



# 上海昊海生物科技股份有限公司

## Shanghai Haohai Biological Technology Co., Ltd.

(a joint stock company incorporated in the People's Republic of China with limited liability)

Stock Code : 6826

For a 3H Life

Healthy, Hearty, Harmonious Life

健康的生活，從昊海開始

Environmental, Social and  
Governance Report

2016





<b>About this Report</b>	<b>2</b>
<b>Chairman's Statement</b>	<b>3</b>
<b>1 Overview of the Company</b>	<b>6</b>
1.1 Introduction	7
1.2 Business Performance	9
1.3 Honour and Certification	10
<b>2 Better Governance</b>	<b>16</b>
2.1 Environmental, Social and Governance	17
2.2 Corporate Governance	23
<b>3 Better Products</b>	<b>26</b>
3.1 Research, Development and Innovation	27
3.2 High-quality Raw Materials	31
3.3 Quality Assurance	34
3.4 Serving with Heart	36
<b>4 Better Environment</b>	<b>40</b>
4.1 Environmental Management	41
4.2 Resource and Energy Consumption	42
4.3 Emission Management	44
4.4 Animal Welfare	48
<b>5 Better Team</b>	<b>50</b>
5.1 Overview of Employees	51
5.2 Training and Development	53
5.3 Health and Safety	54
5.4 Caring Our People	56
<b>6 Greater Contributions</b>	<b>58</b>
6.1 Social Contributions	59
6.2 Promotion of Industrial Development	59
<b>7 Appendix – Index of ESG Content</b>	<b>61</b>



# About this Report

## • Overview

This is the first Environmental, Social and Governance report (“ESG report”) of Shanghai Haohai Biological Technology Co. Ltd (hereinafter referred to as “Haohai” or “the Company”). The report is an annual report that focuses on disclosure of the Group’s performance in environmental, social and governance aspects for the period between 1 January 2016 and 31 December 2016 (“the Reporting Period”) and involves information prior to 2016.

## • Bases of compilation

This report is compiled mainly with reference to the amended Environmental, Social and Governance Reporting Guide released by The Stock Exchange of Hong Kong Limited (the “HKEx”) in December 2015. The content of this report is determined on the basis of a systematic procedure, which includes: identification and ranking of important stakeholders, identification and ranking of material ESG-related issues, determining the scope of the ESG report, collection of relevant materials and data, and review of report content according to the data for compilation.

## • Scope and limit of the report

The policy documents, statements and data of this report mainly cover the Company and its subsidiaries (hereinafter referred to as “the Group”, “we”, “our” or “us”).

In view that the Group completed its acquisition of 60% equity interest in Shenzhen New Industries Material of Ophthalmology Co., Ltd. (深圳市新產業眼科新技術有限公司) (“Shenzhen NIMO”), 100% equity interest in Henan Universe Intraocular Lens Research and Manufacture Company Ltd (河南宇宙人工晶狀體研製有限公司) (“Henan Universe”), 98% equity interest in Eyegood Medical (Zhuhai) Co. Ltd. (珠海艾格醫療科技開發有限公司) (“Zhuhai Eyegood”) and the hydrophilic and PMMA intraocular lens business of Aaren Scientific Inc. (“Aaren Business”) in the end of 2016, the environmental data of this report only cover the factory of the Company in Songjiang (“Songjiang factory”), Shanghai Qisheng Biologics Company Limited (上海其勝生物製劑有限公司) (“Qisheng”), Shanghai Jianhua Fine Biological Products Company Limited (上海建華精細生物製品有限公司) (“Jianhua”) and Shanghai Likangrui Biological Engineering Company Limited (上海利康瑞生物工程股份有限公司) (“Likangrui”) unless otherwise specified.

## • Sources of data and guarantee of reliability

The data and cases given in this report mainly come from the Group’s statistics reports and related documents. The Group undertakes that this report contains no false or misleading representations, and shall be responsible for its truthfulness, accuracy and completeness.

## • Confirmation and approval

This report has been reviewed by the management and approved by the board of directors on 23 June 2017.

## • How to obtain this report and give feedback

This report is provided in traditional Chinese and English versions, digital version can be downloaded from the “Financial Statements/ESG Information” of the HKEx website or Haohai official website.

