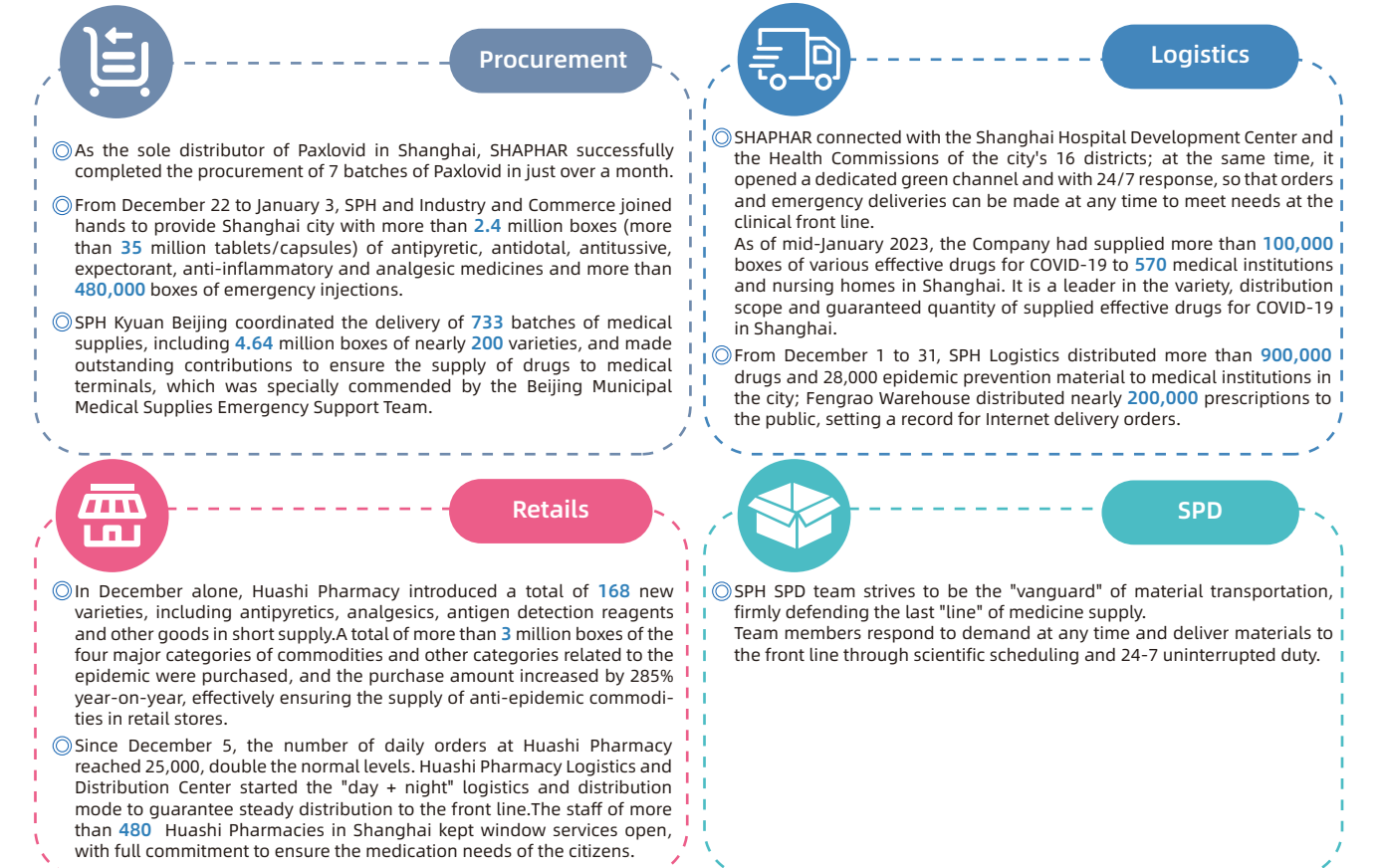
### Stable Production

In December 2022, relevant manufacturers, such as SPH Sine, SPH Growful, SPH TCM and SPH Leiyunshang, overcame difficulties and went all out to raise supply of raw materials. Several production lines were running at full capacity. In a fortnight, through extra working hours, technical improvement, production expansion, and emergency supply allocation, a total of more than **2.8** million boxes of antipyretics, analgesics and antitussives were supplied in Shanghai to meet demand.

- SPH Sine** All efforts were made to ensure the supply of Ibuprofen Sustained-release Capsules, day and night tablets, Paracetamol, Pseudoephedrine Hydrochloride, Dextromethorphan Hydrobromide and Chlorphenamine Maleate Tablets, Paracetamol, Aminophenazone, Caffeine and Chlorphenamine Maleate Tablets, Ribavirin Aerosol and other antipyretics, analgesics, antitussives and anti-inflammatory drugs.
- SPH TCM** All efforts were made to ensure the supply of Lianqiao (Forsythiae Fructus), Jinyinhua (Lonicera Japonica Flos), Banlangen (Isatis indigotica Fort.) and other anti-epidemic Chinese patent medicines and medicinal materials for anti-epidemic prescriptions, and to meet the market demand of Shenxiang No. 1 Drink.
- SPH Leiyunshang** All efforts were made to guarantee the market supply of Suxiang Drink, a substitute tea drink for epidemic prevention, which has been included in the recommended list of traditional Chinese medicine intervention prescriptions recommended by the Shanghai Municipal Health Commission.
- SPH Growful** All efforts were made to ensure the market supply of Kugan Granules, Kujin Tablets, Yinqiao Detoxification Granules, Pediatric Pulmonary Fever and Cough Granules, and other medicines which have been included in the recommended medications of local traditional Chinese medicine prevention and treatment program.

### Sufficient Supply

The SPH ramps up its full capacity in the distribution and retail sector to meet the medication needs of major institutions through around-the-clock logistics and delivery, while major retail pharmacies such as Huashi Pharmacy allocated supplies to meet residents' needs. Meanwhile, as the platform for purchasing anti-epidemic medical materials in Shanghai, SPH has been fully committed to global procurement to guarantee the market supply of urgently needed drugs in Shanghai and serve the country. In addition, SPH was granted exclusive import and distribution rights in mainland China for Ensitelvir, an oral drug for COVID-19 marketed in Japan, allowing the product to promptly benefit Chinese patients.





## | Rural Revitalization

According to the report to the 20th National Congress of the CPC, China should comprehensively promote rural revitalization, prioritize the development of agriculture and rural areas, consolidate and expand the results of poverty eradication, and solidly promote the revitalization of rural industries, talents, culture, ecology and organizations. In addition, we have resolutely implemented China's strategic plan to comprehensively revitalize its rural areas and have fulfilled our social responsibility as a state-owned enterprise. Specifically, we have continued our involvement in the "100 Enterprises Helping 100 Villages" campaign organized by the Shanghai State-owned Assets Supervision and Administration Commission. Since 2018, SPH Sine, SHAPHAR, and SPH TCM have paired with Shijia Village of Maidu Township, Tho Li Township and Kanglang Village of Niujie Township in Maidu County, Dali Prefecture, and Yunnan Province, respectively, and provided assistance in building health clinics and medical service stations, cultivating rural doctors, helping children with congenital heart disease, building kindergartens, schools and roads, as well as planting Chinese herbs. In addition, SPH developed scientific plans, clarified priorities, boosted local economic development, improved medical and health conditions, enhanced the quality of life in Yunnan, and comprehensively promoted the rural revitalization and the realization of all-round common prosperity.

### Improving Infrastructure and Public Services to Build a Livable, Business-Friendly and Beautiful Countryside

Infrastructure and public services are important elements for a livable, business-friendly and beautiful countryside, and are the basic foundations for the farmers' sense of gain, happiness and security. SPH promotes infrastructure construction according to local conditions and strengthens farmers' medical and health security in response to the weaknesses of the infrastructure in the paired assistance regions.

#### Assisting Construction of Rural Medical and Health Care System through Public Welfare Medical Care

SPH invested CNY 10 million to implement the "SPH Care and Protection Program" in Yunnan, which is used for the construction of rural clinics in remote mountainous areas, training of rural doctors, and funding for rare disease patients in rural areas. As of the end of 2022, assistance has been provided in the construction of a total of 19 Hope Clinics, and professional medical technology training was provided to over 200 rural doctors in 16 counties and cities.

In view of the local condition of rare and high-incidence diseases, SPH invited experts from Shanghai and other regions to carry out free clinics for children with congenital heart disease in Yunnan, receiving 213 pediatric patients and rescuing 82 children with congenital heart disease. In the future, SPH will continue to cooperate with the Shanghai Children's Medical Center, Ruijin Hospital and other medical institutions to carry out public welfare projects such as the rescue of children with congenital heart disease and training of rural doctors in Yunnan, Guizhou, Sanming, Lu'an, and more. The Company plans to contribute CNY 2,000,000 for the rescue of children with congenital heart disease and CNY 400,000 for training of rural doctors.

#### Improving Rural Living Environment through Infrastructure Construction

##### ◆ SPH Sine

Since September 2021, SPH Sine has supported Shijia Village to build drainage ditch for Shifoshao Village and Dajiaban Village. At present, the drainage ditch of Shifoshao Village is nearly 300 meters long and that of Dajiaban Village is nearly 200 meters long, and the drainage systems of Shifoshao Village and Dajiaban Village are basically completed. The drainage system alleviated the risk of natural disasters. In 2022, there were no landslides or mudslides in the two natural villages. In addition, SPH Sine built three parking lots with a total area of more than 300 square meters in Shifoshao Village through the paired assistance project, which has effectively solved parking difficulties in Shifoshao Village.



##### ◆ SPH TCM

From 2021 to 2022, SPH TCM supported three construction of infrastructure projects in Kanglang Village: a small canteen, public toilet in Ban Village, and sports ground of Kanglang Complete Primary School, at a total cost of CNY 744,270.74.



##### ◆ SHAPHAR

In 2022, SHAPHAR followed the requirement of the "100 Enterprises Helping 100 Villages" campaign for targeted poverty alleviation by investing CNY 410,000 to support infrastructure construction projects such as the renovation of facilities and venue of Pioneer Complete Primary School, the upgrading and renovation of Pioneer Clinic, and the greening and reconstruction of some roads in Huilan Village. Following the completion of these projects, the living environment in Huilan Village will be further improved. SHAPHAR has taken the lead in upgrading and renovating the clinic together with Pioneer Village Committee to equip the Pioneer standardized clinic with medical equipment such as portable color ultrasound device and all-in-one health check-up machine; to guide the clinic to update the list of commonly used drugs and to manage and use drugs more scientifically; and to actively equip the clinic with computers and train the medical staff of the village clinic on the operation of commonly used computer software to level up the information management of the clinic and to serve the villagers with more efficient medical treatment.



##### ◆ SPH Kyuan

Located in the western part of Longchang Town of Barin Left Banner, Gaijiadian Village is geographically remote, with a weak economic base and poor natural conditions, and its population urgently needs to improve their living conditions. In 2022, SPH Kyuan donated to Gaijiadian Village a special fund for "Improvement of Living Environment" (CNY 100,000) which is used to improve the village's landscape and key infrastructure, helping improve the rural living environment.



### Utilizing the Advantages of "Industrial Assistance" to Expand the Channels for Increasing Farmers' Income and Achieving Prosperity

Industrial revitalization is the focus of rural revitalization and the foundation of development. Based on past experience in paired assistance, SPH innovated its methods and facilitated the construction of a new agricultural industry system. Through technical support for Chinese herbs planting, industrial support and project cooperation, the Company supported pair-up areas to optimize the development environment and industrial structure and promoted the revitalization of rural industries.

