Chongqing Zhifei Biological Products Co., Ltd.

2024

Full Year Business Performance

Chongqing Zhifei Biological Products Co., Ltd.

Board of Directors

April 2025

Important Notes

The main content and data of this report are from the 2024 annual report of Chongqing Zhifei Biological Products Co., Ltd. In case of any discrepancy between interpretations of the text, the Chinese version shall prevail.

I.Overview of Principal Business

(I)Company profile

Zhifei is an international, full-industry chain high-tech bio-pharmaceutical enterprise integrating R&D, production, sales, distribution, import and export of vaccines and biological products.

Since its inception in 2002, the Company has always adhered to its business principle of "prioritizing social benefits over corporate profits" and implemented the development model featuring "technology and market" drivers.The Company has long been guided by the health needs of the people, constantly improved the "prevention and treatment of disease" business layout. By continuously strengthening its R&D and commercialization capabilities, the Company provides high-quality products and professional services to build a strong line of defense to protect public health.

In 2024, there was no material change in the principal business of the Company. Beijing Zhifei Lvzhu Biopharmaceutical Co., Ltd. ("Zhifei Lvzhu") and Anhui Zhifei Longcom Biopharmaceutical Co., Ltd. ("Zhifei Longcom") renewed their efforts to introduce new products against bacteria, viruses and tuberculosis. The parent company of Zhifei, as the main promoter, dedicated to diversifying vaccine products and providing more convenient and considerate services. Taking Zhifei Airport as the import and export channel, the Company also provides warehousing, customs clearance record, and batch release services for imported vaccines. In addition, the Company incubates and cultivates promising biotechnology and products through the Zhirui investment platform by equity investment.

(II) Major products and indication

As of the disclosure date of this report, a total of fifteen products had been launched, of which one product got conditional approval. The Company offers a diverse range of products, including vaccine products for preventing infectious diseases such as influenza, cervical cancer, pneumonia, influenza, rotavirus, herpes zoster and drugs for the diagnosis, prevention and treatment of Tuberculosis, to the public including groups of infants, teenagers and adults. It effectively provides

product support for the prevention and control of infectious diseases, and provides the nation with diversified options for disease protection. Details are as follows:

No.	Common Name	Trade Name	Function and Use / Indication
1	Group ACYW$_{135}$ Meningococcal Polysaccharide Vaccine	Menwayc	Used to prevent the meningococcal meningitis caused by ACYW$_{135}$ meningococcal polysaccharide.
2	Meningococcal Group A and C Conjugate Vaccine	Mening A Con	Used to prevent infectious diseases caused by meningococcal Group A and C, such as cerebrospinal meningitis and pneumonia.
3	Haemophilus Influenzae Type b Conjugate Vaccine	Xifeibei	Used to prevent invasive infections caused by Haemophilus influenzae Type b (including meningitis, pneumonia, septicemia, cellulitis, arthritis, epiglottitis, etc.).
4	Group A and Group C Meningococcal Polysaccharide Vaccine	Mengnake	prevent epidemic cerebrospinal meningitis caused by Neisseria meningitidis group A and C
5	Recombinant Novel Coronavirus Vaccine (CHO Cell)	Zifivax™	Used to prevent diseases caused by Covid-19.
6	Recombinant Mycobacterium Tuberculosis Fusion Protein (EC)	Ekear	Used to diagnose mycobacterium tuberculosis infection, and the results of the subcutaneous test are not affected by the BCG vaccine and can be used for clinical diagnosis of tuberculosis.
7	Mycobacterium Vaccae for Injection	Vaccae	Used to prevent tuberculosis in the latent groups of infected people with mycobacterium tuberculosis; also used as a drug combination for the adjuvant tuberculosis chemotherapy.
8	Pneumovax 23 - Pneumococcal Vaccine, Polyvalent	Pneumovax	Used to prevent pneumococcal disease caused by 23 serotypes contained in this product (serotypes 1, 2, 3, 4, 5, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15B, 17F, 18C, 19A, 19F, 20, 22F, 23F, and 33F).
9	Four-valent Influenza Virus-split Vaccine	/	Used for preventing influenza caused by vaccine-related type of influenza virus.
10	Human Papillomavirus Quadrivalent (types 6, 11, 16, 18) Recombinant Vaccine	Gardasil	1.Used to prevent the following diseases caused by high-risk HPV16/18: cervical cancer, grade 2 and grade 3 cervical intraepithelial neoplasis (CIN2/3) and adenocarcinoma in situ, and grade 1 cervical intraepithelial neoplasis (CIN1). 2. Used to prevent the following diseases in males aged 9 to 26 years caused by the HPV types contained in this product: anal cancer caused by HPV types 16 and 18; genital warts (condyloma acuminata) caused by HPV types 6 and 11; and the following pre-cancerous lesions or atypical lesions caused by HPV types 6, 11, 16, and 18: anal intraepithelial neoplasia (A

			IN)-1, AIN-2, and AIN-3.
11	Human Papillomavirus 9-valent Vaccine, Recombinant	Gardasil 9	1.Used to prevent the following diseases caused by HPV type contained in this product: cervical cancer caused by type HPV16, 18, 31, 33, 45, 52 and 58; precancerous lesions caused by HPV6, 11, 16, 18, 31, 33, 45, 52 and 58: cervical intraepithelial neoplasis (CIN2/3), cervical adenocarcinoma in situ (AIS), and cervical intraepithelial neoplasis (CIN1); persistent infections caused by type HPV6, 11, 16, 18, 31, 33, 45, 52 and 58. 2. Used to prevent the following diseases in males aged 9 to 26 years caused by the HPV types contained in this product: anal cancer caused by HPV types 16 and 18; genital warts (condyloma acuminata) caused by HPV types 6 and 11; and the following pre-cancerous lesions or atypical lesions caused by HPV types 6, 11, 16, and 18: anal intraepithelial neoplasia (AIN)-1, AIN-2, and AIN-3.
12	Reassortant Rotavirus Vaccine, Live, Oral, Pentavalent (Vero Cell)	Rotateq	Used to prevent the rotavirus gastroenteritis in infants caused by serum-type G1, G2, G3, G4 and G9.
13	Pneumovax 23 - Pneumococcal Vaccine, Polyvalent	Pneumovax	Used to prevent the pneumococcal disease in the form of the capsulate bacteris contained in this vaccine.
14	Hepatitis A Vaccine (Human Diploid Cell), Inactivated	VAQTA	Used to prevent diseases caused by the hepatitis A virus.
15	Recombinant Zoster Vaccine (CHO cell)	Shingrix	Used to prevent herpes zoster.

(III) Main business model

In implementing the development model featuring "technology & market" drivers, the Company has formed a virtuous cycle where R&D and marketing promote each other to fast-track the entire process from R&D to the realization of market value.

The Company has long been guided by the health needs of the people, adhering to its innovation strategy of "putting independent R&D at the core, conducting cooperative R&D as a backup, engaging in investment and incubation as a supplement." The Company is deeply engaged in the field of biopharmaceuticals and continuously improves its self-development capabilities. Company integrates resources and continues to increase R&D investment, lays out various development routes of vaccines, and gives full play to the synergistic effect of product matrices. Company sets its sights on investment and incubation of cutting-edge technologies, accelerating the

transformation of scientific and technological achievements into quality products that serve people's health needs, accelerating the transformation of innovative technology into social benefits and commercial value. Company collaborates with leading research institutes, universities, and other organizations and sets its sights on investment and incubation of cutting-edge technologies. The Company actively engages in external cooperation in multiple areas and promotes collaborative innovation in the industry. Through capital operations, the Company continues to pool the internal and external resources of the Group and help the Listed Company acquire advanced R&D technologies, innovation patents, and high-quality products. These serve to enhance the Company's innovation capacity and expand its business presence, injecting more impetus into its sustained development.

The Company implements the "production determined by sales" model, which is, the production department organizes production according to the marketing department's sales plan, and formulates a production schedule based on sales while also maintaining an appropriate inventory level. The Company strictly complies with the requirements of the Drug Administration Law of the People's Republic of China (hereinafter referred to as the "Drug Administration Law"), the Vaccine Administration Law of the People's Republic of China (hereinafter referred to as the "Vaccine Administration Law"), and the Regulations on the Administration of Vaccine Production and Circulation, among other pertinent laws and regulations. The Company ensures that its production and inspection strictly conforms to the approved production process and quality control standards, and that its entire production process complies with the good manufacturing practice requirements. The quality management department of the Company conducts strict supervision, inspection, and control over product quality. A complete production quality management system is in place to ensure that the entire production process meets ongoing compliance requirements.