For any queries about or feedback on this report and its content, please feel free to contact us through the following ways:

Address: 23F Wen Guang Plaza, No 1386 Hongqiao Road, Changning District, Shanghai, PRC  
Tel: (86) 021-52293555  
Email address: info@3healthcare.com

## Chairman's Statement

In 2016, a series of reformation was carried out in the pharmaceutical and medical device sector. Besides bringing different challenges to the manufacturing and sales of medical companies, it also created important opportunities for leading companies of great capabilities in the sector.

During this year, when embracing the tenth consecutive year of our growth, we issue our first Environmental, Social and Governance (ESG) report, as we believe that, as a bio-pharmaceutical enterprise of good social responsibility performance and business ethics, we should proactively focus on ESG risks in our operation and firmly commit ourselves to social responsibility.

We uphold our green and sustainable eco-friendly philosophy as one of our core competitiveness and take environmental compliance and green production as a key to our corporate governance. We have an environmental system in place to continuously enhance the promotion and implementation of environmental management system in factories and standardize our environmental management practice of enterprises so as to operate as an on-going concern. Furthermore, the proven strong competence in research and development ("R&D") is one of our long-standing core competitive edges and serves as a promise of the sustainable and healthy growth and development of our core business in the future. In 2016, we will continue to increase our efforts in R&D, focus on technological innovation and strengthen our R&D capability for the purpose of steadily improving product quality and customer satisfaction. Along with our continuous expansion, when attaching great importance to the rights and benefits of every employee, we design career development paths for each employee in accordance with their own characteristics by means of emphasizing the integration of human resources and consistently building up a learning-oriented enterprise. In view of social and public needs, while constantly optimizing our product offering and promoting the service upgrade, we drive the industry development with our best products and services in an effort to unswervingly make contributions to all stakeholders, the industry and the society.

On the broad path of development in the biological medicine market, we will insist on the operation principle of maintaining public health. We will continue to carry out sustainable tactics in our overall strategies and perform our corporate social responsibilities in every business segment of the Group, and endeavor to lead China's absorbable biomedical materials industry to develop in wholesome and sustainable direction. In the future, the Group will continue to perform ESG-related responsibilities and insist on complying the environmental and pollution standards besides paying attention to employees' career development and labour interests and participate in social charity and volunteering services. When striving to offer high quality of goods and services, we will continue our efforts in energy saving and environmental protection so as to serve the general public and contribute to the society!

In 2017, the Group will continue to operate in a pragmatic manner. We will do our best to promote development of biomedicine in China!

**Hou Yongtai**

*Executive Director and Chairman of the Board*

23 June 2017



# The Greatest of Haohai in 2016

## The Greatest “Upgrading”

The upgraded official website was launched on 1 April

## The Greatest “Anniversary”

30 April, first anniversary of the listing of Haohai

## The Greatest “Entertainment”

The Final of China Good Microfilm Contest organized by Haohai came to a close

## The Greatest “Strategies”

Intensification of ophthalmology industry network: acquisition of 60% equity interest in Shenzhen NIMO, 100% equity interest in Henan Universe, 98% equity interest in Zhuhai Eyegood and the “Aaren Business”; integration and operation of the ophthalmology development platform

## The Greatest “Expectation”

On 16 June, the ribbon-cutting ceremony was held in celebration of the business commencement of the Haohai Healthcare Holdings Co., Limited in Hong Kong, a wholly-owned subsidiary of the Company

## The Greatest “Shine”

The 2016 data indicated great business performance

## The Greatest “Breakthroughs”

Two “breakthrough” in ophthalmic and medical aesthetics products were approved by the China Food and Drug Administration (“CFDA”)

Approval for the new high-concentration ophthalmic viscoelastic devices (“OVD”) product “Survisc”

Approval for the new generation hyaluronic acid dermal filler product (“HA dermal filler”) “Janlane”

## The Greatest “Events”

Two annual events of Haohai:

2016 Nationwide Ophthalmology Industry Summit Forum

2016 Summit for Investment Leaders of Medical Aesthetics Sector in China

### The “Most Authoritative”

HA dermal filler “Matrifill” and the lubricant eye drops product “Eyesucom” are recognized by authoritative medical journals

### The Greatest “Leadership”

Intra-articular viscosupplement products, anti-adhesion products and OVD products had the greatest market share in respective market segments for two consecutive years

### The “Topmost”

The only biomedicine company in Shanghai being included in the list of “2016 companies with intellectual property advantage in China” solely named by the State Intellectual Property Office

2017 is the 10th anniversary of Haohai. A lot of fruits were borne after 10 years of efforts. During the decade, Haohai has grown from a small company to a leading group, it has transformed into the industrial leader from a follower. With the capabilities achieved through time, Haohai has grown into a strong brand.