SPH selected Chinese herbal medicine varieties with great market potential, stable yields and secured benefits; deepened industrial cooperation in the cultivation of Chinese herbs; boosted the development of competitive industries according to local conditions; coordinated production and sales of local agricultural products; signed a purchase agreement for local agricultural products; and accelerated the market access and precise coordination between production and sales to increase the income of the local people.



#### ◆ SPH

In 2015, supported by the CPC Yunnan Provincial Committee and the Yunnan Provincial People's Government, SPH signed a strategic cooperation agreement with Dali, Yunnan Province, to invest CNY 280 million in restructuring Dali Taxus Biological Co., Ltd., to expand SPH's API industry chain for anti-tumor drugs. Currently, the base has a forest area of 50,000 mu and more than 5 million Taxus seedlings of different varieties, and planted rare quality medicinal herbs in Yunnan (e.g. Panax notoginseng, Dendrobium, Eucommia ulmoides), to realize the overall development of modern forestry and Chinese herbs. Through scientific planning, SPH also deployed standardized planting bases for Panax notoginseng, safflower, salvia and Dendrobium in Dali, Lincang and Baoshan.

#### ◆ SPH TCM

SPH TCM has paired up with Kanglang Village, Niujie Township, Midu County, Yunnan Province since 2018, and achieved good results in the past four years, independently exploring a set of rural revitalization models upon SPH TCM's aid. In 2022, SPH TCM continued to select varieties of Chinese medicinal materials with low technical difficulty, high adaptability and good market prospects, and establish demonstration planting bases in Kanglang Village through free distribution and recycling of seeds/seedlings, chemical fertilizers, and training of Chinese medicinal materials planting techniques, so as to alleviate impoverished households and encourage them to plant. In 2022, the company invested CNY150,000 worth of fertilizers, planting safflower of 1,650 mu, radix dipsaci of 560 mu and Scutellaria baicalensis of 230 mu, benefiting to more than 500 poor households. As of the end of 2022, SPH TCM has purchased 35 tons of safflower, achieving an output value of CNY 5,420,000, and is expected to acquire scutellaria baicalensis and dipsacales with a value of CNY 2,000,000.

## Strengthening the Construction of Rural Culture and Shaping the New Atmosphere of Modern Rural Civilization

The healthy development of rural education is of great significance to rural revitalization. To implement the rural revitalization strategy, we must strengthen rural education, improve the learning environment, and enable children in rural areas access quality education. SPH will continue to optimize education resources of corresponding paired assistance regions, providing support and guarantee of funding and resources for basic education and talent development.

#### ◆ SPH Sine

SPH Sine has assisted students in Shijia Village and supported rural education for many years. In 2022, a total of CNY 25,000 in grants and scholarships was awarded to 25 students in Shijia Village, including students from poor families and outstanding student representatives. In order to give full play to the pioneering role of CPC members and let them take the lead and set examples in the work of rural revitalization, in 2022, SPH Sine financed and jointly carried out the golden idea project of "I contribute an idea for the most beautiful Shijia" with Shijia Village. 36 CPC members in Shijia Village contributed 43 golden ideas, and the project finally adopted 25 related to party construction, consolidating the achievements of poverty alleviation and industrial development. A meeting was held to commend two winners of "The Most Beautiful Village Official Award" and 10 of "The Most Beautiful Villager Award". This event was held to motivate everyone to act to improve their hometowns.



#### ◆ SHAPHAR

Xianfeng Village shook off poverty in 2018. However, some disadvantaged families are at risk of falling back into poverty due to their children's college education cost. Increased financial burden may make it difficult for such kids to complete their education programs. In order to help these families, SPH donated CNY 75,000 to 15 college students from Xianfeng Village in 2022. Each student was given "one-on-one" support with an annual grant of CNY 5,000. This ensured that they would not drop out of school due to poverty, and that the younger generation would not lose growth opportunities because of financial problems.



#### ◆ SPH TCM

In 2022, SPH TCM employee Mr. Zhang Xiongyi, winner of "Craftsmen of the Nation", personally donated CNY 100,000 to Kanglang Primary School. This donation was used to purchase school uniforms, dormitory bedding and other daily necessities for the young students, as well as to offer student grants and scholarships.



SPH, in strict accordance with the guiding principles of CPC Central Committee, CPC Shanghai Municipal Committee and Government, will continue to tap the strengths of its main business to support rural China, including the empowerment of rural industries, provision of more and better resources for rural education, and improvement of healthcare services in rural areas. Under SIIC's guidance, SPH provided industrial assistance to the rural areas and implemented relevant projects. These endeavors facilitated the building of their capacity to sustainably grow on their own, which in turn promoted the revitalization of rural China on the country's new journey towards socialist modernization.





# Partners' Responsibilities

Collaborate to Achieve Win-win Development

115 Industry Promotion

118 Supply Chain Management





| Industry Promotion

The world is witnessing dramatic changes, unseen in a century. Riding on the wave of global technological advances, Chinese pharmaceutical players are reconstructing their global assets deployment in line with their strategic thinking . Large pharmaceutical conglomerates and emerging innovative biotech need to further strengthen their integration and development in the entire drug discovery industry chain. As a leading enterprise in Shanghai's biopharmaceutical industry, SPH integrates innovation and industry with a strong sense of social responsibility and is actively dedicated to promoting pharmaceutical innovation in the country.

Construction of Industry Standards

● SPH hosted and participated in the formulation and revision of major technical standards:

- 1
- SPH led the national key project, Technologies, Applications and Regulations on Real-Time Monitoring and Control of the Manufacturing of Solid Oral Preparation (2017YFF0210100).
- 2
- SPH Hua Yu Chinese Herbs Co., Ltd., an SPH subsidiary, prepared two international standards, Traditional Chinese medicine - Salvia miltiorrhiza seeds and seedlings (ISO20311:2017) and Traditional Chinese medicine -Salvia miltiorrhiza root and rhizome (ISO21314:2019); and participated in one international standard, Traditional Chinese medicine - Lonicera japonica flower (ISO21317:2019).
- 3
- SPH TCM, an SPH subsidiary, led the preparation of one group's standard Quality Grades of Croci Stigma (T/CATCM 002-2018), and participated in two industrial standards, Fast determination of carbendazim residue in Chinese herbal medicine and their prepared slices-Colloidal gold immunoassay (T/CATCM 010-2019) and Pollution-free ginseng radix et rhizome and decoction pieces-Limit of the pesticide residue, heavy metal contents and harmful elements (T/CATCM 001-2018).
- 4
- SPH Shenxiang, an SPH subsidiary, participated in the industrial standard, Grade Quality Standards of Wild Ginseng (20160602).
- 5
- SHAPHAR, an SPH subsidiary, took the lead in formulating the first domestic association standard, Specification for hospital integrated logistics service for medical products (T/CFLP0023-2019), which was upgraded to industrial standard.
- 6
- SPH subsidiaries jointly participated in and actively implemented the association standard, General Technical Requirements for Quality Evaluation and Standard Development of Narrow Therapeutic Index Drugs (T/SHPPA002-2020).
- 7
- SPH Zhongxi Sunve, an SPH subsidiary, formulated the association standard, Assessment of Technical Specification for Green-Design Product Hydroxychloroquine Sulphate (T/SHPPA004-2019), the very first standard in the chemical APIs industry.
- 8
- SPH Sine, an SPH subsidiary, participated in the association standard, Guidance for extractable study on packaging system of Inhalation Aerosols 2020-03-16.
- 9
- SPH Sine, an SPH subsidiary, led the revision of a national standard, Ribavirin Aerosol (XGB2022-016).
- 10
- SPH Sine Wanxiang, an SPH subsidiary, led the revision of a national standard, Piracetam Granules (XGB2022-017).
- 11
- SPH Sine, an SPH subsidiary, participated in the association standard, Probiotic Food T/CNFIA 131-2021.
- 12
- SHAPHAR, SPH KDL HEALTH, SPH Luoda, SPH Health Commerce Co., Ltd., and two Marketing Authorization Holders reached a strategic cooperation to compile the association standard, Autologous CAR-T cell therapy medication supply chain management specifications (T/SHPPA011-2021) led by the Shanghai Center for Drug Evaluation and Inspection and Shanghai Pharmaceutical Profession Association. The standard was officially released on the National Public Service Platform for Standards Information in October 2021.
- 13
- The Requirements for Digitalization of Biopharmaceutical Quality Control Laboratories (Q31/0112001226F003 - 2021) prepared by SPH SBPC is rated as "Shanghai Standard" .
- 14
- SHAPHAR and its subsidiaries participated in the development of Multi-warehouse Collaborative Drug Management Standards (T/SHPPA 013-2022), a social organization standard in Yangtze River Delta developed by a group of enterprises under the guidance of Shanghai Drug Safety Evaluation Center. SPH is also among the first batch of entities to implement this standard, which was published on the National Social Organization Standard Information Platform in August 2022.

Participation in Industry Organization Associations

SPH participated in organizations and associations:

Associations

- China Pharmaceutical Enterprises Association
- China Pharmaceutical Industry Association
- China Food & Drug Administration
- China Food & Drug Corporation Quality and Safety Promotion Association
- China Association of Scientists
- China Pharmaceutical Innovation and Research Development Association
- China Shippers' Association
- China Corporate Alliance for Pharma Innovation & Development
- China Medicinal Biotechnology Association
- China Association of Pharmaceutical Commerce
- China Association of Traditional Chinese Medicine
- Price Association of China
- China Association of Quality
- Shanghai Pharmaceutical Industry Association
- Shanghai Traditional Chinese Medicine Trade Association
- Shanghai Pharmaceutical Trade Association
- Shanghai Medical Insurance Association
- Shanghai Biopharmaceutics Industry Association
- Shanghai Pudong Biopharmaceutics Industry Association
- Shanghai Pharmaceutical Association
- Shanghai Association for Quality
- Shanghai Trade Investment Development Association
- Shanghai Industrial Internet Association
- Shanghai Young Entrepreneurs Association
- Shanghai Association of Plant Engineering
- Shanghai Association of Food and Drug Safety
- Shanghai Medical Instrument Trade Association

Hosting Industry Summits

【Case Study】2022 Pujiang Healthcare Industry & Finance Integration and Innovation Summit Showcased the Power of Technology

On November 13, 2022, the "2022 Pujiang Healthcare Industry & Finance Integration and Innovation Summit" was held at Shanghai Tower. Guided by the Shanghai Municipal Biomedical Industry Development Leading Group, the event was co-initiated by Shanghai Industrial Investment (Holdings) Co., Ltd. (SIIC), Shanghai Pharmaceuticals Holding Co., Ltd. (SPH), Shanghai Biomedical Industry Equity Investment Fund (Shanghai Biomedical Fund) and Biopharma Cutting Edge Industry Innovation Center, and was hosted by Healthcare executives. Pujiang Summit, an important part of the International Biopharma Industry Week Shanghai 2022 (IBIWS2022), was successfully held for the fifth time. This year, the summit, themed "Innovation Breakthrough & Technology-Led Growth", focused on two domains: cutting-edge technology for novel drug R&D and PROTAC for targeted protein degradation. It explored pathways to develop innovation ecology, and contribute to the innovative development of the biopharma industry. The summit aimed to display the strengths of China's pharmaceutical industry cutting-edge technological innovation and breakthroughs on a global level, and foster ideas on how to build core competitiveness and commercialization of our future products.