The Company employs a direct sales model. The Company's professional marketing team organizes academic meetings and promotional events, carries out activities to popularize vaccination knowledge to bring the Company's vaccines and medicines to end users. The Company's products are produced and sold in strict compliance with the Drug Administration Law, the Vaccine Administration Law, and other relevant laws and regulations, Implements strict management of the whole life cycle of products. Purchase contracts are signed based on the customer's needs. The products are mainly delivered to the designated locations through the

Company's self-built storage and logistics system to complete the process of sales and settlement. According to laws and regulations, vaccines may be marketed and sold in their area of circulation only after they have been produced/imported and issued with batch release certificates by the state. Governments of provinces, autonomous regions, and municipalities can organize purchases of vaccine products via public resource trading platform at the provincial level. The Company distributes vaccine products to the disease prevention and control agencies or points of vaccination units designated by the disease prevention and control agency in accordance with procurement contracts.

II.Analysis of Principal Business

(I) Key accounting data and financial indicators

During the reporting period, key financial indicators are shown below:

	2024	2023	Increase/decrease of the current year compared to the previous year	2022
Operating income (RMB)	26,069,711,361.44	52,917,767,029.20	-50.74%	38,264,011,331.74
Net profit attributable to shareholders of the Company (RMB)	2,018,478,513.91	8,069,868,204.15	-74.99%	7,538,999,697.34
Net profit attributable to shareholders of the Company after deducting non-recurring gains and losses (RMB)	1,991,386,516.10	7,915,455,262.71	-74.84%	7,509,900,188.61
Net cash flows from operating activities (RMB)	-4,413,989,315.20	8,996,369,981.13	-149.06%	1,989,033,105.26
Basic earnings per share (RMB/share)	0.8427	3.3624	-74.94%	3.1412
Diluted earnings per share (RMB/share)	0.8427	3.3624	-74.94%	3.1412
Weighted average return on equity	6.46%	29.09%	-22.63%	36.13%
	As at the end of 2024	**As at the end of 2023**	**Increase/decrease of the current year compared to the previous year**	**As at the end of 2022**

Total assets (RMB)	49,909,613,835.40	50,232,190,314.35	-0.64%	38,003,733,941.95
Net assets attributable to shareholders of the Company (RMB)	30,830,739,408.10	31,506,080,813.32	-2.14%	24,236,212,609.17

(II) Key financial indicators by quarter

	First quarter	Second Quarter	Third Quarter	Fourth Quarter
Operating income (RMB)	11,395,682,504.71	6,862,759,006.54	4,527,865,231.18	3,283,404,619.01
Net profit attributable to shareholders of the Company (RMB)	1,457,744,248.17	776,575,116.44	-83,696,426.67	-132,144,424.03
Net profit attributable to shareholders of the Company after deducting non-recurring gains and losses (RMB)	1,454,947,251.22	775,353,057.96	-87,415,164.56	-151,498,628.52
Net cash flows from operating activities (RMB)	-4,273,676,599.75	3,966,354,757.86	-2,757,646,882.84	-1,349,020,590.47

(III) Breakdown of recurring profit or loss items and amounts

Unit：RMB

Item	Amount in 2024	Amount in 2023	Amount in 2022
Profit or loss on disposal of non-current assets (including the write-off portion of the provision for asset impairment)	-315,331.87	41,240,241.87	-86,111.55
Government subsidies included in current profit or loss (excluding those closely related to the Company's normal business operations, which are granted continuously in fixed amounts or quantities in accordance with certain standards and in compliance with national policies)	39,845,463.44	171,523,371.37	71,589,204.49
Other non-operating income and expenses other than those mentioned above	-9,758,427.16	-31,017,609.39	-40,279,514.52
Other profit or loss items that meet the definition of non-recurring profit or loss	1,967,444.77	1,839,074.16	2,997,843.19
Less: Amount affected by income tax	4,647,151.37	29,172,136.57	5,121,912.88
Total	27,091,997.81	154,412,941.44	29,099,508.73

III.MANAGEMENT DISCUSSION AND ANALYSIS

(I) Overview

China has embarked on a new journey toward building a modern socialist country in all respects. Thanks to its strategic planning and strong leadership, the CPC Central Committee has led

the Chinese people in meeting the grave challenges posed by the complex international environment and the formidable reform and development tasks at home. As a result, the country's economic and social operations have maintained good momentum. Based on the current situation and from a long-term perspective, the CPC Central Committee rolled out a package of policies at the beginning of the year to sustain high-quality socioeconomic development.

In 2024, under the leadership of the Board of Directors, the Company coordinated overall operations with strategic resolve and harnessed the power of innovation to overcome challenges, ensuring stable operations and development. During the reporting period, the Company recorded RMB26.07 billion in operating income, representing a 50.74% year-on-year (YoY) decrease. Net profit attributable to shareholders of the Company reached RMB2.018 billion, a 74.99% YoY decrease. Due to the decline in people's willingness to be vaccinated, market demand changes, and other factors, the Company's marketing efforts undershot expectations. In response to the evolving market environment and challenges, the Company intensified its product promotion efforts, accelerated the development and launch of proprietary products, and actively engaged in discussions with partners to mitigate operational risks. These measures solidified the foundation for the Company's long-term development.

During the reporting period, the main driving factors for the business performance of the Company include:

1. Focusing on R&D to expedite product innovation

The Company adheres to independent innovation as the engine, keeps abreast of the latest developments in frontier technology, and persistently accelerates product innovation through matrix-based layouts and platform-based technological breakthroughs to fully meet people's health needs with high-quality products. In 2024, the company continued to strengthen its investment in research and development and the construction of a scientific research talent team. The company's R&D investment reached RMB 1.391 billion, and the number of R&D employees increased to 927. The company's cumulative R&D investment in the past five years has exceeded RMB 5.1 billion. Driven by "technology & market", the company deefies exploration and basic research in cutting-edge scientific and technological fields, promotes breakthroughs in core technologies and the improvement of achievement transformation efficiency, and constantly explores a new

development pattern. From the beginning of 2024 to the disclosure date of this report, several projects are making positive progress in terms of R&D.

Drug Name	Change in Progress	Significance
Four-valent Influenza Virus-split Vaccine	Drug registration certificate obtained	With lower levels of impurities and no preservatives or antibiotics, this vaccine offers more diverse options for flu prevention. It further enriches the Company's portfolio of viral vaccines so the Company is better equipped to expand its market presence.
Lyophilized Rabies Vaccine for Human Use (MRC-5 Cell)	Application for production registration accepted	Using human diploid cells as the culture medium, this vaccine will further enrich the Company's portfolio of viral vaccines, improve its product mix, and strengthen its market competitiveness.
Influenza Virus-split Vaccine	Application for production registration accepted	Designed in alignment with international trends, this vaccine will improve the Company's product mix and strengthen its market competitiveness.
15-Valent Pneumococcal Conjugate Vaccine	Phase III clinical trial summary report received	This vaccine covers the 15 most prevalent serotypes detected in Asia and aligns with the dominant serotype distribution at home, enriching the Company's portfolio of pneumococcal vaccines.
ACYW135 Meningococcal Conjugate Vaccine	Phase III clinical trial summary report received	This vaccine will further enrich the Company's portfolio of meningococcal vaccines. It will complement the Company's already marketed AC meningococcal polysaccharide vaccine, $ACYW_{135}$ polysaccharide vaccine, and AC conjugate vaccine, thus enhancing the market competitiveness of the Company's proprietary products.
Therapeutic BCG Vaccine	Phase III clinical trial in progress	Catering to a broader range of health needs, this product will further enrich the Company's product mix and enhance its market competitiveness.
26-Valent Pneumococcal Conjugate Vaccine	Phase I/II clinical trial in progress	This vaccine covers a wider range of the current most common serotypes. It aligns with national undertakings to encourage the R&D of multivalent and polyvalent vaccines, and is the result of the Company's efforts to focus on cutting-edge technologies and strengthen original innovation.
Influenza Virus-split Vaccine (ZFA02 adjuvant)	Notice of clinical trial approval received	This vaccine represents an application of the Company's new adjuvant technology platform, showing its commitment to advancing innovative technologies and striving for breakthroughs in core technologies. Currently, no adjuvanted flu vaccines have been officially approved for market release in China.
Adsorbed Tetanus Vaccine	Clinical trial application accepted	This vaccine uses column chromatography to purify effective antigens, delivering higher purity and greater batch-to-batch consistency than the traditional salting out method. It remedies the shortfall in the post-exposure vaccine category of the Company's DTaP pipeline.
DPT (component)-Hib four combination vaccine	Clinical trial application accepted	This vaccine will create synergies with the Company's DTaP vaccine, which has entered Phase III clinical trials, thus enriching the Company's portfolio of multivalent vaccines. Currently, no DTaP-Hib quadrivalent vaccines have been approved for market release in China.
Quadrivalent Influenza Virus-split Vaccine (ZFA02	Notice of clinical trial approval received	This vaccine represents an application of the Company's new adjuvant technology platform, showing its commitment to advancing innovative technologies and striving for breakthroughs in core technologies. Currently, no adjuvanted flu vaccines have been

adjuvant)		officially approved for market release in China.
Quadrivalent Influenza Virus-split Vaccine (ZFA02 adjuvant) for Children	Application for production registration accepted	Targeting children aged 6 to 35 months, this vaccine will broaden the age range for the Company's quadrivalent influenza virus-split vaccine and improve the product mix.