In 2017, Haohai will continue to develop from the new starting point with the same goal it had embraced since the beginning and strive to expand the “Haohai” footage to the world for fulfillment of Haohai’s “China dream”.



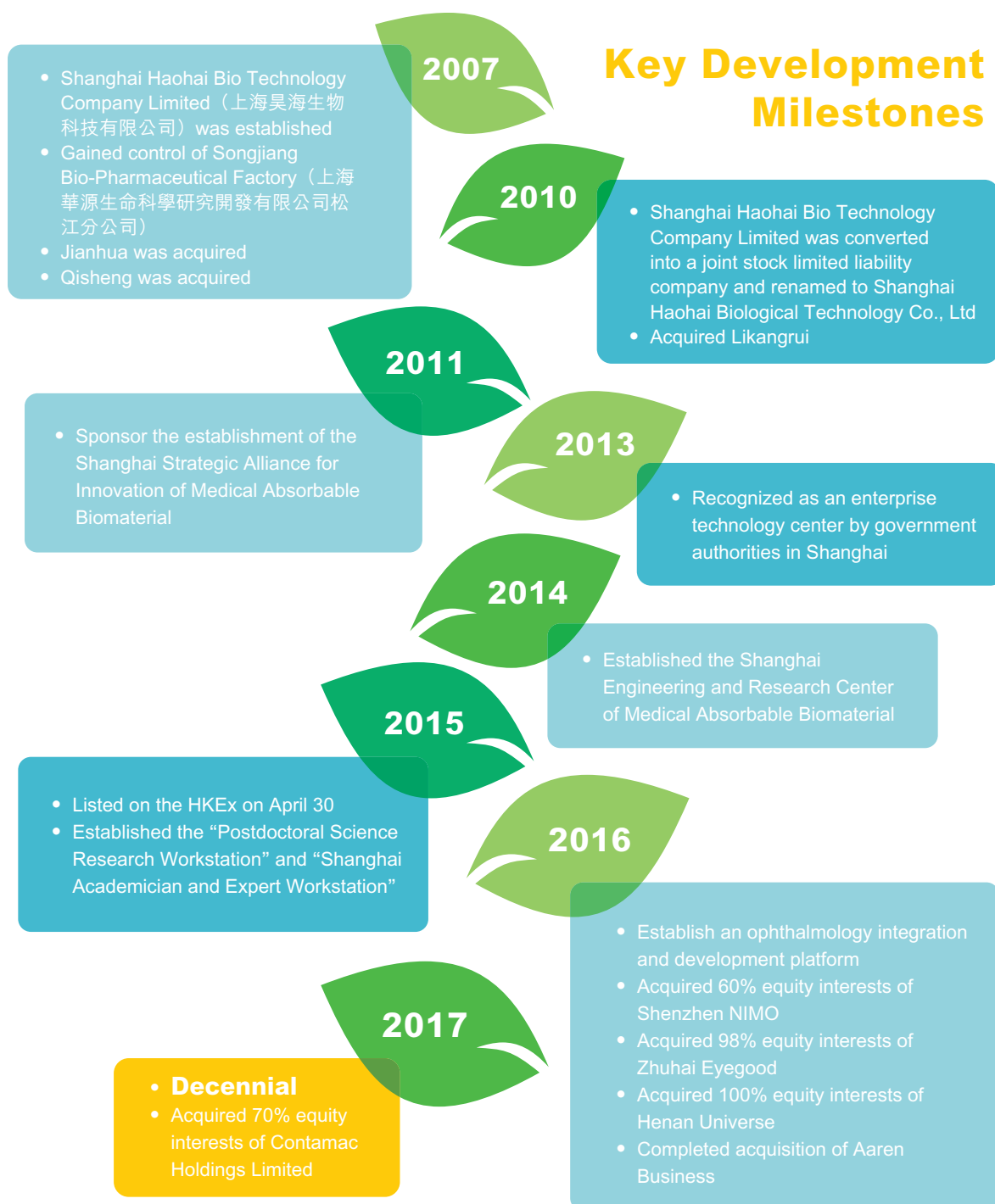
# 1 Overview of the Company



# 1 Overview of the Company

## 1.1 Introduction

The Group is a leading company in the PRC focusing on the research, development, manufacturing and sale of absorbable biomedical materials. The Company was listed on the HKEX in 30 April 2015 (Stock Code: 6826). For the decade since its establishment, the Group has continued to grow rapidly.