## Talent Empowerment

Approved by the Shanghai Municipal Human Resources and Social Security Bureau, SPH set up a "Shanghai Continuing Education Base for Pharmaceutical Professionals and Technicians". It organized programs to provide professional knowledge and update policies for pharmaceutical practitioners from different fields. More than ten online courses were designed with government departments such as Shanghai Drug Administration and experts to empower front-line workers in the industry.

SPH deepened collaboration with universities by continuously forming strategic alliances on talent cultivation. It not only pushed ahead with the national-level joint master's and doctoral programs for cultivating excellent engineers, but also worked with universities to set up national hands-on education and internship bases for Masters graduates. SPH always seeks to improve students' hands-on skills and abilities through internship, career counseling, and exchange of experts, customized training programs and others. These academia-industry collaborations helped create a "reservoir" of talents for the industry, which will in turn enable the high-quality development of the industry.



## Supply Chain Management

Suppliers are important partners for SPH's sustainable development. Following the "quality first, reasonable price, mutual benefit, and win-win cooperation" principle, SPH has formulated "Procurement Bidding Management Measures", "Supplier Integrity and Compliance Management Measures", and "Centralized Procurement Management Measures". These documents optimized and upgraded the supply chain management system, and further improved centralized procurement to ensure that products meet quality standards and the process is in compliance with relevant regulations. They also ensure the long-term and stable production of safe and effective drugs, in cooperation with suppliers, to fulfill SPH's social responsibility.

For some products (large volume, high price, and general standards), SPH adopted procurement methods such as open bidding, bidding upon invitation, competitive negotiation, single-source and inquiry procurement. Such purchases cover raw and auxiliary materials, packaging materials, chemical solvents, lab reagents/consumables, lab instruments and furniture, lab information management system, online software solutions, manufacturing equipment, hazardous waste disposal services, elevators, water chillers, and more. The participating companies include production bases and research institutes in and out of Shanghai.

### Orderly Management

Led by the SPH Manufacturing Management Center, a procurement working group was established, with members from the Audit Department, Legal Department, Finance Department, Supply Chain Management Department of Manufacturing Management Center, Department of Engineering Project, Department of Asset Management, Department of Quality Management, Department of Lean Production and personnel from other relevant departments of the Group. The Audit Department is responsible for the compliance of the process. The Legal Department focuses on the compliance of the agreement/contract terms. The Finance Department focuses on the optimal business status and suppliers' payment methods. The Supply Chain Management Department focuses on summarizing and organizing information, formulating the procurement plan, preparing bidding documents, and following up on the implementation.

### Quality Management of Centralized Procurement

In order to strengthen quality control, the Company implemented a comprehensive quality control in the approval, audit, assessment and random inspection of suppliers.



## Sustainable Supply Chain

SPH cares about suppliers' environmental, social and governance performance and is committed to building a sustainable supply chain. All suppliers are required to sign an Integrity Compliance Agreement with the Company. SPH's Measures for Supplier Integrity and Compliance requires suppliers to comply with laws, regulations, departmental rules, and other regulatory documents related to anti-corruption and anti-unfair competition. Our subsidiaries are actively building green supply chains. We encourage suppliers to complete certification and include EHS compliance as a key assessment item. Suppliers who complete the certification will be included on the list of preferred suppliers. At present, some suppliers have passed the certification of forest production and marketing chain, social responsibility certification, and laboratory CNAS certification. In August 2022, SPH SBPC passed the assessment on Shanghai green supply chains and became the first SPH subsidiary to implement green supply chain management. During the 14th Five-Year Plan period, we will strive to set up green supply chain management in another subsidiary.

### 【Case Study】SPH SBPC passed the assessment for Shanghai-based companies implementing green supply chain management

SPH SBPC has made efforts to create a green supply chain. It has set up a work group in charge of green supply chain management and formulated SPH SBPC Plan to Develop Green Supply Chain Management (2019-2023). Incorporating the concept of green supply chain management into the Company's development strategy, the plan specifies the medium and long-term annual goals and indicators in terms of green supply chain management, as well as how to carry out the plan. To date, SPH SBPC has established a sound green supply chain management system covering procurement, supplier selection/certification management, supplier evaluation procedures, supplier monthly performance evaluation and other criteria.



We provide all kinds of training, support and guidance to suppliers.



Index	Unit	2021	2022
Total Number of Suppliers	Supplier(s)	678	659
Number of Suppliers by Geographical Region	Mainland of China	Supplier(s)	669
	Hong Kong, Macao and Taiwan of China	Supplier(s)	0
	Abroad	Supplier(s)	9
	APIs	Supplier(s)	165
Number of Suppliers by Material Type	Excipients	Supplier(s)	248
	Primary Containers	Supplier(s)	115
	Outer Packaging Materials	Supplier(s)	150
	Strategic/Exclusive Suppliers	Supplier(s)	57
Number of Suppliers by Significance	Important Suppliers	Supplier(s)	261
	Common Suppliers	Supplier(s)	360
		Supplier(s)	220
Number of Suppliers with GMP Certification	Supplier(s)	220	174
Number of Suppliers with Overseas Certification	Supplier(s)	12	45
Number of Suppliers with Certification of Quality Management System	Supplier(s)	269	244
Number of Suppliers with Certification of Occupational Health and Safety Management Systems	Supplier(s)	167	133
Number of Suppliers with Certification of Environmental Management system	Supplier(s)	178	152
Number of Suppliers with Open Cooperation Agreement, Letter of Commitment, or Integrity Compliance Agreement	Supplier(s)	672	659
Number of Trained Suppliers	Clean Procurement	Person(s)	302
	Environmental Protection	Person(s)	82
	Occupational Safety	Person(s)	82
	Others	Person(s)	19
Hours of Training for Suppliers	Clean Procurement	Hour(s)	264.5
	Environmental Protection	Hour(s)	56.5
	Occupational Safety	Hour(s)	57
	Others	Hour(s)	17.5
		Hour(s)	11
Total Number of Suppliers' Annual Evaluation	Supplier(s)	586	575
Number of Suppliers' Annual Evaluation on APIs	Supplier(s)	147	170
Number of Suppliers' Annual Evaluation on Excipients	Supplier(s)	205	191
Number of Suppliers' Annual Evaluation on Primary Containers	Supplier(s)	104	93
Number of Suppliers' Annual Evaluation on Outer Packaging Material	Supplier(s)	130	116
Number of Disqualified Suppliers	Supplier(s)	1	5

Notes: \* The above-mentioned statistics are from the suppliers of APIs and excipients and packaging materials for key products listed by SPH and its subsidiaries in 2022.  
\* Six suppliers did not sign procurement contracts with SPH in 2021 and are therefore not involved in the signing of the Integrity and Compliance Agreement.



# Outlook 2023

2023 will be the first year for China to fully implement the guiding principles of the 20th CPC National Congress and a crucial transition year for the 14th Five-Year Plan (2021-2025). Standing at a new historical point when the global landscape is changing at a rapid pace, SPH, a state-owned enterprise, will fully implement the guiding principles of the 20th CPC National Congress and continue to act as a role model. We will focus on the four transformation and development initiatives (innovation, internationalization, industry-finance integration, and intensification), and on digitalizing the Company, with the purpose of supporting the country's national strategies and ensuring the health of its population. With an innovative mindset and a sense of responsibility, we will do our best to advance all key businesses and effectively improve public health. We also hope to contribute to the Healthy China Initiative. We will make persistent efforts to protect the health and well-being of mankind, including the country's workforce, which is the very first step for the realization of the "two centenary goals" and China's dream of great national rejuvenation.

## To Improve Corporate Governance and Promote High-Quality Development

Next year, we will continue to improve corporate governance, especially compliance and risk management systems, since efficient governance underlie our high-quality development. We will follow business ethics and create a good business environment, with a goal to generate long-term value.

## To Make Good Medicines Accessible to People through Innovations

Next year, innovation will be prioritized for national development and we will make every effort to promote it. We will closely work with academia to build an innovation platform that can efficiently turn ideas into market-ready solutions, and improve the international innovation system. We will strive to promote the preservation and innovative development of TCM by continuing our efforts in developing and revitalizing branded TCMs, especially time-honored ones.

## To Ensure Drug Safety with Excellent Manufacturing Process

In 2023, we will improve the whole life cycle management system, create an excellent manufacturing system, and continue to facilitate the "lean, automated, informatization, intelligent and green management". We will endeavor to develop advanced manufacturing processes and push forward the development of high-end dosage forms and advanced technologies.

## To Put People First and Promote Employees' Development

Next year, we will further optimize our HR system and strengthen talent development. We will enhance production safety and occupational health management, help employers secure essential rights, and continue to provide them with a friendly working environment and growth opportunities.

## To Continue to Give Back to the Society

Next year, we will keep practicing corporate social responsibility by giving back to society with commitment and love. We will play our role as a pharmaceutical leader to contribute to the comprehensive revitalization of rural China and the achievement of common prosperity. For example, we will fully leverage our industrial strengths and integrate all resources available to get highly involved in the "100 Enterprises Helping 100 Villages" campaign organized by Shanghai State-owned Assets Supervision and Administration Commission.

## To Protect the Ecology to Help Reach China's "Dual-Carbon Goals"

Next year, we will double down on our efforts to support China on its pathway towards sustainable development. We will take real actions, such as fully implementing green operations in line with the concept of green development, to help achieve the "dual-carbon goals", as well as to promote green industrial and social transformation.



Environmental Quantitative Performance Index

Chiatai Qingchunbao (Deqing) Pharmaceutical Co., Ltd. was merged into Chiatai Qingchunbao Pharmaceutical Co., Ltd. in 2022.The following SPH companies disclosed relevant information:

No.	Name of enterprises directly under the Group	Subsidiary No.	Name of subsidiaries of drug manufacturers directly under the Group
1	Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd.	1-1	Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd., General Factory
		1-2	Shanghai Sine No.2 Pharmaceutical Laboratories Co., Ltd.
		1-3	Shanghai Harvest Pharmaceutical Co., Ltd.
		1-4	Shanghai Sine Tianping Pharmaceutical Co., Ltd.
		1-5	Shanghai Fuda Pharmaceutical Co., Ltd.
		1-6	Shanghai Sine Yanan Pharmaceutical Co., Ltd.
		1-7	Shanghai Sine Wanxiang Pharmaceutical Co., Ltd.
		1-8	Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.
		1-9	Shandong Sine Pharmaceutical Co., Ltd.
		1-10	Tianjin Jinjin Pharmaceutical Co., Ltd.
2	SPH No. 1 Biochemical & Pharmaceutical Co., Ltd.	2-1	SPH No. 1 Biochemical & Pharmaceutical Co., Ltd.
		2-2	Shanghai Ziyuan Pharmaceutical Co., Ltd.
		2-3	Gansu Sine Tiansen Pharmaceutical Co., Ltd.
3	Shanghai SPH New Asia Pharmaceutical Co., Ltd.	3-1	Shanghai SPH New Asia Pharmaceutical Co., Ltd. Pioneer Pharmaceutical Factory
		3-2	Shanghai SPH New Asia Pharmaceutical Co., Ltd. New Asia Pharmaceutical Factory
		3-3	SPH New Asia Pharmaceutical (Minhang) Co., Ltd.
4	Shanghai Traditional Chinese Medicine Co., Ltd.	4-1	Shanghai Dehua Traditional Chinese Medicines Co., Ltd.
		4-2	Shanghai Yutiancheng Chinese Herbal Medicine Company Limited
		4-3	Shanghai Huapu Chinese Herbal Medicine Company Limited
		4-4	Shanghai SPH Shenxiang Health Pharmaceutical Co., Ltd.
		4-5	Chongqing Huiyuan Pharmaceutical Co., Ltd.
		4-6	Sichuan SPH Shendu Traditional Chinese Medicine Co., Ltd.
		4-7	Shandong SPH Chinese Herbal Pieces Co., Ltd.
		4-8	SPH (Liaoning) TCM Resources Co., Ltd.
5	Shanghai Leiyunshang Pharmaceutical Co., Ltd.	5-1	Shanghai Leiyunshang Pharmaceutical Co., Ltd.
		5-2	Shanghai Leiyunshang Fengbang Pharmaceutical Co., Ltd.
		5-3	Shanghai SPH Xingling Sci. & Tech. Pharmaceutical Co., Ltd.
		5-4	Zhejiang SPH Jiuxu Pharmaceutical Co., Ltd.
6	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.	6-1	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.
		6-2	Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.
		6-3	Shanghai Jinhe Bio-Pharmaceutical Co., Ltd.