2. Carefully promote and optimize market penetration

In exploiting market potentials, the Company carries out refined management of markets and better resource allocation, employs flexible marketing strategies, and quickly responds to market changes. The Company focuses on introducing new talent and has refined talent cultivation and assessment mechanisms, ensuring that the expertise and comprehensive capabilities of talent are highly aligned with the Company's development needs. The Company has also improved its capabilities in integrating and flexibly dealing with information on end-users and market trends, distinguishing itself from the competition.

The company continues to strengthen business capacity, and excel in the work of manufacturing and supplying vaccines, offering quality products and multi-faceted services to the public. The Company continues to improve its teams of marketing talent, ensuring that its market-oriented services are rendered to end-users in a timely and targeted manner. To this end, the Company continuously improves resource allocation and team structure, laying a solid foundation for future business development and unlocking the growth potential of each business segment.

The Company continues to strengthen its cooperation with business partners to respond to market changes together and deepen long-term mutual trust. In December 2024, the Company improved its strategic partnership with GSK by signing a supplementary agreement to the Exclusive Distribution and Joint Promotion Agreement. The new agreement extended the rights for exclusive importation, distribution, and joint promotion of GSK's recombinant herpes zoster vaccine in the Chinese mainland. This has increased the Company's resilience against risks and deepened mutual trust and win-win cooperation with GSK. In 2025, MSD's quadrivalent HPV vaccine and nine-valent HPV vaccine were successively approved in China to be indicated in males for the prevention of HPV-related diseases and cancers. The Company and MSD have collaborated closely to boost herd immunity in both males and females, spurring new progress in the cause of global public health. Additionally, the Company and MSD have agreed to dynamically adjust the shipment

schedule in the Chinese market based on demand changes, starting from February of this year. This move further strengthens the strategic collaboration between the two organizations and enhances both supply chain efficiency and resilience against risks in dynamic market environments. It will not only help both sides address ongoing market fluctuations, but also provide growth momentum for future market recovery.

During the reporting period, the marketing team actively launched nationwide promotional activities capitalizing on the advantages of the network, scale, and professionalism. Continued, in-depth promotion meant that the Company's outstanding services and its impressive products gained wide recognition. The Company's proprietary TB diagnostic reagent EC was included in the 2024 National Reimbursement Drug List. This inclusion will reduce the economic burden on patients and make the product more accessible. It will also contribute to the prompt detection and treatment of tuberculosis, thereby lowering the transmission risk. The Company pays close attention to public health undertakings and is actively involved in disease prevention and control efforts. Its proprietary AC polysaccharide vaccine won the bid for centralized purchases for national vaccination coverage in 2024. Other products such as the quadrivalent meningococcal polysaccharide vaccine, AC conjugate vaccine, 23-valent pneumonia vaccine, Vaccae, and EC were widely promoted and sold well nationwide, contributing to China's disease prevention and control efforts while demonstrating the Company's strong sense of corporate social responsibility.

During the reporting period, the Company's vaccines were made available for sale only after they had obtained a national batch release and approval certificate in strict compliance with applicable laws and regulations. The details of batch releases of Company's vaccines during the reporting period are presented as below:

(1) Proprietary product

Manufacturer	Product Name	Number of Released and Approved Products in 2024 (Dose)	Number of Released and Approved Products in 2023 (Dose)	Growth Rate (%)
Zhifei Lvzhu	$ACYW_{135}$ polysaccharide vaccine	2,248,277	8,011,717	-71.94
	AC conjugate vaccine	2,317,151	1,314,222	76.31
	Hib vaccine	2,033,859	2,778,358	-26.80
	AC polysaccharide vaccine	4,220,392	449,165	839.61
	23-valent pneumonia vaccine	453,002	-	-

(2) Products acting as agent

Manufacturer	Product Name	Number of Released and Approved Products in 2024 (Dose)	Number of Released and Approved Products in 2023 (Dose)	Growth Rate (%)
MSD	Tetravalent HPV vaccine	465,991	10,343,360	-95.49
	9-valent HPV vaccine	31,140,836	36,550,755	-14.80
	Pentavalent rotavirus vaccine	5,508,412	7,174,088	-23.22
	Imported 23-valent pneumonia vaccine	1,125,105	1,628,465	-30.91
	Inactivated hepatitis A vaccine	170,808	311,370	-45.14
GSK	Recombinant Zoster Vaccine	3,775,956	-	-

Note: The Company's proprietary 23-valent pneumonia vaccine received its drug registration certificate in September 2023. It obtained batch release approval and was sold during the reporting period. The Company signed the Exclusive Distribution and Joint Promotion Agreement with GSK in October 2023, and began batch releases and sales of GSK's recombinant herpes zoster vaccine during the reporting period.

3. Quality first and compliance management

The Company has always adhered to the principle of "keeping compliance in mind and putting responsibility into action" and continued to build a first-class quality management system based on science and compliance while advancing with the times. The Company has built a quality-oriented, innovation-driven industrialization system, and has continuously improved production and business activities to build a world-class quality management system. During the reporting period, the Company further enhanced IT application in production quality management, and advanced the construction of a comprehensive system for refined management and process-based control. The Company also implemented strict quality management and compliance measures in alignment with international standards. It fully exploited its strengths as a high-tech biopharmaceutical company to ensure the production, storage, transportation, and supply of salable products — thereby answering the health needs of the people.

The Company attaches great importance to compliance operations and sets up a compliance management framework consisting of decision-making, management, and executive levels. The Company has formed a compliance management system covering prevention, monitoring, and punishment. The Company has developed a sound governance framework and institutional system to ensure that its business activities center around its core business, while fully protecting the legitimate rights and interests of stakeholders such as shareholders, customers, and employees. At

the same time, the Company actively responds to the latest national and industry compliance policies, constantly updates and improves its compliance policies, increases the frequency of compliance training, strengthens compliance monitoring, and improves its risk prevention capabilities.

4. Sharing development opportunities in international cooperation

The Company continues to practice development and product launch strategies at an international level, actively develops global partnerships, and promotes international cooperation at a deep level. Science respects no borders. The Company and its partners collaborate to deal with individuals' health concerns and improve the living conditions of humans. It does its best to satisfy people's requirements for disease prevention, provide quality products through technological innovation, and promote vaccine acceptance and coverage via marketing, so that vaccines can benefit more people at home and abroad. The Company focused on strengthening communication and cooperation with international organizations such as the World Health Organization(WHO), the Global Alliance for Vaccines and Immunization (Gavi), and the United Nations Children's Fund (UNICEF) to deep integration with the global bio-industry chain. Internationalization is not only a key strategy for the Company to extend its market presence and enhance its competitiveness, but also an important action to help build a global community of health for all.