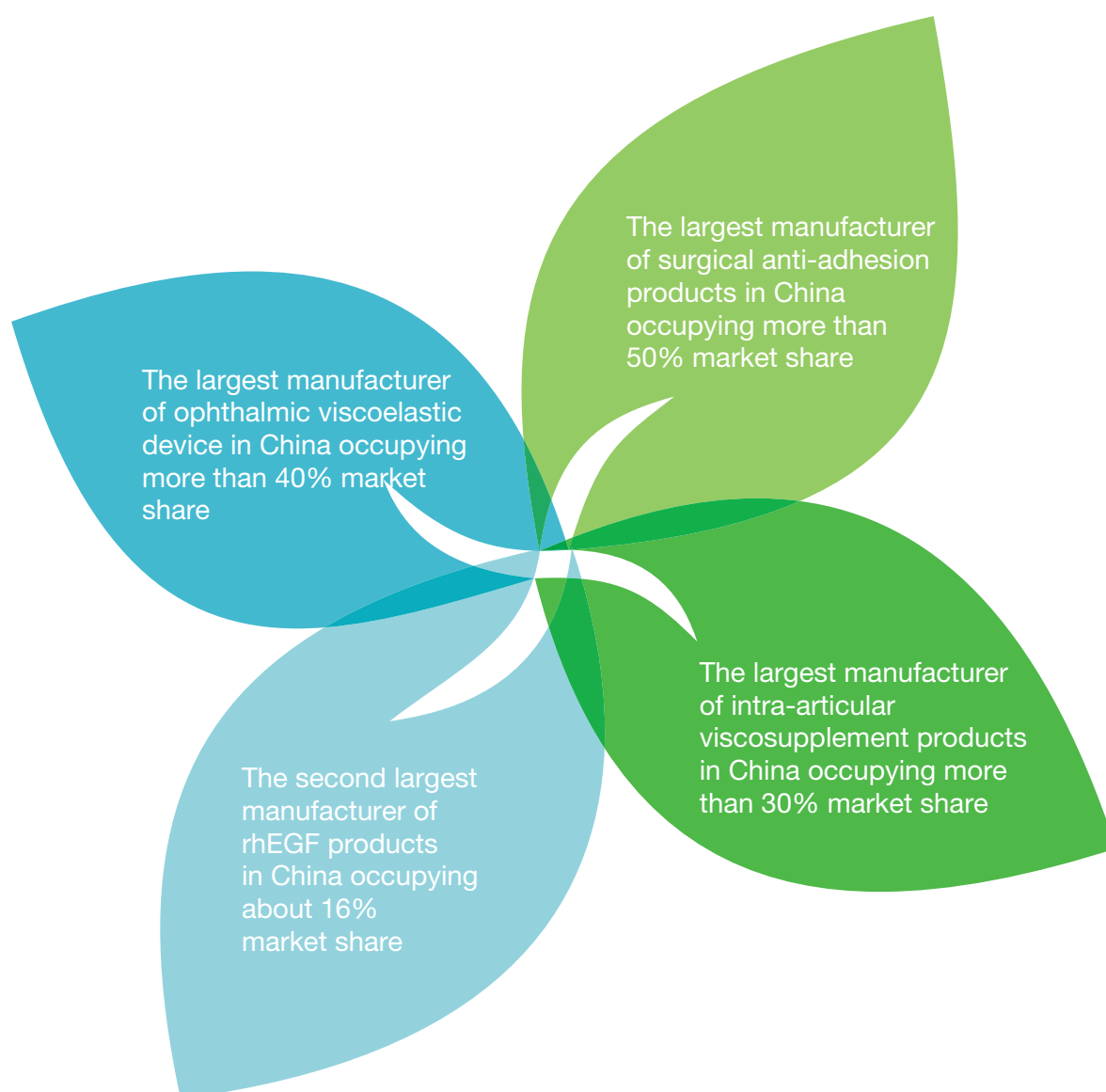


# 1 Overview of the Company

The Group targets the fast-growing therapeutic areas in the absorbable biomedical material market in China, including orthopedics, medical aesthetics and wound care, ophthalmology, post-surgery anti-adhesion and surgical hemostasis. The Group mainly manufactures and sells medical sodium hyaluronate\*, medical chitosan and medical collagen, also manufactures innovative biological drugs such as recombinant human epidermal growth factor (“rhEGF”).