No.	Name of enterprises directly under the Group	Subsidiary No.	Name of subsidiaries of drug manufacturers directly under the Group
7	Shanghai Zhonghua Pharmaceu-tical Co., Ltd.	7-1	Shanghai Zhonghua Pharmaceutical Co., Ltd.
		7-2	Shanghai Zhonghua Nantong Pharmaceutical Co., Ltd.
8	Shanghai Sunway Biotech Co., Ltd.	8-1	Shanghai Sunway Biotech Co., Ltd.
9	SPH Changzhou Pharmaceutical Co., Ltd.	9-1	Changzhou Pharmaceutical Factory Co., Ltd.
		9-2	Nantong Changyou Pharmaceutical Technology Co., Ltd.
		9-3	Chifeng Arker Pharmaceutical Technology Co., Ltd.
		9-4	Chifeng Mysun Pharmaceutical Co., Ltd.
10	SPH Qingdao Growful Pharmaceutical Co., Ltd.	10-1	SPH Qingdao Growful Pharmaceutical Co., Ltd.
11	Xiamen Traditional Chinese Medicine Factory Co., Ltd.	11-1	Xiamen Traditional Chinese Medicine Factory Co., Ltd.
12	Chiatai Qingchunbao Pharmaceutical Co., Ltd.	12-1	Chiatai Qingchunbao Pharmaceutical Co., Ltd.
13	Hangzhou Huqingyutang Pharmaceu-tical Co., Ltd.	13-1	Hangzhou Huqingyutang Pharmaceutical Co., Ltd.
14	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.	14-1	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.
15	Shanghai Pharma Group Changzhou Kony Pharmaceutical Co., Ltd.	15-1	Shanghai Pharma Group Changzhou Kony Pharmaceutical Co., Ltd.
		15-2	SPH Dongying (Jiangsu) Pharmaceutical Co., Ltd.
		15-3	Liaoning Meiya Pharmaceutical Co., Ltd.
16	SPH (Benxi) Northern Pharmaceutical Co., Ltd.	16-1	SPH (Benxi) Northern Pharmaceutical Co., Ltd.
17	Techpool Bio-Pharma Co., Ltd.	17-1	Techpool Bio-Pharma Co., Ltd.
		17-2	Guangzhou Baotian Biotechnology Co., Ltd.

Note:  
1) Greenhouse gas emissions were calculated with reference to the Guidelines for Reporting of Performance Indicators of Environmental Key Data and Guidelines for Calculation Methods and Reporting of Greenhouse Gas Emissions from Industrial and Other Industrial Enterprises;  
2) Partial data of subsidiaries in 2020 were slightly changed from previous reports as different statistical units were unified in 2021;  
3) Five companies, Shandong SPH Chinese Herbal Pieces Co., Ltd., SPH (Liaoning) TCM Resources Co., Ltd., Zhejiang SPH Jiuxu Pharmaceutical Co., Ltd., Chiatai Qingchunbao (Deqing) Pharmaceutical Co., Ltd. and Guangzhou Baotian Biotechnology Co., Ltd., newly included in the 2021 disclosure list have no data for 2020.



Emissions

Subsidiary No.	Year	Wastewater Discharged	Amount of COD in Wastewater Discharged	Amount of N-NH3 in Wastewater Discharged	Total Amount of Non-Methane Hydrocarbon in Exhaust Gas Emitted	Amount of Sulfur Dioxide in Exhaust Gas Emitted	Amount of Nitrogen Oxide in Exhaust Gas Emitted	Amount of Particulate Matter in Exhaust Gas Emitted	Amount of Others in Exhaust Gas Emitted	Greenhouse Gas Emissions		Direct Greenhouse Gas Emissions	Indirect Greenhouse Gas Emissions	Greenhouse Gas Emission Intensity	Amount of General Solid Waste Produced	Amount of General Solid Waste Disposed	Amount of General Solid Waste Utilized	General Solid Waste Discharge Density	Amount of Hazardous Waste Produced	Amount of Hazardous Waste Disposed	Hazardous Waste Discharge Density
	year	10,000 tonnes	tonne	tonne	kg	kg	kg	kg	kg	tonne		tonne	tonne	tonne/CNY10,000 output value	tonne	tonne	tonne	tonne/CNY10,000 output value	tonne	tonne	tonne/CNY10,000 output value
1-1	2022	24.27	14.96	0.76	771.61	5.54	0.56	202.19	25.39	33778		1136.92	32641.08	0.37	81.09	43.5	37.59	0.00093	83.21	83.21	0.00095
	2021	19.79	0.12	0.82	313.65	0.56	455.03	20.52	0	34756.59		1390.26	33366.33	0.56	127.77	59.81	67.96	0.0021	87.49	87.49	0.0014
	2020	21.09	8.86	0.65	96.39	0.59	486.02	231.62	0	33475.56		1040.29	32435.27	/	575.49	525.27	50.22	/	59.95	89.95	/
1-2	2022	6.03	3.83	0.1	347.7	0.02	370.87	86.25	0	4555.82		1129.59	3426.23	0.11	121	24	97	0.0041	36.48	36.48	0.0012
	2021	6.2	2.73	0.19	0	0	297.23	50.02	0	4472.12		1318.87	3153.25	0.13	61	27	34	0.0014	26.5	26.5	0.0007
	2020	6.01	2.64	0.13	0	0.13	721.89	108.97	0	3794.53		1247.83	2546.7	/	51	27	24	/	73.25	73.25	/
1-3	2022	7.9	1.3	0.018	73.79	28.32	70.02	1.27	19.45	6306.24		114.11	6192.13	0.1	131.9	131.9	0	0.002	46.47	46.47	0.0007
	2021	5.65	4.9	0.22	20.42	15.71	182.9	11.17	14.03	5736.52		120.8	5615.72	0.07	142.13	142.13	0	0.002	51.1	51.1	0.0006
	2020	6.03	1.75	0.01	60.03	31.48	320.17	12.62	149.63	5409.72		12.08	5397.64	/	93.56	77.7	15.86	/	18.22	18.22	/
1-4	2022	6.26	3.45	0.045	344.32	0.29	108.29	46.26	0	7706.57		129.07	7577.5	0.22	83.73	20.6	63.13	0.0026	49.47	48.67	0.0015
	2021	7.67	10.43	0.6	209.92	0.29	117.53	70.33	0	8231.32		166.77	8064.55	0.23	150.78	29.74	121.04	0.004	62.16	59.16	0.0017
	2020	5.06	8	0.19	190.05	0.19	72.89	161.07	0	6592.96		102.02	6490.94	/	68.03	25.37	42.66	/	86.77	78.23	/
1-5	2022	2.02	1.11	0.011	13.28	0.03	1.92	35.47	0	1430.35		461.68	968.67	0.22	35	24.42	10.58	0.001	17.72	14.77	0.003
	2021	1.97	0.73	0.03	6.54	0.007	0.15	30.74	0	1698.22		671.45	1026.77	0.34	35	35	9	0.001	10.53	5.07	0.001
	2020	2.19	1.84	0.01	18.11	0	0	45.89	0	1633.78		540.55	1093.23	/	38	38	12.7	/	24	23.74	/
1-6	2022	3.24	2.4	0.17	50.23	0.03	78.42	7.77	0	2226.51		587.24	1639.27	0.17	63	45	18	0.005	15.82	15.82	0.001
	2021	2.57	2.88	0.04	86	0.07	160.06	35.84	0	2174.05		532.36	1641.69	0.17	68.78	60	8.78	0.005	25	23.49	0.002
	2020	2.12	5.85	0.08	390	0.99	160.21	15.84	0	2117.42		516.42	1601	/	80.08	60	20.08	/	22.58	22.08	/
1-7	2022	1.58	0.76	0.03	48.82	0.11	316.54	3	0	1824.52		690.93	1133.59	0.17	31.63	31.38	0	0.003	24.67	25.87	0.0024
	2021	3.5	4.64	0.17	191.72	0.1	244.1	9.67	1.15	1899.29		512.41	1386.88	0.073	69.7	9.1	60.6	0.0037	31.23	31.23	0.0016
	2020	5.05	6.06	1.09	108.49	0.09	627.94	10.9	0	2060.51		511.61	1548.9	/	74.08	8	66.08	/	19.89	19.89	/
1-8	2022	19.61	3.92	0.02	6.25	0.19	216.25	40.88	0	8424		476.15	7947.85	0.26	75.3	41.7	33.6	0.0025	61.49	61.49	0.002
	2021	17.64	4.43	0.02	6.25	0.19	216.39	41.01	0	8421.75		476.15	7945.6	0.25	84.92	49.13	35.92	0.0027	47.15	39.45	0.0015
	2020	17.31	4.33	0.02	6.38	0.19	218.07	41.33	0	8442.56		479.74	7962.82	/	62.75	20.2	42.75	/	59.84	56.84	/
1-9	2022	0.91	1.23	0.02	1110	0.17	89.52	8.58	0	2951.41		56.39	2895.02	0.05	40	40	0	0.0006	125.28	105.88	0.002
	2021	0.71	0.81	0.01	655.76	0.19	100.12	9.59	0	2328.8		52.74	2276.06	0.045	48	48	0	0.0009	86.48	100.34	0.0019
	2020	0.62	0.47	0.02	396.5	0.21	98.97	9.48	0	2053.02		32.02	2021	/	48	48	0	/	55.22	39.62	/
1-10	2022	4.61	2.04	0.22	414	72.29	533.78	30.46	540	25364.87		8759.7	16605.17	0.64	2.79	2.79	0	0.00007	75.07	75.07	0.0019
	2021	14.41	8.81	0.61	5819.22	40.14	629.13	213.59	1479.6	26379.2		8789.84	17589.36	0.3	101.2	101.2	0	0.0034	65.96	65.96	0.0022
	2020	6.52	20.64	0.01	0	0.14	1284.94	50.83	338.4	23449.05		7501.72	15947.33	/	97.4	97.4	0	/	64.7	32	/