The Company actively carries out the international registration and certification of its own products as well as clinical cooperation, and improves the accessibility and affordability of products, strengthening the international influence of China's innovative biopharmaceuticals. The Company actively promotes the approval, market release, and use of TB diagnostic and treatment products worldwide, contributing to global TB prevention and control efforts. From the beginning of 2024 to the date of this report, EC was officially approved for market release in Indonesia and approved for use in Macau, China. It was showcased at the Union World Conference on Lung Health, drawing attention from numerous experts and scholars. Registration of EC is underway in high TB burden countries like Pakistan and the Philippines. Clinical studies will be carried out in Indonesia, Thailand, and other countries. The Company has also actively expanded its overseas market presence for other products. Preparations for Phase III clinical trials of its proprietary S. flexneri and S. sonnei Bivalent Shigella conjugate vaccine have been completed in Bangladesh, and the participant enrollment process will start soon. International cooperation on the 26-valent

pneumococcal conjugate vaccine is underway. The 23-valent pneumococcal polysaccharide vaccine has obtained GMP certification from the Philippine Food and Drug Administration after onsite review, while registration for market release is ongoing in multiple countries. Additionally, the Company's quadrivalent meningococcal conjugate vaccine has been in stable supply in Indonesia for years.

IV.Analysis of Principal Business

(I) Composition of Operating Income

1. Overview of Operating Income

Unit: RMB

	2024		2023		Year-on-year increase or decrease
	Amount	As a percentage of operating income	Amount	As a percentage of operating	
Total operating income	26,069,711,361.44	100%	52,917,767,029.20	100%	-50.74%
By industry					
Biological	25,846,434,643.01	99.14%	52,913,689,901.52	99.99%	-51.15%
Others	223,276,718.43	0.86%	4,077,127.68	0.01%	5,376.32%
By category					
Proprietary	1,181,887,275.16	4.53%	1,028,348,396.39	1.94%	14.93%
Agent products	24,664,547,367.85	94.61%	51,885,341,505.13	98.05%	-52.46%
Others	223,276,718.43	0.86%	4,077,127.68	0.01%	5,376.32%
By region					
Northeast China	920,649,801.32	3.53%	1,661,214,282.71	3.14%	-44.58%
North China	3,216,710,850.24	12.34%	6,987,107,438.05	13.20%	-53.96%
Northwest China	1,611,642,640.20	6.18%	3,070,591,384.87	5.80%	-47.51%
Central China	3,078,250,171.46	11.81%	6,482,361,969.47	12.25%	-52.51%
East China	8,490,432,457.69	32.56%	18,477,587,753.85	34.92%	-54.05%
Southwest China	4,362,855,137.66	16.74%	7,230,228,274.01	13.66%	-39.66%
South China	4,371,466,080.74	16.77%	8,999,448,196.12	17.01%	-51.43%
Export	17,704,222.13	0.07%	9,227,730.12	0.02%	91.86%

2. Industries, products, regions, and sales models that account for more than 10% of the Company's operating income or profit

Unit：RMB

	Operating income	Operating cost	Gross margin	Year-on-year increase or decrease in operating income	Year-on-year increase or decrease in operating cost	Year-on-year increase or decrease in gross margin
By industry						
Biological products	25,846,434,643.01	18,737,917,374.65	27.50%	-51.15%	-51.55%	2.19%
By category						
Proprietary products	1,181,887,275.16	235,681,897.91	80.06%	14.93%	115.73%	-10.43%
Agent products	24,664,547,367.85	18,502,235,476.74	24.98%	-52.46%	-52.02%	-2.73%
By region						
Northeast China	920,574,580.08	683,094,648.37	25.80%	-44.58%	-44.89%	1.61%
North China	3,214,787,968.87	2,360,858,293.69	26.56%	-53.99%	-53.91%	-0.49%
Northwest China	1,611,642,640.20	1,197,291,497.30	25.71%	-47.51%	-47.47%	-0.23%
Central China	3,078,250,171.46	2,127,406,901.90	30.89%	-52.50%	-54.03%	8.04%
East China	8,489,798,216.84	6,220,215,354.27	26.73%	-54.05%	-54.53%	2.93%
Southwest China	4,362,637,116.89	3,165,462,829.76	27.44%	-39.66%	-39.53%	-0.54%
South China	4,151,039,726.54	2,973,102,921.85	28.38%	-53.87%	-54.15%	1.61%
Export	17,704,222.13	10,484,927.51	40.78%	91.86%	146.01%	-24.21%

3.The Company’s Income from physical sales

By industry	Item	Unit	2024	2023	Year-on-year Increase
Biological products	Sales volume	dose	37,185,831	27,490,638	35.27%
	Production volume	dose	15,319,394	32,105,303	-52.28%
	Inventory	dose	36,537,482	42,095,964	-13.20%

The Company implements the "production determined by sales" model, steadily promotes sales work while also maintaining an appropriate inventory level. Due to the decline in people's willingness to be vaccinated, market demand changes, and other factors, the Company's marketing efforts undershot expectations, leading to notable changes YoY.

4.Composition of operating costs

Unit：RMB

By category	Item	2024		2023		Year-on-year increase or decrease
		Amount	As a percentage of operating costs	Amount	As a percentage of operating costs	
Proprietary biological products	Where, direct materials	76,308,157.07	0.40%	53,038,687.42	0.13%	43.87%
	Direct labor	59,507,951.05	0.31%	34,266,677.02	0.09%	73.66%
	Manufacturing	76,795,751.26	0.41%	-4,351,839.82	-0.01%	1864.67%
	Shipping costs	23,070,038.53	0.12%	26,266,349.21	0.07%	-12.17%
	Subtotal	235,681,897.91	1.24%	109,219,873.83	0.28%	115.79%
Agent biological products	Where, procurement costs	18,435,072,237.85	97.39%	38,435,073,574.22	99.38%	-52.04%
	Shipping costs	67,163,238.89	0.35%	127,845,470.92	0.33%	-47.47%
	Subtotal	18,502,235,476.74	97.74%	38,562,919,045.14	99.71%	-52.02%
Others	Others	193,531,805.69	1.02%	2,122,854.51	0.01%	9016.58%
Total		18,931,449,180.34	100.00%	38,674,261,773.48	100.00%	-51.05%

(II)Expenses

Unit：RMB

	2024	2023	Year-on-year increase or decrease	Description of significant changes
Selling expenses	2,650,685,785.78	2,772,628,484.47	-4.40%	
Overhead expenses	394,131,628.41	393,026,825.85	0.28%	
Financial expenses	109,338,094.53	47,218,242.80	131.56%	Mainly as a result of an increase in interest expenses in 2024
R&D expenses	971,365,516.55	968,471,553.03	0.30%	

(III) Investments in R&D

1.The Company’s R&D personnel

	2024	2023	Change ratio
Number of R&D personnel	1,072	927	15.64%

Number of R&D personnel as a percentage of total staff	14.85%	14.16%	0.69%
Educational background of R&D personnel			
PhD	21	17	23.53%
Master	546	510	7.06%
Bachelor and below	505	400	26.25%
Age composition of R&D personnel			
Under 30 years old	704	646	8.98%
Between 30 and 40 years old	306	234	30.77%
Over 40 years old	62	46	34.78%

2.The Company's amount of R&D investment and the percentage of R&D investment over operating income in the past three years

	2024	2023	2022
Amount of R&D investment (RMB)	1,390,843,434.35	1,345,164,387.14	1,113,371,642.56
Percentage of R&D investment over operating income	5.34%	2.54%	2.91%
Amount of capitalization of R&D expenditures (RMB)	117.68%	130.81%	33.89%
Percentage of capitalization of R&D expenditures over R&D investment	419,477,917.80	376,692,834.11	259,210,307.22
Percentage of capitalization of R&D	30.16%	28.00%	23.28%
Percentage of capitalization of R&D expenditures over net profit for the period	20.78%	4.67%	3.44%

(IV)Cash flow

Unit：RMB

Item	2024	2023	Year-on-year increase or decrease	Description of significant changes
Subtotal cash inflow from operating activities	37,072,888,214.45	48,064,340,214.75	-22.87%	Mainly due to the decrease in sales and collected sales proceeds in 2024
Subtotal cash outflow from operating activities	41,486,877,529.65	39,067,970,233.62	6.19%	
Net cash flows from operating activities	-4,413,989,315.20	8,996,369,981.13	-149.06%	Mainly as a result of a decrease in collected sales proceeds and an increase in payments for purchases in 2024
Subtotal cash inflow from	4,759,655.97	168,073,400.86	-97.17%	Mainly as a result of an decrease in

investing activities				cash received for the disposal of non-current assets in 2024
Subtotal cash outflow from investing activities	930,343,067.65	1,144,672,122.45	-18.72%	Mainly as a result of a decrease in payments for long-term assets in 2024
Net cash flows from investing activities	-925,583,411.68	-976,598,721.59	5.22%	
Subtotal cash inflow from financing activities	14,739,339,451.64	6,347,985,763.87	132.19%	Mainly as a result of an increase in short-term borrowings received in 2024
Subtotal cash outflow from financing activities	13,041,452,581.47	10,641,852,590.69	22.55%	Mainly as a result of an increase in dividends distributed to shareholders in 2024
Net cash flows from financing activities	1,697,886,870.17	-4,293,866,826.82	139.54%	Mainly as a result of an increase in short-term borrowings received in 2024
Net increase in cash and cash equivalents	-3,640,433,832.93	3,723,601,383.57	-197.77%	Mainly as a result of a decrease in collected sales proceeds and an increase in payments for purchases in 2024