Emissions

continued

Subsidiary No.	Year	Wastewater Discharged	Amount of COD in Wastewater Discharged	Amount of N-NH3 in Wastewater Discharged	Total Amount of Non-Methane Hydrocarbon in Exhaust Gas Emitted	Amount of Sulfur Dioxide in Exhaust Gas Emitted	Amount of Nitrogen Oxide in Exhaust Gas Emitted	Amount of Particulate Matter in Exhaust Gas Emitted	Amount of Others in Exhaust Gas Emitted	Greenhouse Gas Emissions		Direct Greenhouse Gas Emissions	Indirect Greenhouse Gas Emissions	Greenhouse Gas Emission Intensity	Amount of General Solid Waste Produced	Amount of General Solid Waste Disposed	Amount of General Solid Waste Utilized	General Solid Waste Discharge Density	Amount of Hazardous Waste Produced	Amount of Hazardous Waste Disposed	Hazardous Waste Discharge Density
	year	10,000 tonnes	tonne	tonne	kg	kg	kg	kg	kg	tonne		tonne	tonne	tonne/CNY10,000 output value	tonne	tonne	tonne	tonne/CNY10,000 output value	tonne	tonne	tonne/CNY10,000 output value
2-1	2022	6.97	3.37	0.22	900.79	0.1	3319.7	201.37	198.6	28811.58		9853.79	18957.79	0.1	34	34	/	0.00012	224.28	224.28	0.00078
	2021	7.0015	3.41	0.32	690	50.14	2779.97	276.75	180	29439.1		9973.7	19465.31	0.12	35	35	0	0.00014	162.08	162.08	0.00067
	2020	17.49	5.81	0.18	2035.69	0.18	2947.69	136.97	99.18	29475.96		9950.27	19525.69	/	490	490	0	/	651.17	651.17	/
2-2	2022	0.85	1.74	0.11	424.55	0	44.36	0	12.56	906.88		112.67	794.21	0.3	0	0	0	0	127.46	130.37	0.04
	2021	1.23	0.69	0.12	306.92	0	41.9	1.74	23.55	988.59		154.9	833.69	0.33	0	0	0	0	135.18	129.02	0.06
	2020	0.78	0.91	0.13	710.2	0	67.2	2.43	134	894.77		118.64	776.13	/	0.25	0	0.25	/	237.22	237.82	/
2-3	2022	0.34	0.000025	0.0000085	0	0.058	43.72	4.21	0	255.96		117.33	138.63	/	42	42	0	/	0.3	0	/
	2021	0.5	0.000038	0.000013	0	0.081	63.46	6.14	0	259.15		90.85	168.3	/	32.3	32.3	0	/	4.31	4.31	/
	2020	0.23	0.00002	0.000004	0	0.093	73.77	0	0	200.43		60.99	139.44	/	15.5	15.5	0	/	0	0	/
3-1	2022	31.89	15.23	0.19	58.05	0.11	55.69	108.84	21.37	14263.28		296.95	13966.33	0.95	276.91	168	108.91	0.0035	28.01	28.01	0.00037
	2021	34.81	9.4	2.11	804.87	0.16	54.2	5.13	0	16565.21		2427.02	14138.19	0.2	507.62	160.5	34712	0.01	26.74	26.74	0.0003
	2020	48.24	18.29	0.12	3155.24	0.25	61.95	77.19	0	17593.92		165.67	17428.25	/	653.3	337.66	315.64	/	11.68	11.68	/
3-2	2022	27.36	10.53	0.07	133.1	0.1	1285.42	87.81	11.35	11247.98		3754.2	7493.78	1.11	222.66	0	222.66	0.0047	108.88	105.88	0.0023
	2021	20.08	7.59	0.14	597.02	0.16	710.05	84.14	0	13062.43		5504.92	7557.51	0.32	173.1	54	119.1	0.004	182.5	182.5	0.004
	2020	22.03	7.78	0.6	869.68	28.08	491.54	167.23	14.73	64070.14		57897.58	6172.56	/	92.27	0	92.27	/	72.43	72.43	/
3-3	2022	5.13	1.28	0.037	569.45	0	19.74	84.63	17.57	5645.5		640.07	5005.43	0.17	23.81	20	0	0.0006	19.21	21.52	0.0006
	2021	5.14	1.41	0.04	17.51	0.11	21.54	25.86	9.02	6495.58		655.51	5840.07	0.21	52	0	50	0.0016	30.4	27.94	0.0009
	2020	4.28	6.12	0.15	39.2	40.05	436.82	45.64	146.48	4941.25		828.59	4112.66	/	69.34	0	69.34	/	37.72	33.76	/
4-1	2022	0.85	2.19	0.17	34.94	0.25	79.65	49.07	16.01	1065.99		72.23	993.76	0.087	50	50	0	0.0041	1.8	1.8	0.00015
	2021	0.99	2.55	0.2	8.88	0.38	483.69	89.02	16.01	1259.93		71.81	1188.12	0.084	85	85	0	0.0057	1.8	1.8	0.00012
	2020	0.99	2.55	0.2	0	0.19	145.3	30.1	0	1059.39		77.5	981.89	/	62	62	0	/	1.5	1.5	/
4-2	2022	0.56	0.52	0.003	0	0.25	202.2	9.38	178.68	775.06		136.32	626.4	0.06	4.36	4.36	0	0.00035	1.31	0	0
	2021	0.59	0.42	0.008	0	0.18	99.91	428.61	187.47	969.76		291.72	678.04	0.061	16.96	16.96	0	0.0011	1.7	1.7	0.00011
	2020	0.48	0.34	0.006	0	0.18	233.68	136.09	0	863.32		272.09	591.22	/	20	20	0	/	1.22	1.22	/
4-3	2022	0.55	0.17	0.043	17.8	1.43	359.5	34.06	3.21	430.85		121.44	309.41	0.056	35	35	0	0.0045	1.57	1.57	0.0002
	2021	0.8	0.82	0.06	42.4	0.76	322.32	39.85	45.78	572.18		215.27	356.91	0.076	45	45	0	0.0059	1.79	1.49	0.00024
	2020	0.8	1.23	0.12	19.7	0.22	112.86	11.72	0	595.26		208.95	386.31	/	46	46	0	/	1.41	0.91	/
4-4	2022	0.22	0.19	0.02	0.12	0	0	0.03	0	464.69		0.18	464.51	0.013	5	5	0	1.34	0	0	0
	2021	0.25	0.19	0.02	0.12	0	0	0.03	0	429.27		0.18	429.1	0.013	5	5	0	1.55	0	0	/
	2020	0.23	1.31	0.08	0	0	0	0	0	461.57		0.18	461.39	/	8	8	0	/	0.36	0.36	/



Emissions

v continued

Subsidiary No.	Year	Wastewater Discharged	Amount of COD in Wastewater Discharged	Amount of N-NH3 in Wastewater Discharged	Total Amount of Non-Methane Hydrocarbon in Exhaust Gas Emitted	Amount of Sulfur Dioxide in Exhaust Gas Emitted	Amount of Nitrogen Oxide in Exhaust Gas Emitted	Amount of Particulate Matter in Exhaust Gas Emitted	Amount of Others in Exhaust Gas Emitted	Greenhouse Gas Emissions		Direct Greenhouse Gas Emissions	Indirect Greenhouse Gas Emissions	Greenhouse Gas Emission Intensity	Amount of General Solid Waste Produced	Amount of General Solid Waste Disposed	Amount of General Solid Waste Utilized	General Solid Waste Discharge Density	Amount of Hazardous Waste Produced	Amount of Hazardous Waste Disposed	Hazardous Waste Discharge Density
	year	10,000 tonnes	tonne	tonne	kg	kg	kg	kg	kg	tonne		tonne	tonne	tonne/CNY10,000 output value	tonne	tonne	tonne	tonne/CNY10,000 output value	tonne	tonne	tonne/CNY10,000 output value
4-5	2022	0.7	0.39	0.04	0	0.24	239.79	26.81	0	956.57		307.87	648.7	0.02	28	24	4	0	1.33	0.99	0
	2021	0.69	0.069	0.0014	0	41.96	258.8	28.33	0	858.32		265.73	592.59	0.0105	11	7.9	3.1	0.00013	2.2	2.2	0.00003
	2020	0.78	0.26	0.002	0	60.01	904.56	91.3	0	911.83		315.13	596.7	/	12	8.5	3.5	/	1.4	1	/
4-6	2022	0.24	0.016	25	0	0	0	109.6	0	0		0	0	0	1.15	1.15	0	0	0.049	0	0
	2021	0.47	200	15	0	0	0	115	0	0		0	0	/	0.55	0.55	0	0.000039	0.1	0.1	0.0000071
	2020	0.17	0.085	0.0007	0	0	0	132	0	65.89		0	68.59	/	0.6	0.35	0.25	/	0.22	0	/
4-7	2022	0.006	297	0	0	0	0	0	0	0		0	0	0	4.15	4	0.15	0.001	0	0	0
	2021	0.006	297	0	0	0	0	0.21	0	0		0	0	0	4.65	4.65	0	0.001	0	0	0
	2020	/	/	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/
4-8	2022	0.25	0.6	0.1	0	4.76	105	95	0	682.6		385.4	297.2	0.11	8.5	8.5	0	0.0014	0	0	0
	2021	1.7	2.9	0.41	0	5.76	100	87	0	686.92		395.79	291.13	0.098	9.8	9.8	0	0.0014	0	0	0
	2020	/	/	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/
5-1	2022	22.62	17.54	0.44	33	120.46	1685.3	993.45	0	17979.69		6302.91	11676.78	0.34	1425	1425	0	0.027	4.43	3.82	0.00007
	2021	14.28	8.34	0.3	40.82	148.69	1705.79	475.1	0	15623.89		5221.86	10402.03	0.29	1498	1498	0	0.027	47.75	47.74	0.00087
	2020	15.23	7.59	0.66	24.12	29.43	1380.47	158.99	0	12871.78		4052.79	8818.99	/	1276	1276	0	/	34.56	34.56	/
5-2	2022	0.61	0.21	0.003	0	153	87	596	0	297.2		33.02	264.18	0.025	25.01	12.58	2.52	0.0021	1.59	1.43	0.00013
	2021	0.54	0.016	0.0005	0	0.006	0.14	0.0026	0	146.45		0.31	146.14	0.015	6	6	0	0.00063	1.08	1.08	0.0001
	2020	0.77	0.29	0.0014	0	0	1400	904	0	2085.02		961.71	1123.31	/	30	30	0	/	10.82	6.7	/
5-3	2022	6.24	9.2	0.015	121.25	0.94	0	1864.23	0	10207.63		2352.42	7855.21	0.33	724	724	0	0.024	17.86	17.86	0.00058
	2021	8.35	8.7	0.15	94.52	0.76	135.62	2132.69	0	5671.68		3165.52	2506.16	0.21	785.4	785.4	0	0.03	8.42	8.42	0.00032
	2020	6.67	8.4	0.11	91.26	0.82	565.82	2526.47	0	5518.77		3085.06	2433.71	0	643.5	643.5	0	/	5.2	5.2	0
5-4	2022	0.47	0.17	0.01	0	14.23	105.93	58	0	1182.5		297.98	884.52	0.05	48.96	42.6	6.36	0.0022	8.82	8.44	0.0004
	2021	0.27	0.13	0.013	0	0.09	2.6	0.19	0	2325.9		139.42	2186.48	0.12	58	53	5	0.003	9.89	11.055	0.0005
	2020	0.2	0.1	0.01	0	0.62	5.47	0.69	0	2240.08		136.36	2103.72	0.15	65	63	2	0.004	12.65	11.57	0.0008
6-1	2022	4.07	2.75	0.04	344.77	0.09	1230.23	37.61	16.03	8177.12		1522.48	6654.64	0.23	10.31	10.31	0	0.00029	150.56	150.23	0.0042
	2021	4.91	2.08	0.02	1078.38	139.26	1364.5	91.56	7.01	7835.97		744.92	7091.05	0.2	1.34	1.34	0	0.00003	119.52	119.52	0.003
	2020	5.88	2.23	0.43	7684.34	0.15	2259.05	23.59	56.92	8835.22		1489.38	7345.89	/	37.68	37.68	3.84	/	271.71	271.71	/
6-2	2022	16.37	15.22	0.2	1280	0.06	870.53	532.93	0	11790.93		3578.36	8212.57	0.12	584.83	567.92	16.91	0.0058	1265.64	1267.04	0.013
	2021	20.14	20.24	1.31	905.19	59.9	913.26	540.78	0	12126.64		3614.22	8512.42	0.13	532.97	517.97	15	0.0022	1173.81	1173.81	0.012
	2020	9.52	3.49	0.26	240.99	0.12	1125.82	297.38	0	10095.55		3382.65	6712.9	/	118	103	15	/	551.45	551.45	/

Emissions

continued

Subsidiary No.	Year	Wastewater Discharged	Amount of COD in Wastewater Discharged	Amount of N-NH3 in Wastewater Discharged	Total Amount of Non-Methane Hydrocarbon in Exhaust Gas Emitted	Amount of Sulfur Dioxide in Exhaust Gas Emitted	Amount of Nitrogen Oxide in Exhaust Gas Emitted	Amount of Particulate Matter in Exhaust Gas Emitted	Amount of Others in Exhaust Gas Emitted	Greenhouse Gas Emissions		Direct Greenhouse Gas Emissions	Indirect Greenhouse Gas Emissions	Greenhouse Gas Emission Intensity	Amount of General Solid Waste Produced	Amount of General Solid Waste Disposed	Amount of General Solid Waste Utilized	General Solid Waste Discharge Density	Amount of Hazardous Waste Produced	Amount of Hazardous Waste Disposed	Hazardous Waste Discharge Density
	year	10,000 tonnes	tonne	tonne	kg	kg	kg	kg	kg	tonne		tonne	tonne	tonne/CNY10,000 output value	tonne	tonne	tonne	tonne/CNY10,000 output value	tonne	tonne	tonne/CNY10,000 output value
6-3	2022	1.13	3.16	0.062	6422	0.11	144.35	4.29	0.21	6716.86		1830.18	4886.68	0.56	1.6	1.6	0	0.000013	698.35	698.35	0.058
	2021	2.25	5.81	0.09	9072	0.13	364.57	30.63	0.21	7911.09		1732.76	5301.78	0.52	2.5	2.5	0	0.00016	604.77	604.77	0.04
	2020	1.59	1.96	0.14	12384	0	305.6	55.87	10.08	6178.33		991.22	5187.11	/	17.86	17.86	0	/	204.3	204.3	/
7-1	2022	2.1	2.29	0.18	239	0.038	21.6	16.75	0	5561.69		671.34	4890.35	0.27	18.3	7.93	10.37	0.00052	89.03	90.53	0.0044
	2021	3.39	1.65	0.014	529.3	0.14	55.44	28.16	0	4305.94		72.84	4233.1	0.18	34.26	26.83	7.43	0.0011	71.41	69.91	0.0028
	2020	5.34	2.59	0.02	310.18	0.12	50.79	118.82	0	4418.9		64.71	4354.19	/	62.52	54.38	8.14	/	53.2	53.2	/
7-2	2022	0.47	0.52	0.0002	0	0.14	6.35	23.27	0	1869.27		22.25	1847.02	0.14	42.97	16.42	26.55	0.003	4.7	4.7	0.0003
	2021	0.55	1.32	0.01	0	0.16	4.73	38.75	0	1752.05		32.58	1719.47	0.13	56.4	21.5	34.9	0.0042	18.87	17.32	0.0014
	2020	0.48	0.36	0.07	0	0.08	2.99	0.22	0	3597.94		1227.46	2370.48	/	53	33	20	/	7.52	7.52	/
8-1	2022	0.65	0.05	0.01	23.35	0.04	7.23	0.69	0	1853.87		0.19	1853.68	0.39	1.13	1.13	0	0.00024	1.05	1.05	0.00022
	2021	0.42	0.04	0.0031	10.45	0.05	5.69	0.53	0	1299.66		16.83	1282.83	0.59	3	3	0	0.0014	0.24	0.24	0.0001
	2020	0.56	0.06	0.005	14.06	0.23	4.37	0.42	0	1402.16		38.14	1364.02	/	3.4	3.4	0	/	0.099	0.099	/
9-1	2022	17.76	13.48	0.59	984.95	0.16	58.2	254.78	66.92	12117.93		310.42	11807.51	0.11	344.51	198.78	145.73	0.0031	694.95	694.95	0.0062
	2021	22.07	20.29	0.19	1764.44	0.21	77.76	456.74	2041.73	11354.56		612.8	10741.76	0.092	395.78	344.5	51.28	0.0032	543.43	545.03	0.0044
	2020	15.78	27.94	0.25	136.87	0.2	73.95	419.84	297.22	10886.13		320.34	10565.79	/	238.15	238.25	0	/	295.36	293.3	/
9-2	2022	12.07	20.23	0.18	3408.53	0.98	475.42	46.67	554.58	15105.09		668.27	14436.82	0.33	54.18	54.18	0	0.001	1222.17	1207.01	0.03
	2021	10.34	12.07	0.46	2530.58	0.88	492.48	159.21	804.78	13039.77		763.96	12275.11	0.32	12.46	12.46	0	0.0003	1124.91	1136.45	0.028
	2020	11.27	22.54	0.34	2245.56	0.86	463.93	140.97	56.44	12904.71		487.66	12417.05	/	150	150	0	/	1313.57	1354.99	/
9-3	2022	2.1	2.9	0.03	5992	0.018	30.03	1740.1	239	7009.86		21.58	6988.28	0.85	9.71	0	0	0.0012	11.53	10.04	0.0014
	2021	3.24	2.78	0.1	16291.6	0.092	30.62	1333.19	3477.33	8393.34		41.77	8351.54	1.05	95.54	0	98.74	0.01	11.64	19.64	0.002
	2020	3.46	3.16	0.24	18949	0.16	4.57	0.34	0	7700.78		111.49	7589.29	/	107.42	0	104.22	/	12.21	10.05	/
9-4	2022	3.97	8.71	0.37	0	2.5	728.17	255.36	0	2880.61		414.37	2466.24	0.15	2	0	0	0.0001	0	0.00	0
	2021	4.16	9.48	0.33	0	2.64	822.62	369.77	0	2675.77		434.37	2241.4	0.16	2	0	2	0.0001	0	0	0
	2020	4	11.39	0.37	0	2.5	16.45	583.68	0	3538.71		424.95	3113.77	/	1.6	1.6	0	/	0	0	/
10-1	2022	11.86	13.52	0.24	0	1.56	275.47	1252.49	0	18559.94		1005.14	17554.8	0.16	1556.49	52.74	1503.75	0.014	4.12	4.12	0.000036
	2021	10.16	10.15	0.24	0	2.15	432.07	1719.91	0	18528.34		495.54	18032.8	0.21	1512	88	1424	0.018	5.78	5.78	0.00007
	2020	8.76	9.98	0.19	0	2.16	374.22	1995.42	0	19680.98		1321.94	18359.04	/	689	87	602	/	8.85	8.3	/
11-1	2022	8.61	2.28	0.05	0	0.7	164.06	10.53	0	11453.4		525.5	10927.9	0.17	569.04	0	568.64	0.01	6.03	5.52	0
	2021	7.21	2.85	0.6	0	0.68	70.08	6.8	0	10098.53		301.35	9797.18	0.18	490.22	118.93	371.29	0.01	5.19	5.06	0.000095
	2020	8.06	2.58	0.03	0	0.65	67.67	5.66	0	9680.7		94.98	9585.72	/	849.1	823.5	25.6	/	4.61	4.61	/



Emissions

continued

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	year	10,000 tonnes	tonne	tonne	kg	kg	kg	kg	kg	tonne		tonne	tonne	tonne/CNY10,000 output value	tonne	tonne	tonne	tonne/CNY10,000 output value	tonne	tonne	tonne/CNY10,000 output value
12-1	2022	41.46	161.7	1.36	1113.17	1.91	475.95	2587.07	0	44491.24		2527.69	41963.55	0.34	7914.1	588	7326.1	0.064	431.68	431.68	0.0035
	2021	20.51	16.25	0.07	0	100.4	3983	684.04	0	14457.68		6326.08	8131.16	0.1	2275.04	608	1667.04	0.02	55.83	55.83	0.0004
	2020	20.28	7.1	0.04	0	98.17	3700.41	679.75	0	14446.45		6036.84	8409.61	/	3787	587	3200	/	70.57	70.57	/
13-1	2022	15.23	1.68	0.03	0	0.59	568.8	455.32	0	12869.74		118.77	12750.97	0.14	4499.4	215	4284.4	0.05	25.56	25.46	0.00028
	2021	16.84	3.37	0.26	0	0.73	633.3	394.99	0	12707.74		128.9	12578.84	0.1625	5487.5	145	5342.5	0.07	2.08	1.88	0.000024
	2020	15.32	4.14	0.47	0	0.74	1456.73	486.42	0	12826.24		128.48	12697.76	/	4542.1	121	4421.1	/	6.55	6.4	/
14-1	2022	7.86	0.71	0.03	0	1657.34	8591.14	590.18	0	25729.76		19502.16	6227.6	0.28	8280.69	8280.69	0	0.09	2.55	2.55	0.00003
	2021	8.41	9.55	0.125	0	2276.2	12654.4	1025.95	0	32690.4		25659.42	7030.98	0.373	6155.46	0	6155.456	0.07	0.049	0.049	0.0000006
	2020	9.4	10.72	0.069	0	969.7	6679.01	2279.14	0	29553.65		20209.76	9343.89	/	5387	0	5387	/	0.06	0.06	/
15-1	2022	3.72	2.12	0.08	220.8	0.1	894.86	40.06	70.76	7234.73		2033.68	5201.05	0.29	98.3	95.7	2.6	0.004	318.53	316.98	0.01
	2021	5.6	2.02	0.01	274.42	0.13	765.26	20.19	67.24	6801.4		1877.98	4923.42	0.32	112.6	110.9	1.7	0.005	324.14	324.14	0.02
	2020	4.99	2.05	0.021	173.7	0.2	411.02	30.35	69.47	6401.34		2036.07	4365.27	/	117.1	115	2.1	/	298.45	298.45	/
15-2	2022	0.25	0.04	0.01	0	0.11	97.21	8.59	0	1198.26		88.06	1110.2	0.27	13.4	8	5.4	0.0031	9.9	10.98	0.0023
	2021	0.34	0.06	0.01	0	0.36	350.1	18.68	0	1399.61		426.73	972.88	0.08	6.3	6.3	2.3	0.00037	6.83	6.33	0.00037
	2020	0.43	0.06	0.007	0	0.36	235.59	20.25	0	1696.47		347.16	1349.3	/	7.8	5.8	2	/	1.48	1.48	/
15-3	2022	8.57	14.41	0.38	52.56	0.17	9.23	1.05	0	46882.95		38319.7	8563.25	3.41	530	530	0	0.033	699.58	690.08	0.043
	2021	7.3	14.65	0.4	46.59	0.1	8.19	1.16	0	47222.84		37645.66	9577.18	4.42	500	500	0	0.047	400.63	380.63	0.036
	2020	14.78	2.73	0.12	3.85	70	379	32	8.38	7496.65		311.71	7184.94	/	300	300	0	/	230.64	105.84	/
16-1	2022	4.33	2.91	0.16	231.86	109.48	6113.07	510.17	6.1	13143.07		4684.27	8458.8	4.45	57.6	50	7.6	0.02	107.81	105.42	0.03
	2021	4.89	2.59	0.25	236.54	0.57	5768.1	454.05	5.89	14790.94		5675.87	9115.07	2.3	83.2	77	6.2	0.01	92.08	86.87	0.01
	2020	3.48	1.65	0.31	407.45	478.78	3485.83	250.37	2.33	9488.72		3765.44	5723.28	/	42.65	40	2.65	/	70.24	69.04	/
17-1	2022	7.62	1.61	0.07	142.64	63.9	488.32	7.84	1257.15	5718.51		1003.99	4714.52	0.04	826.55	748.19	61.88	0.0058	666.73	666.73	0.0047
	2021	6.23	1.29	0.03	72.17	8.98	512	6.87	908.19	8616.59		3093.21	5523.38	0.057	912.99	877.16	35.83	0.0067	667.54	667.54	0.0049
	2020	4.45	0.67	0.06	16.68	8.59	540.93	11.94	881.68	7476.93		2547.74	4929.19	/	842.57	808.18	34.39	/	555.28	554.05	/
17-2	2022	1.7	0.8	0.06	0	0	0	0	183.96	204.71		0	204.71	0.12	62.52	74.18	0	0.04	0.77	0.67	0.00039
	2021	3.51	1.37	0.14	0	0.26	206.12	20.43	67.15	229.79		0	229.79	0.11	47.97	38.82	0	0.02	28.93	61.69	0.03
	2020	/	/	/	/	/	/	/	/	/		/	/	/	/	/	/	/	/	/	/