(V) Analysis of assets and liabilities

Unit：RMB

	End of 2024		**Early 2023**		**Percentage increase/ decrease**	**Description of significant changes**
	Amount	**As a percentage of total assets**	**Amount**	**As a percentage of total assets**		
Monetary funds	2,700,466,763.66	5.41%	6,340,512,228.61	12.62%	-7.21%	Mainly due to the decrease in sales and collected sales proceeds in 2024
Accounts receivable	16,272,763,249.18	32.60%	27,058,579,283.73	53.87%	-21.27%	Mainly due to the decrease in sale in 2024
Inventory	22,218,088,029.07	44.52%	8,986,023,821.17	17.89%	26.63%	Mainly due to the decrease in sale in 2024
Investment properties	176,638.52	0.00%	265,973.36	0.00%	0.00%	
Fixed assets	4,337,774,955.95	8.69%	3,796,404,998.74	7.56%	1.13%	
Construction in progress	1,006,182,134.18	2.02%	1,287,248,697.25	2.56%	-0.54%	

Right-of-use assets	26,925,597.40	0.05%	37,058,260.96	0.07%	-0.02%	
Short-term borrowings	11,901,908,557.91	23.85%	2,635,483,275.35	5.25%	18.60%	Mainly as a result of an increase in short-term credit loans in 2024
Contractual Liabilities	11,869,634.92	0.02%	11,306,389.47	0.02%	0.00%	
Long-term borrowings	347,588,788.71	0.70%	328,080,291.01	0.65%	0.05%	
Lease liabilities	15,447,210.27	0.03%	25,307,401.72	0.05%	-0.02%	

V.Analysis of Core Competitiveness

The Company is committed to enriching the means of prevention and control of infectious diseases, developing its unique core competitiveness by improving market networks, controlling production quality, growing talent teams, and reinforcing its governance structure. This is mainly reflected in the following areas.

(I) Making new strides through innovation

The Company has long been guided by the health needs of the people, adhering to its innovation strategy of "putting independent R&D at the core, conducting cooperative R&D as a backup, engaging in investment and incubation as a supplement." By continuing to improve the ability of independent innovation, it has continuously enhanced its innovation capabilities through organic and external means to create a growth pole of new quality productivity.

The Company has built three research bases, namely, Zhifei Lvzhu in Beijing, Zhifei Longcom in Anhui, and Chongqing Zhirui Biopharmaceutical Industry Park, plus an innovative incubator. Based on these platforms, the Company constantly strengthens its comprehensive R&D strength and makes its product R&D more forward-looking and pertinent. Relying on Zhifei Lvzhu and Zhifei Longcom, the Company makes steady progress in product R&D, especially in the field of disease prevention. With a focus on the cutting edge of vaccine technology, the Innovative Incubator in Beijing carries out original technological innovation and tackles major technical problems to underpin technical support for more innovative products. The Company has capitalized on Chongqing Zhirui Biopharmaceutical Industry Park to expand the coverage of its health

business. It has focused on promoting the R&D and industrialization of cutting-edge biomedicines and biotechnologies to foster a systematic layout for preventive vaccines and therapeutic biological products.

1. Promoting coordinated development of multiple matrices

The company adheres to the research and development idea of "source globalization, targeted pairing, networked R&D, and localized production for all programs", focuses on the iterative upgrading of traditional vaccine products and technological breakthrough of innovative vaccine products, and has formed a rich pipeline under research. The Company has nine technology R&D platforms covering various development routes of vaccines. A complete R&D platform strengthens the core capabilities, ensuring that all R&D programs progress with effectiveness.

R&D Platforms		
Polysaccharide and Polysaccharide Conjugate Technology Platform	Genetic Recombination Technology Platform	Inactivated Technology Platform
Multipathogen and Multivalent Technology Platform	mRNA Technolog y Platform	Novel Adjuvant Technology Platform
Human Diploid Cell Line Technology Platform	Adenovirus Vector Technology Platform	Outer Membrane Vesicle (OMV) Technology Platform

On the basis of the nine technology R&D platforms, the Company has formed a clear structure and layout of its eight product matrices.

Matrices	**Programs under development**
Meningococcal Vaccine Matrix	Group ACYW$_{135}$meningococcal conjugate vaccine, recombinant group B meningococcal vaccine (colon bacillus), and pentavalent meningococcal conjugate vaccine.
Pneumococcal Vaccine Matrix	15-valent pneumococcal conjugate vaccine, polyvalent and 26-Valent Pneumococcal Conjugate Vaccine.
Enterovirus Vaccine Matrix	S. flexneri and S. sonnei Bivalent Shigella conjugate vaccine against dysentery, quadrivalent recombinant norovirus vaccine (pichia pastoris), inactivated rotavirus vaccine, and bivalent recombinant rotavirus vaccine (pichia pastoris).
Tuberculosis Product Matrix	Lyophilized recombinant tuberculosis vaccine (AEC/BC02), BCG vaccine for intradermal injection, and purified protein derivative of BCG (BCG-PPD).
Multipathogen Vaccine Matrix	DPT vaccine (component) , DPT-based combination vaccine, DPT adolescent and adult vaccine (component).

Emerging Infectious Disease Vaccine Matrix	Recombinant MERS virus vaccine , COVID-19 vaccines, Mpox Vaccine.
Adult Vaccine Matrix	Influenza virus-split vaccine, quadrivalent influenza virus-split vaccine, lyophilized rabies vaccine for human use (MRC-5 cell), lyophilized rabies vaccine for human use (Vero cell), recombinant zoster vaccine (CHO cell), Zoster Vaccine(mRNA), respiratory syncytial virus (RSV) vaccine, and Lyophilized Rabies Vaccine for Human Use (ZFB-3 Cell), Influenza Virus-split Vaccine (ZFA02 adjuvant), adsorbed tetanus vaccine.
Upgraded Vaccine Matrix	Inactivated Japanese encephalitis vaccine and inactivated varicella-zoster virus vaccine.
Note: The aforesaid matrices do not include all the programs under development, and details of R&D situation are shown in the relevant contents on R&D programs in this report.	

The company is one of the most abundant companies in the domestic vaccine pipeline layout, and has a wide range of multi-level product reserves in research. From a long-term strategic perspective, the Company has assembled a high-caliber clinical talent team to efficiently advance various programs under development and improve R&D quality. This will reduce R&D risks and bring high-quality products to people at a faster pace.

As of the end of the reporting period, the Company held a sum of 34 independent development programs in pipeline, among which 19 were under clinical trials or application for registration. Further information is given as below：

Projects entering the registration Process

No.	Drug Name	Registration Class	Major Functions	Registration Stage	Progress
1	Lyophilized Rabies Vaccine for Human Use (MRC-5 Cell)	Prophylactic biologic products class 9	Used to prevent rabies.	Registration	Drug registration review and approval
2	Influenza Virus-split Vaccine	Prophylactic biologic products class 3.3	Used to prevent influenza caused by the strain of virus.	Registration	Drug registration review and approval
3	15-Valent Pneumococcal Conjugate Vaccine	Prophylactic biologic products class 7	Used to prevent influenza caused by the strain of virus.	Clinical trial	Clinical trial completed
4	$ACYW_{135}$ Meningococcal Conjugate Vaccine	Prophylactic biologic products class 7	Used to prevent infectious diseases caused by meningococcus.	Clinical trial	Clinical trial completedprogress
5	Lyophilized Rabies Vaccine for Human Use (Vero Cell)）	Prophylactic biologic products class 15	Used to prevent rabies.	Clinical trial	Phase III clinical trial in progress