Energy Consumption

Subsidiary No.	Year	Water Consumption	Water Consumption Intensity	Comprehensive Energy Consumption	Energy Intensity	Electricity Consumption		Natural Gas Consumption	Purchased Thermal Power Consumption	Coal Consumption	Liquid Petroleum Gas Consumption	Gasoline Consumption	Diesel Fuel Consumption
	year	10,000 tonnes	10,000 tonnes/CNY10,000 output value	tonne of standard coal	tonne of standard coal/CNY10,000 output value	10,000 kWh		10,000 cubic meters	Mkj	tonne	tonne	tonne	tonne
1-1	2022	22.24	0.00025	11727.67	0.13	2813.24		2.24	116538.94	0	0	0	18.45
	2021	21.99	0.00035	12086.69	0.19	2761.16		2.64	127530.51	0	0	12.84	46.8
	2020	23.43	/	11695.68	/	2706		1.18	113114.5	0	0	0	31.02
1-2	2022	7.53	0.00024	1820.32	0.059	384.68		51.26	0	0	3.2	1.1	0
	2021	7.75	0.00022	1810.62	0.052	345.88		59.47	0	0	5	3.2	0
	2020	6.68	/	1508.58	/	259.66		55.65	0	0	5	3.2	3.58
1-3	2022	7.9	0.0001	2211.42	0.035	488.36		0.41	24021.85	0	0	3.16	2.44
	2021	7.07	0.0001	1333.95	0.016	445.11		0.42	22585.2	0	0	5.14	2.56
	2020	6.7	/	1971.4	/	435.67		0.42	20514.3	0	0	5.34	2.62
1-4	2022	6.96	0.0002	2633.38	0.082	669.89		0.82	21123.07	0	0	0	7.68
	2021	8.53	0.00023	2980.83	0.083	738.63		1	25973.98	0	0	0	10.1
	2020	5.63	/	2434.52	/	573.7		0.8	22203.25	0	0	0	10.11
1-5	2022	2.53	0	650.05	0.06	137.29		19.63	0	0	4.1	0	0.2
	2021	2.18	0.0004	567.46	0.11	145.55		29.4	0	0	3.6	0	0.2
	2020	2.44	/	500.39	/	154.88		23.45	0	0	2.8	0	0.31
1-6	2022	3.6	0.0003	969.01	0.07	233.02		23.94	0	0	0	0	1.37
	2021	2.86	0.0002	941.27	0.07	230.29		21.39	0	0	0	0	3.4
	2020	2.33	/	921.67	/	226.73		20.67	0	0	0	0	0
1-7	2022	3.08	0.00029	641.73	0.06	160.59		13.87	0	0	0	0	5.55
	2021	3.94	0.00021	762.24	0.04	195.6		15.64	0	0	0	0.27	8.04
	2020	5.61	/	818.32	/	218.71		13.54	0	0	0	0	8.55
1-8	2022	21.8	0.0007	2760.69	0.089	596		0	32921	0	8.7	2.5	9.5
	2021	19.6	0.00062	3079.84	0.097	636.6		0	35616	0	9.95	2.6	9.5
	2020	19.23	/	2894	/	560		0	35702	0	8.7	2.5	9.4
1-9	2022	1.73	0.00003	662.91	0.011	253.8		0	9916.4	0	0	6.04	2.71
	2021	1.17	0.00002	551.82	0.01	171		0	9606	0	0	7.14	2.53
	2020	1.13	/	739	/	146.2		0	8878	0	0	6.65	3.74
1-10	2022	5.13	0.00013	7604.98	0.19	2359		302.56	0	0	0	9.85	6.75
	2021	16.04	0.00054	7812.13	0.26	2496		354.37	0	0	0	9.13	7.25
	2020	7.25	/	6386.35	/	2265		244.19	0	0	0	8.76	5.84



Energy Consumption

continued

Subsidiary No.	Year	Water Consumption	Water Consumption Intensity	Comprehensive Energy Consumption	Energy Intensity	Electricity Consumption		Natural Gas Consumption	Purchased Thermal Power Consumption	Coal Consumption	Liquid Petroleum Gas Consumption	Gasoline Consumption	Diesel Fuel Consumption
	year	10,000 tonnes	10,000 tonnes/CNY10,000 output value	tonne of standard coal	tonne of standard coal/CNY10,000 output value	10,000 kWh		10,000 cubic meters	Mkj	tonne	tonne	tonne	tonne
2-1	2022	51.02	0.00018	12887	0.045	2692.2		406	/	/	/	5.63	0.7
	2021	49.8	0.00021	12841.92	0.053	2763.61		375.16	0	0	0	4.58	0
	2020	50.84	/	13108.98	/	2772.51		393.24	0	0	0	8.38	0.59
2-2	2022	0.94	0	370.31	0.12	112.69		0	0	0	0	1.78	34
	2021	1.37	0.00045	402.92	0.13	118.3		0	0	0	0	5.32	44
	2020	0.87	/	363.77	/	110.11		0	0	0	0	5.81	32
2-3	2022	0.43	/	113.58	/	19.57		3.73	0	0	0	1.39	1.54
	2021	0.63	/	80.32	/	23.76		3.7	0	0	0	1.61	2.62
	2020	0.26	/	73.6	/	19.5		2.13	0	0	0	1.68	3.11
3-1	2022	35.44	0.00036	5031.47	0.065	1115.82		0	55526.1	0	10	5.48	0
	2021	36.87	0.0004	5257.43	0.06	1234.16		0	49543.69	0	12	9.4	0
	2020	50.88	/	6331.59	/	1310.67		0	74575.22	0	6	9.4	3.28
3-2	2022	30.4	0.00064	4960.22	0.11	1064.66		148.25	0	0	3.3	5.04	0
	2021	25.11	0.0006	5200.47	0.13	1073.53		157.66	0	0	4.5	8.01	0
	2020	24.48	/	4216.4	/	876.52		129.44	0	0	3.75	6.36	0.71
3-3	2022	5.7	0.0002	1868.5	0.056	489.64		0.42	14096.58	0	0	3.12	0.27
	2021	5.71	0.0002	2173.13	0.07	565.61		0.46	16918.38	0	0	5.23	0
	2020	4.76	/	1112.27	/	516.43		24.61	4125.15	0	0	11.94	0.65
4-1	2022	0.94	0.000077	208.05	0.017	67.08		0	0	0	0	3.3	9.48
	2021	1.1	0.000073	447.5	0.03	67		0	6472.43	0	0	9.13	14
	2020	1.1	/	791.48	/	55.81		0	5313.4	0	2.8	9.43	12.89
4-2	2022	0.64	0.000052	319.11	0.026	88.7		0	0	0	0	4.1	43
	2021	0.66	0.000042	403.6	0.026	95.7		0	0	0	0	9	84
	2020	0.53	/	229.47	/	83.7		0	0	0	0	8.8	78
4-3	2022	0.69	0.000089	183.33	0.024	43.64		0	0	0	0	20.46	20.6
	2021	1.01	0.00013	227.92	0.03	49.3		0	0	0	0	28.37	41
	2020	0.89	/	165.91	/	53.48		0	0	0	0	38.38	30
4-4	2022	0.25	6.75	189.67	0.01	65.86		0	0	0	0	0	0.15
	2021	0.31	0.0000097	183.72	0.01	63.79		0	0	0	0	0	0.15
	2020	0.25	/	187.76	/	65.19		0	0	0	0	0	0.14

Energy Consumption

continued

Subsidiary No.	Year	Water Consumption	Water Consumption Intensity	Comprehensive Energy Consumption	Energy Intensity	Electricity Consumption		Natural Gas Consumption	Purchased Thermal Power Consumption	Coal Consumption	Liquid Petroleum Gas Consumption	Gasoline Consumption	Diesel Fuel Consumption
	year	10,000 tonnes	10,000 tonnes/CNY10,000 output value	tonne of standard coal	tonne of standard coal/CNY10,000 output value	10,000 kWh		10,000 cubic meters	Mkj	tonne	tonne	tonne	tonne
4-5	2022	0.88	0	235.25	0	91.46		7.75	0	0	0	3.45	10.35
	2021	0.86	0.00001	374.78	0.0046	83.62		8.2	0	0	0	4.97	18.01
	2020	0.98	/	158.33	/	88.6		9.7	0	0	0	2.6	12
4-6	2022	0.28	0.13	40.07	0.0025	0		0	0	0	0	0	0
	2021	0.47	0.000033	28	0.002	14.84		0	0	0	0	0	0
	2020	0.21	/	35.63	/	8.82		0	0	0	0	0	0
4-7	2022	0.02	0	16.69	0.005	135823		0	0	0	0	3.6	2.4
	2021	0.02	0.000004	0.002	0	25.6		0	0	0	0	4.1	3.6
	2020	/	/	/	/	/		/	/	/	/	/	/
4-8	2022	0.42	0.00007	195.6	0.032	30.38		0	0	0	85.4	3.5	1.72
	2021	1.88	0.0002	212.8	0.03	41		17	0	0	0	11	0
	2020	/	/	/	/	/		/	0	0	0	/	/
5-1	2022	36.41	0.0007	8455.62	0.161	1659.54		287.47	0	0	0	8.35	14.9
	2021	25.88	0.00047	7256.54	0.13	1478.27		236.98	0	0	0	8.91	16.15
	2020	20.95	/	6077.69	/	1253.11		182.7	0	0	0	9.71	16.83
5-2	2022	0.87	0.00007	837.92	0.07	247.25		0	0	0	0	0	96
	2021	0.77	0.81	735.69	0.08	206.37		0	0	0	0	0	97
	2020	1.1	/	608.43	/	159.06		0	0	0	0	0	90
5-3	2022	6.9	0.0002	3586.7	0.12	709		0	71411	0	0	41.4	19.2
	2021	9.28	0.00035	2521.6	0.09	365.59		121	0	0	2.21	38.6	18.7
	2020	7.4	0	2562.08	0	345.92		132.53	0	0	2.45	31.4	16.4
5-4	2022	2.38	0.0001	290.57	0.013	124.64		10.24	0	0	0	2.9	0
	2021	2.27	0.00012	790.12	0.04	146.36		0.86	10429.69	0	0	4.78	0
	2020	2.11	0.00014	515.94	0.03	140.21		0	10071.02	0	3.6	4.74	0.14
6-1	2022	4.52	0.00013	2429.53	0.068	651.08		0	17343.1	0	4.13	3.65	4.27
	2021	5.45	0.00014	1490.61	0.04	712.51		0	18784.58	0	5.53	7.08	16.94
	2020	6.54	/	1569.93	/	685.69		0	22816.55	0	5.53	7.08	69.7
6-2	2022	20.8	0.00021	5274.75	0.053	1170.66		151.22	0	0	0	2.95	0
	2021	23.28	0.00024	3438.23	0.036	1209.81		145.22	0	0	0	4.37	0
	2020	11.74	/	3244.07	/	949.82		154.74	0	0	0	5.87	0



Energy Consumption

continued

Subsidiary No.	Year	Water Consumption	Water Consumption Intensity	Comprehensive Energy Consumption	Energy Intensity	Electricity Consumption		Natural Gas Consumption	Purchased Thermal Power Consumption	Coal Consumption	Liquid Petroleum Gas Consumption	Gasoline Consumption	Diesel Fuel Consumption
	year	10,000 tonnes	10,000 tonnes/CNY10,000 output value	tonne of standard coal	tonne of standard coal/CNY10,000 output value	10,000 kWh		10,000 cubic meters	Mkj	tonne	tonne	tonne	tonne
6-3	2022	4.33	0.00036	1821.21	0.15	679.18		81.5	0	0	0	2.25	3.56
	2021	4.03	0.00026	1884.32	0.12	753.06		76.87	0	0	0	1.61	5.18
	2020	3.18	/	2933.01	/	736.68		40.89	0	0	0	14.99	3.85
7-1	2022	3.62	0.00017	2400	0.12	574.2		1.35	7695.71	/	/	0.95	1
	2021	4.21	0.00017	1357.47	0.083	484.7		1.3	7427.3	0	0	4.9	2.3
	2020	5.93	/	1733.61	/	496.3		1	7779.4	0	0	3.66	2.69
7-2	2022	2.34	0.0002	210.91	0.016	171.61		0	0	0	0.16	4.96	2.1
	2021	2.67	0.0002	451.73	0.034	156.85		0	0	0	0.08	4.24	6.1
	2020	2.7	/	195.95	/	149.27		0	0	0	0.06	4.06	4.41
8-1	2022	0.72	0.00015	474.15	0.1	174.59		0	5664	0	0	1.79	0
	2021	0.47	0.00022	324.7	0.15	120.44		0	3944.15	0	0	0.9	1.54
	2020	0.63	/	580.04	/	130.98		0	4006	0	0	1.45	10.74
9-1	2022	20.09	0.00018	2638.84	0.019	1141.59		0.77	35775.14	0	0	0	4
	2021	18.12	0.00015	2748.2	0.022	1045.99		0.85	30742.79	0	0.68	7.74	2.69
	2020	13.97	/	2743.71	/	996.57		1.08	31908.73	0	0.46	7.51	2.69
9-2	2022	10.66	0.0002	3439.3	0.074	1246.14		6.82	51208.88	0	0	11.91	38.03
	2021	9.35	0.0002	4717.35	0.12	1056.39		9.34	43687.54	0	1.64	10.25	35.47
	2020	10.93	/	5427.22	/	1012.99		10.97	47791.5	0	0	10.24	35.36
9-3	2022	3.51	0.00043	1870.03	0.23	312.32		0	43535.88	0	0	0	1.11
	2021	4.63	0.0006	7596.67	0.95	352.37		0	53369.28	0	0	3.6	1
	2020	4.16	/	6583.16	/	364.44		0	45666.72	0	0	6.7	1.03
9-4	2022	4.96	0.00026	563.78	0.029	208.56		0	9016.41	0	0	0	0
	2021	5.2	0.0003	1435.42	0.08	202.37		0	7367.76	0	0	30.68	105.39
	2020	5	/	1958.51	/	301.53		0	8988.89	0	0	31.45	103.42
10-1	2022	13.55	0.00012	3843.58	0.034	1041.31		1.1	75185	0	0	29.69	50.31
	2021	11.8	0.00014	4419.88	0.052	947		1.12	95488	0	0	43.28	66.61
	2020	11.68	/	4460.05	/	958		1.16	96266	0	0	40.75	69.83
11-1	2022	10.52	1.6	2239.49	0.03	619.09		0	41860	0	0	28.22	6.64
	2021	10.15	0.00019	2072.97	0.04	586.25		0	39135.6	0	0	28.57	5.46
	2020	11.57	/	1987.45	/	586.35		0	36486.8	0	0	25.57	4.96

Energy Consumption

continued

Subsidiary No.	Year	Water Consumption	Water Consumption Intensity	Comprehensive Energy Consumption	Energy Intensity	Electricity Consumption		Natural Gas Consumption	Purchased Thermal Power Consumption	Coal Consumption	Liquid Petroleum Gas Consumption	Gasoline Consumption	Diesel Fuel Consumption
	year	10,000 tonnes	10,000 tonnes/CNY10,000 output value	tonne of standard coal	tonne of standard coal/CNY10,000 output value	10,000 kWh		10,000 cubic meters	Mkj	tonne	tonne	tonne	tonne
12-1	2022	59.22	0.00048	10547.78	0.085	2866.36		64.15	178752	0	0	69.51	26.86
	2021	27.78	0.0002	4537.55	0.031	1068.48		251.5	0	0	0	73.94	35.69
	2020	27.57	/	4393.85	/	1113.52		235.38	0	0	0	71.98	37.58
13-1	2022	16.92	0.00019	3250.53	0.035	804		0	64367.43	0	9.6	32.01	13.78
	2021	17.7	0.00023	3248.89	0.042	767.02		0	65184.29	0	5.6	39.63	17.05
	2020	15.3	/	3252.48	/	801.24		0	64093.23	0	5.2	37.54	18.31
14-1	2022	11.23	0.0001	7120.17	0.078	817		0	0	9387	0	26.5	12.2
	2021	12.45	0.00014	6589.74	0.075	994.98		0	0	12346	4.32	39.99	14.59
	2020	11.71	/	6219.96	/	817.73		0	29225.92	9720	4	23.86	14.39
15-1	2022	4.23	0.0003	1799	0.07	737.83		78.25	0	0	0	0	6.5
	2021	5.78	0.0003	2928.23	0.14	692		71	0	0	0	0	8.14
	2020	5.07	/	1627.84	/	619		76.06	0	0	0	2.12	10.32
15-2	2022	1.25	0.0003	271.8	0.06	126.76		0.45	1944.87	0	0	2.6	2.49
	2021	1.47	0.000086	471	0.03	120.76		0.5	1082	0	0	4.65	13.83
	2020	1.84	/	299.27	/	124.66		0.53	4237.09	0	0	4.96	13.44
15-3	2022	12.82	0.00067	2837.66	0.15	617.44		78.36	51409	0	0	4.6	4.52
	2021	10.87	0.0008	2517.32	0.19	466.85		4.43	54840.61	0	4.45	5.17	4.81
	2020	7.55	/	2739	/	461.92		11.14	64974.28	0	5.27	14.63	3.15
16-1	2022	9.19	0.0029	4341.53	1.39	1202.87		211.83	0	0	0	8.09	23.27
	2021	9.87	0.002	5060.86	0.79	1291		258	0	0	0	7.48	21.89
	2020	6.39	/	3262.13	/	809.6		166.66	0	0	0	21.18	9.86
17-1	2022	10.51	0.000074	1431.89	0.01	726.97		42.33	0	0	0	4.44	0
	2021	10.29	0.000076	2727.9	0.02	747.79		44.18	0	0	0	8.21	1.72
	2020	6.79	/	1374.86	/	695.72		39.08	0	0	0	0	0
17-2	2022	2.56	0.0014	35.76	0.019	29.1		0	0	0	0	0	0
	2021	4.57	0.0023	40.14	0.02	32.66		0	0	0	0	0	0
	2020	/	/	/	/	/		/	/	/	/	/	/



SEHK's ESG Reporting Guide Index

A. Environmental		
Subject Areas, Aspects, General Disclosures and KPIs		Chapter
Aspect A1: Emissions		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	Environmental Management Improvement
KPI A1.1	The types of emissions and respective emissions data.	Environmental Quantitative Performance Index
KPI A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Environmental Quantitative Performance Index
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Environmental Quantitative Performance Index
KPI A1.4	Description of emissions target(s) set and steps taken to achieve them.	Environmental Quantitative Performance Index
KPI A1.5	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Resources Management Optimization Targeted Pollution Control
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	Resources Management Optimization Targeted Pollution Control
Aspect A2: Use of Resources		
General Disclosure	General Disclosure Policies on the efficient use of resources, including energy, water and other raw materials.	Resources Management Optimization
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Environmental Quantitative Performance Index
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Environmental Quantitative Performance Index
KPI A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	Environmental Quantitative Performance Index
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	Resources Management Optimization
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Deepened Green Operation
Aspect A3: The Environment and Natural Resources		
General Disclosure	Policies on minimizing the issuer's significant impacts on the environment and natural resources.	Environmental Management Improvement
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Environmental Management Improvement
Aspect A4: Climate Change		
General Disclosure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact the issuer.	Response to Climate Change
KPI A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Response to Climate Change

B. Social		
Subject Areas, Aspects, General Disclosures and KPIs		Chapter
Aspect B1: Employment		
General Disclosure	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Compliant Employment Management Diversified Compensation and Welfare
KPI B1.1	Total workforce by gender, employment type (for example, full- or part-time), age group and geographical region.	Compliant Employment Management
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	Compliant Employment Management
Aspect B2: Health and Safety		
General Disclosure	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Occupational Health Protection
KPI B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	Occupational Health Protection
KPI B2.2	Lost days due to work injury.	Occupational Health Protection
KPI B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	Occupational Health Protection
Aspect B3: Development and Training		
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work.	Promising Career Development
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	Promising Career Development
KPI B3.2	The average training hours completed per employee by gender and employee category.	Promising Career Development
Aspect B4: Labor Standards		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labor.	Compliant Employment Management
KPI B4.1	Description of measures to review employment practices to avoid child and forced labor.	Compliant Employment Management
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	Compliant Employment Management

B. Social		
Subject Areas, Aspects, General Disclosures and KPIs		Chapter
Aspect B5: Supply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain.	Supply Chain Management
KPI B5.1	Number of suppliers by geographical region.	Supply Chain Management
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	Supply Chain Management
KPI B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Supply Chain Management
KPI B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Supply Chain Management
Aspect B6: Product Responsibility		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	Quality Management System Exceptional Service Experience
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Quality Management System
KPI B6.2	Number of products and service-related complaints received and how they are dealt with.	Quality Management System
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Protect People's Health through Innovative Healthcare
KPI B6.4	Description of quality assurance process and recall procedures.	Quality Management System
KPI B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored.	Exceptional Service Experience
Aspect B7: Anti-corruption		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Practicing Business Ethics
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	Practicing Business Ethics
KPI B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	Practicing Business Ethics
KPI B7.3	Description of anti-corruption training provided to directors and staff.	Practicing Business Ethics
Aspect B8: Community Investment		
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Community Responsibilities
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport).	Community Responsibilities
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	Community Responsibilities

## Reader Feedback Form

Thank you for taking the time to read the 2022 Sustainability Report & Environmental, Social and Governance Report. In order to promote our work regarding environmental, social and governance matters and improve the quality of our ESG report, we welcome your feedback.

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1. What is your relationship to SPH?

☐ Consumer ☐ Employee ☐ Partner ☐ Government ☐ Media ☐ Others (please specify):
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3. What do you think of the structure and presentation of this report?

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# 2022 Sustainability Report & Environmental, Social and Governance Report

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