6	S. flexneri and S. sonnei Bivalent Shigella Conjugate Vaccine	Prophylactic biologic products class 1	Used to prevent infectious diseases caused by Shigella.	Clinical trial	Phase III clinical trial in progress
7	DPT vaccine (component)	Prophylactic biologic products class 4	Used to prevent diseases caused by pertussis, diphtheria and clostridium tetani.	Clinical trial	Phase III clinical trial in progress
8	Quadrivalent Recombinant Norovirus Vaccine (Pichia Pastoris)	Prophylactic biologic products class 1	After vaccination, it stimulates the body to produce anti-norovirus immunity, which is used to prevent acute gastroenteritis caused by norovirus infection.	Clinical trial	Phase III clinical trial in progress
9	Therapeutic BCG Vaccine	Therapeutic biologic products class 3.4	Used to treat bladder carcinoma in situ and prevent recurrence, and to prevent recurrence after transurethral resection of bladder papilloma in stage Ta or T1. This product is not intended for papilloma beyond T1 stage.	Clinical trial	Phase III clinical trial in progress
10	Lyophilized Recombinant Tuberculosis Vaccine (AEC/BC02)	Prophylactic biologic products class 1	Used to prevent tuberculosis in the latent groups of infected people with mycobacterium tuberculosis	Clinical trial	Phase II clinical trial in progress
11	BCG-PPD	Therapeutic biologic products class 15	Used for clinical ancillary diagnosis of tuberculosis, epidemiological survey of tuberculosis and monitoring of body immune response after BCG vaccination. In combination with an in vivo diagnostic reagent (Recombinant Mycobacterium Tuberculosis Fusion Protein (EC)) for identification purposes, it can be used to identify the groups not infected with tuberculosis that are not vaccinated or are negative after vaccination by BCG, the groups not infected with tuberculosis that are positive after vaccination by BCG, and the groups infected with tuberculosis.	Clinical trial	Phase II clinical trial in progress
12	26-Valent Pneumococcal Conjugate Vaccine	Prophylactic biologic products class 1.4	Used to prevent infectious diseases caused by streptococcus pneumoniae.	Clinical trial	Phase I/II clinical trial in progress
13	Quadrivalent Influenza Virus-split Vaccine (ZFA02 adjuvant)	Prophylactic biologic products class 1.3	Used to prevent influenza caused by the particular virus strain.	Clinical trial	Phase I/II clinical trial in progress
14	BCG	Prophylactic biologic products class 15	After vaccination, it enables the body to generate cellular immune responses. Used to prevent tuberculosis.	Clinical trial	Phase I clinical trial in progress

15	Inactivated Rotavirus Vaccine	Prophylactic biologic products class 1	Used to prevent diarrhea caused by rotavirus.	Clinical trial	Phase I clinical trial in progress
16	Recombinant Group B Meningococcal Vaccine	Prophylactic biologic products class 2.6	Used to prevent infectious diseases caused by meningococcus.	Clinical trial	Phase I clinical trial in preparation
17	Influenza Virus-split Vaccine (ZFA02 adjuvant)	Prophylactic biologic products class 1.3	Used to prevent influenza caused by the particular virus strain.	Clinical approval	Clinical approval
18	DPT(component)-HIB vaccine	Prophylactic biologic products class 2.2	Used to prevent diseases caused by pertussis, diphtheria and clostridium tetani and Haemophilus influenzae Type b.	Clinical application	Clinical Application
19	Adsorbed tetanus vaccine	Prophylactic biologic products class 3.3	Used to prevent tetanus.	Clinical application	Clinical Application

Preclinical Project

No.	Product Name	Progress and Changes in 2024	Expected Progress (2025-2026)	
1	Recombinant Hepatitis B Vaccine (Hansenula Polymorpha)	Preclinical study	Preclinical study	Preclinical study
2	Quadrivalent HFMD Vaccine	Preclinical study	Preclinical study	Clinical Application
3	Bivalent Recombinant Rotavirus Vaccine (Pichia Pastoris)	Preclinical study	Preclinical study	Preclinical study
4	Inactivated Japanese Encephalitis Vaccine	Preclinical study	Preclinical study	Clinical Application
5	Recombinant Zoster Vaccine (CHO cell)	Preclinical study	Clinical Application	Clinical Approval
6	Inactivated Varicella-zoster Virus Vaccine	Preclinical study	Preclinical study	Clinical Application
7	Respiratory Syncytial Virus (RSV) Vaccine	Preclinical study	Preclinical study	Clinical Application
8	Recombinant MERS Virus Vaccine	Preclinical study	Preclinical study	Preclinical study
9	DPT-based Combination Vaccine	Preclinical study	Preclinical study	Preclinical study
10	Pentavalent Meningococcal Conjugate Vaccine	Preclinical study	Preclinical study	Clinical Application
11	Mpox Vaccine	Preclinical study	Clinical Application	Clinical Approval
12	Lyophilized Rabies Vaccine for Human Use (ZFB-3 Cell)	Preclinical study	Preclinical study	Clinical Approval
13	EBV Vaccine	Preclinical study	Preclinical study	Preclinical study
14	Zoster Vaccine(mRNA)	Preclinical study	Preclinical study	Clinical Approval
15	DPT adolescent and adult vaccine (component)	Preclinical study	Preclinical study	Clinical Application

The Company attaches great importance to the standardized management of intellectual property. It has a systematic and well-regulated management system and employs digital tools to achieve process-based management throughout the entire lifecycle of patents. This ensures that the Company's patent strategy is highly aligned with its business strategy, achieving a competitive edge in the fierce market competition.As of the end of the reporting period, the Company had obtained a total of 50 patents (including overseas patents), 47 of them are in the validity period of patents.

2. Advancing closer collaboration between industry, universities, and research institutes

The Company has endeavored to build a collaborative innovation ecosystem involving industry, universities, and research institutes. The transition from lab to market is effectively accelerated by bridging the gap between basic research and industrial applications and deepening collaboration with universities and research institutes.Its research department has successively published 82 academic papers on The Lancet, the New England Journal of Medicine, and other medical journals since 2019, doing its part in the advancement in medicine.

The Company actively engages in collaboration with research institutes and industry peers and continuously enhances its core technology R&D capabilities to underpin high-quality development. In the fields of life sciences and healthcare, the Company has maintained cooperation between industry, universities, research institutes, and end-users, focusing on joint efforts to address major disease prevention and public health challenges. The Company collaborates with over 20 research institutes such as the Institute of Microbiology, Chinese Academy of Sciences (IMCAS) and the National Clinical Research Center for Infectious Diseases to carry out joint clinical research and academic cooperation on innovative vaccines, TB prevention and treatment, and other programs. In January 2024 , Zhifei Lvzhu and Shanghai-based Delonix Bioworks Ltd. ("Delonix Bioworks") agreed to fully leverage their upstream and downstream advantages in vaccine development based on the new vaccine development platform of the Zhifei Lvzhu Innovation Incubator and the synthetic biological vaccine technology platform of Delonix Bioworks.

3.Capital operation, opening a new chapter in strategic layout expansion

The Company incubates and cultivates promising biotechnology and products used for disease prevention and treatment through the ZhiRui Investment platform by equity investment to expand the coverage of its health business and to achieve the company's "prevention and treatment of

disease" synergistic development. The Company incubates and cultivates promising biotechnology and products used for disease prevention and treatment through the ZhiRui Investment platform by equity investment, with a focus on such fields as tumors, metabolic diseases, cardiovascular diseases, autoimmune diseases, and neurodegenerative diseases. Zhirui Investment has over 30 programs under development, including those for antibodies and diabetes-targeted biopharmaceuticals and multiple class 1 innovative drugs.

In March 2025, the Company increased its equity stake in Chenan Bio, expanding its self-developed pipeline in areas such as GLP-1 (glucagon-like peptide-1) and insulin analogs. Chenan Bio has developed expertise in constructing expression systems for more efficient production of recombinant protein strains. Through targeted modifications of yeast and E. coli expression systems, this technology achieves high cell density fermentation and expression of recombinant human insulin and glucagon-like peptide-1 (GLP-1). There are more than ten programs under development. Below are Chenan Bio's key programs that have entered the clinical trial stage as of the date of this report.

No.	Drug Name	Indications	Registration Stage	Progress
1	Liraglutide Injection	Type 2 diabetes	Application for market release	Under review
2	Insulin Degludec Injection	Type 2 diabetes	Clinical trial	Clinical trial completed
3	Semaglutide Injection	Type 2 diabetes	Clinical trial	Clinical trial completed
4	Semaglutide Injection	Overweight/Obesity	Clinical trial	Phase III clinical trial in progress
5	Insulin Degludec/Insulin Aspart	Type 2 diabetes	Clinical trial	Phase III clinical trial in progress

(II) Continuously optimizing the marketing network

The Company implements its development model featuring "technology & market" drivers, and forms a virtuous cycle where R&D and marketing promote each other. The Company has set up provincial-level marketing networks to cover 31 provincial-level regions, over 2,600 administrative districts and counties, and over 30,000 primary-level health centers through hierarchical management. The extensive marketing networks make the professional and considerate services of marketing staff accessible to more regions. As such, more people will benefit from the Company's quality vaccines.

With a history of over 20 years, the Company has built an industry-leading marketing team and implemented standardized, professional, and refined management. The Company has put in place

talent development mechanisms centered on the introduction of talent, systematic training, and ongoing performance evaluation. The Company offers professional medical support and actively carries out diversified marketing efforts touting. On the basis of refined management, the Company keeps track of market changes, optimizes the marketing network, and improves its capabilities of integrating and flexibly dealing with information on end-users and market trends. This speeds up the process of bringing high-quality products to market so as to deliver greater social benefits.

(III)Quality assurance, strict control of product quality

The Company adheres to the core values of "Quality First" and persistently pursues quality products and professional services by improving quality management throughout the lifespan of products. Since the first batch of lot releases was approved in 2008, the independently developed products of the Company have all been successfully verified. The Company has built a sound quality management system specifying quality-related highlights and responsibilities across different phases such as product R&D, material inspection, manufacturing, procurement, transport, storage, sales, and listing management. In all phases, the standardized and strict management procedures are put in place to ensure traceability of all recorded operations. This also guarantees its quality management system is sound, stable, and endurable.

The Company is capable of mass production, standardized quality control, and commercial development. The Company possesses industry-leading capacity of industrialization in China. Zhifei Lvzhu and Zhifei Longcom, two major research and production centers of the Company, are equipped with modern factories and devices used for vaccine production, as well as the specialized production staff with a strong sense of responsibility. The Company has sealed lasting and stable relationships with reliable suppliers at home and abroad, and is constantly increasing the localization ratio of key active pharmaceutical ingredients (APIs), excipients, and equipment to guarantee the manufacturing and supply of products. The Company has constructed GDP-compliant cold storage facilities that automatically control and monitor the temperature of pharmaceuticals. It has a comprehensive service network covering importation, storage, and distribution, composed of its own delivery teams and refrigerated vaccine transport vehicles. The Company's own vaccine traceability system enables real-time tracking of vaccine temperatures and movements throughout the process, ensuring full traceability down to the smallest packaging unit.

(IV) Pooling strengths to accelerate strategy implementation

The management staff fully leverage their expertise in various professional fields and rich experience in disease prevention and control to develop an efficient management system that combines strategic decision-making and strong execution capabilities. The management staff remain stable, professional, and efficient. Fully leveraging their expertise in various professional fields, they formulate growth strategies in a timely and targeted manner based on the Company's status quo, industry development trends, and market needs, leading by example, uniting and leading the team to promote the company to achieve continuous breakthroughs.

The Company always adheres to the business principle of "prioritizing social benefits over corporate profits." Over the past two decades, the Company has cultivated unique corporate culture, in which "Six Firsts, Six Seconds" is considered as its corporate values. The Company's corporate culture plays a pivotal role in attracting, pooling, and retaining talents with shared values. The Company's sustainable development entails adequate staffing under the direction of multi-faceted incentive policies, the sound benefit sharing mechanism, and the stable talent cultivation strategy. As of the end of the reporting period, there were 7220 employees, 79.82% of whom have bachelor degree or above

VI. Industrial Situation and Trends

(I) Promoting high-quality development in public health

The year 2024 was crucial for accomplishing the objectives and tasks set forth in the 14th Five-Year Plan (2021–2025). Despite the complex and challenging environment characterized by mounting external pressures and internal difficulties, the economy maintained overall stability while achieving steady growth. The biopharmaceutical industry is a strategic emerging industry that has a vital bearing on the national economy and people's wellbeing, economic development, and national security, and is highly strategic, propulsive, and growth-oriented.

A series of policies have been introduced to guide the biopharmaceutical industry toward innovation-driven and high-quality growth. A full-chain innovation incentive system has been put in place to support new breakthroughs in the industry. In July 2024, the Resolution of the Central Committee of the Communist Party of China (CPC) on Further Deepening Reform

Comprehensively to Advance Chinese Modernization was adopted at the Third Plenary Session of the 20th CPC Central Committee. The document emphasizes the need to improve policies and governance systems that promote the development of strategic industries such as biopharmaceuticals, and guide the healthy and orderly development of emerging industries. It also proposes to deepen the reform of the health system; implement the strategy of prioritizing development in health-related fields; improve the public health system; promote public participation, as well as collaboration and integration between hospitals and disease prevention and control institutions; and strengthen capabilities for disease monitoring and early warning, risk assessment, epidemiological investigation, inspection and testing, emergency response, critical care, and the like. The Implementation Plan for Full-Chain Support of Innovative Drug Development was approved at the executive meeting of the State Council in September 2024. The plan proposes to strengthen policy support across the entire chain, and calls for the coordinated use of policies related to price management, medical insurance payments, commercial insurance, drug procurement and usage, as well as investment and financing. The plan also highlights the need to improve the review and approval mechanisms and medical institution evaluation mechanisms, and jointly push for breakthroughs in innovative drugs. In October 2024, the National Medical Products Administration (NMPA) released the Pilot Work Plan for Segmented Production of Biological Products. The pilot varieties should be innovative biological products, clinically urgent biological products, or other biological products specified by the NMPA. Eligible enterprises will be selected to pilot segmented production of biological products. The objectives are to further stimulate corporate R&D innovation, promote specialized division of labor in pharmaceutical R&D and production, and enhance the supply and availability of innovative and clinically urgent biological products, thereby better meeting people's medication needs. According to the 2025 Report on the Work of the Government, China will establish a mechanism to increase funding for industries of the future and foster industries such as biomanufacturing, quantum technology, embodied AI, and 6G technology. Under the health-first strategy, the country will promote coordinated development and governance of medical services, medical insurance, and pharmaceuticals. It will strengthen basic medical and health services, enhance the systems for disease prevention and control, and make coordinated efforts to prevent and control major infectious diseases.

Infectious disease prevention and control is crucial to the safety and health of the people, as well as to socioeconomic development and national security and stability. The government has adopted a series of policies to promote high-quality development in public health. In May 2024, the National Disease Control and Prevention Administration and nine other departments released the National Disease Prevention and Control Action Plan 2024–2025. The plan proposes to prioritize prevention, coordinate prevention and control efforts, act according to law, and adopt science-based approaches. It outlines measures to improve the TB prevention and control system, advance TB prevention efforts among key populations, ensure early detection, early treatment, and full-course standardized management of patients, and keep TB cases under quarantine and treatment to reduce transmission within communities and hospitals. It also proposes to improve the quality of vaccination services, fully implement the Vaccine Administration Law, expand national vaccination coverage, continuously refine vaccination strategies, and keep vaccination rates high. In November 2024, the National Disease Control and Prevention Administration and eight other departments issued the National TB Prevention and Control Plan (2024−2030). The plan sets out the overall goals of continuously lowering the national incidence of TB, maintaining a low mortality rate, and gradually reducing the economic burden on TB patients. The specific targets are: By 2025, the national incidence of TB will be reduced to below 50 per 100,000 persons and to below 43 per 100,000 persons by 2030.

(II) Tapping growing domestic and international market demands through technological innovation

As the most efficient and cost-effective means of preventing and controlling infectious diseases, vaccines play an important role in preventing infection, retransmission after infection, and severe illness and death. In recent years, breakthroughs in biotechnologies such as mRNA vaccine technology and novel vaccine adjuvants have unleashed greater creativity in the vaccine industry. Innovations like RSV vaccines and therapeutic cancer vaccines are continuously expanding the boundaries of infectious disease prevention and major disease treatment. Multiplexed and polyvalent vaccines as upgrades over existing versions expand the coverage of viral and bacterial strains, providing higher-quality protection for the public. In order to expand industry boundaries, improve resource allocation, and strengthen corporate competitiveness, biopharmaceutical

companies actively engage in mergers and acquisitions, which injects strong innovative momentum into the biopharmaceutical industry.

China's biopharmaceutical industry now has strong technical strengths, a deep talent pool, and a complete innovation industry chain. As major innovations are rapidly put into service for real-life applications, the industry is shifting from imitative innovation to original innovation. China's large population provides a broad base for the development of the vaccine industry. With the continuous development of China's economy and society, structural changes such as urbanization, population aging, and the expansion of middle-income groups have stimulated greater vaccination needs in adults. Focusing on "safeguarding health throughout the lifecycle," vaccine enterprises continue to raise public awareness of vaccinations.

According to the WHO's Global Vaccine Market Report 2024, 68 countries globally reported at least one national vaccine stock-out in 2023. Chinese vaccine enterprises are enhancing their R&D capacities to tap the enormous potential of the global vaccine market and meet people's vaccination needs. Leveraging the opportunities brought by the Belt and Road Initiative, they are expanding their products, innovations, and brands internationally through the export of finished products, technology transfer, localized production, and cooperative R&D, among other methods.

(III) Improving industry governance to build a strong line of defense in compliance

The medical field is the main battleground for safeguarding the health of the people and has a direct bearing on those rights and interests in which people have the most direct and real interest, namely, their own health. Since last year, China has taken targeted actions to address corruption in the medical field, covering the entire industry chain from production, distribution, and sales to usage and reimbursement. This also spans all sectors in the medical field such as administrative departments, industry associations, healthcare institutions, pharmaceutical companies, and medical insurance funds. In May 2024, 14 government departments including the National Health Commission issued the Notice on the Key Points for Correcting Unhealthy Practices in the Field of Pharmaceutical Purchase and Sales and Medical Services in 2024 in an effort to provide a strong guarantee for the high-quality development of the health industry. This document calls for coordinated efforts to address misconduct and corruption pertinent to people's everyday lives. It also proposes to collaboratively strengthen the institutions in the field of pharmaceutical purchase

and sales, and ensure that all types of institutions and personnel in the medical field operate within the legal framework, comply with regulations, fulfill their public service functions, and better serve the public interest. In January 2025, the Communique of the Fourth Plenary Session of the 20th CPC Central Commission for Discipline Inspection highlighted the importance of discipline inspection and supervision tasks for 2025, the final year for implementing the 14th Five-Year Plan. Priority was given to the campaign against corruption, particularly in the fields of medicine and medical insurance funds.

With strong leadership and systematic planning, thorough efforts have been made to address industry misconduct, and the long-term industry governance system has been improved. The industry is accelerating its transition toward compliance-driven operations. A better environment of fair and transparent competition demands that companies conduct compliant operations. The compliance capability has become one of the core competencies for organizations. In this context, high-quality companies with compliant operations and great reputations will gain broader market recognition by dint of their technical moat, quality advantages, and service efficiency.

VII. Development Strategies and Plans for the Company

The biopharmaceutical industry is a strategic industry that has a bearing on the national economy, people's wellbeing, and national security, and is an important foundation for the realization of a healthy China.It is embracing dual opportunities of global technological change and domestic high-quality development. Biopharmaceutical industry innovation is the key to promote high-quality development of the industry. Oriented toward global frontiers of science and technology, toward major national needs, and toward the life and health of the people, the industry has continuously improved the innovation system and innovation ecosystem and accelerated the development of core technologies.The national economy has shifted to the stage of high-quality development, requiring the biopharmaceutical industry to improve the quality, increase the efficiency, and accelerate fostering new growth drivers to provide key support for the creation of a new development pattern.

Zhifei has always adhered to the mission of "Safeguarding human health by preventing the unseen and treating the ailing," implemented the development model featuring "technology and market" drivers, focused on the main business, research and development innovation, deep

cultivation of the market, and strengthening the industry, and continuously strengthened its core competitiveness and resistance to risk. As China works to foster the new growth driver of biomanufacturing, the Company will seize the development opportunities, gain momentum for high-quality development, continuously enhance innovation and R&D capabilities, and deepen its global presence. The goal is to stay ahead of the competition and contribute Chinese wisdom to the cause of global public health as a world-class biopharmaceutical company.

(I) Consolidating its competitive advantage through "technology & market" drivers

Since its establishment, Zhifei has focused on the field of biopharmaceutical. Through continuous innovation and market deep cultivation, developed core competitiveness featuring "leading innovation and R&D abilities, professional market support." It has emerged as one of the leading biopharmaceutical enterprises in China. Facing the future, in order to further consolidate its competitive advantage and strengthen its position as a market leader, the Company will continue to improve governance to underpin the foundation for development, uphold the development model featuring "technology&market" drivers, improve independent R&D capabilities, and enhance marketing strengths to achieve healthy and sustainable development.

(II) Expanding business presence through coordinated development of "prevention and treatment"

The coordinated development of "prevention and treatment" is the foundation of the Company to "safeguard human health." In terms of the layout of therapeutic biopharmaceuticals, the Company and the controller Mr. Jiang Rensheng jointly invested in the establishment of Chongqing Zhirui Investment Co., Ltd. in 2014, which has successfully incubated more than ten innovative technology companies. It has built R&D and production platforms covering the treatment of autoimmune diseases, metabolic diseases, tumors, cardiovascular diseases and other biological drugs. The investment company will continue to pool the internal and external resources of the Group and help the listed company acquire advanced R&D technologies, innovation patents, and high-quality products through investment, mergers and acquisitions, and other methods, so as to expand the Company's business presences and enhance its overall competitiveness.

(III) Practicing the internationalization strategy at a deep level to safeguard human health

To serve the country's construction of the new dual-circulation development pattern, the Company takes a global perspective to practice the internationalization strategy. The Company is actively involved in international pharmaceutical innovation as well as collaboration between industry, universities, and research institutes. This enables it to advance global expansion and international cooperation at a deeper level. The Company makes vaccines more accessible to people in developing countries through technology sharing, capacity cooperation, and other methods. It will strengthen technical exchanges and cooperation and develop more innovative products to meet global health needs and make innovations better serve human life and health.

VIII.Risks and Countermeasures

(I) Policy risk

As one of China's emerging strategic industries, the biopharmaceutical industry receives great attention from government departments at all levels, and the bio-vaccine industry in particular is a strictly regulated industry. Zhifei strictly implemented various systems in accordance with the Vaccine Administration Law and gradually improved its management.However, with the rapid development of the economic society and increasingly stringent regulations, the subsequent policies may bring different changes in and have an impact on the production, sales and circulation of the Company. The Company pays close attention to the changes in policies and make timely adjustments to its business strategies to comply with the applicable regulations and regulatory.The Company adheres to standardized operation, and the management has rich professional knowledge and forward-looking thinking, and has good handling ability when responding to industry events and industry policy adjustment.

(II) Nonperforming debts

With the increase in sales volumes and the expansion of business operations, sales of agency products and independently developed products continues to grow and the Company's accounts receivable are also growing steadily. The Company attaches great importance to risk control in

advance of vaccine sales, follow-up on contract performance during the event, and effective communication after the event, and takes measures such as payment collection assessment and standard agreements to reduce the risk of bad debts.

(III) Talent management risk

As of the end of the reporting period, the Company has a total of 7,220 employees. The constantly growing talent team is the solid foundation for the Company's business implementation in R&D, production and operation. However, the increasing scale of employment poses certain management risks. The Company strongly advocates the talent selection principle of "prioritizing integrity over capability", and integrated corporate culture into employee induction training and daily management to ensure team's stability and code of conduct. At the same time, the company adopts a rich and diverse incentive mechanism to rejuvenate the vitality of the team.

(IV) Risks of public opinion response

With the facilitation of vaccination and the improvement of national awareness of disease prevention, the scope and quantity of vaccination products are steadily increasing.In addition, Once a public opinion incident occurs, it will have a great impact on the vaccination work and the development of the vaccine industry.With a strong sense of responsibility, the Company keeps a close eye on public opinion related to it and puts in place mechanisms for responding to and managing such opinion, so as to build a good brand image and sustain its growth.

(V) Risk of hesitation to vaccination

Despite vaccination is the most economic and effective way to prevent infectious diseases, the unwillingness or refusal of vaccination ("hesitation to vaccination") may reverse the progress of vaccination against preventable diseases, and may cause a downturn in sales in the vaccine industry for a certain period of time, thereby affecting the Company's performance. For a long time, the Company has consistently and continuously adhered to standardized operation, continued to invest in the academic promotion of vaccine value, actively participated in the popularization of vaccine knowledge and the cultivation of vaccination notification and demand, and promoted the public's rational awareness of vaccination.