\* *Sodium hyaluronate is commonly called HA dermal filler in the medical aesthetics area*

According to the research reports of China Food and Drug Administration Southern Medicine Economic Research Institute and Guangzhou Biaodian Medical Information Co., Ltd., we are:



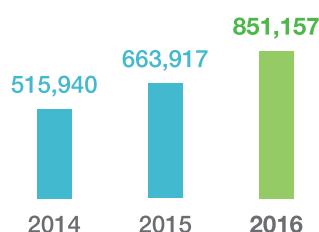
# 1 Overview of the Company

## 1.2 Business Performance

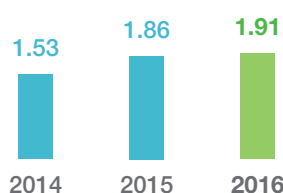
When ensuring continual growth of the current product lines of absorbable biomedical materials, we proceed with cataract surgical core medical mechanical intraocular lens as the breakthrough and integrate domestic and overseas target companies which offer sophisticate products and have high technologies and market resources through acquisition to progressively enter high value-added ophthalmic consumable industry. This is done to ensure sustainable momentum for development of the Group so as to achieve robust financial performance.

In 2016, the Group earned the revenue of RMB 851.16 million, representing an increase of 28.2% over the previous year. Net profits attributable to ordinary shareholders of the Company (excluding the gains from foreign exchange settlement of the amount financed through global IPO) was approximately RMB 305.05 million, representing an increase of 22.5% over 2015. Earnings per share were RMB 1.91 (2015: RMB 1.86).

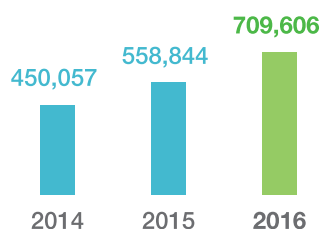
Revenue (RMB'000)



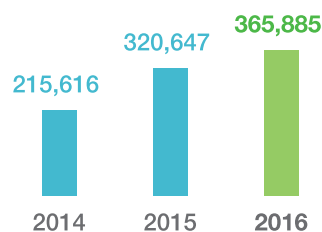
Earnings per share (RMB)



Gross profit (RMB'000)



Pre-tax profit (RMB'000)

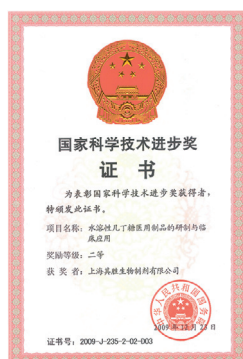


# 1 Overview of the Company

## 1.3 Honour and Certification

The Group has received a lot of awards at the national and provincial levels in recognition of its scientific research achievements and invention patents since it was established in 2007.

The mainly honour and certification owned by the Group include the Second Prize for National Science and Technology Progress Award (2 items), the First Prize for Shanghai Science & Technology Invention Award, the First Prize for Shanghai Invention Patent, Shanghai Pilot Enterprises in Patent Operation for 2015, Superior Enterprise with Intellectual Property in Shanghai for 2015, Little Technology Giant Company, China Pilot Enterprises in Patent Operation for 2016. In addition, the establishment of “Postdoctoral Science Research Workstation” and “the Shanghai Academician and Expert Workstation” were approved.



Second Prize for National Science and Technology Progress Award



First Prize for Shanghai Science and Technology Invention Award



Superior Enterprise with Intellectual Property in Shanghai for 2015



2015 Best 100 of Commercialization of High and New Technology in Shanghai



Shanghai Pilot Enterprises in Patent Operation for 2015



# 1 Overview of the Company

After a decade of development, the Group owns the world-class platform for research and development, manufacturing, sale and investment as well as world-class management team, and boasts good operating capability and high growth rate in the biomedicine sector. It also has the advantage of being the leader in domestic market.

<b>Competitive advantage</b>	1. Focus on the rapidly growing therapy segment of the absorbable biomedical materials in China
	2. Excellent past results and ample experiences in identification, acquisition, integration and optimization of strategic assets
	3. Strong capability in patent products and R&D, which we further strengthen through the diversified products under development, an innovative team and extensive operation with leading R&D institutions
	4. Extensive and effective distribution network and strong capabilities in distributor management and marketing
	5. A stable, experienced, dedicated and visionary senior management team

The Group puts into practice its sustainable development concept through technological innovation and integration of strategies. By a series of integrations in R&D, manufacturing, sales and corporate governance, the Group has effectively increased production efficiency, reduced the costs and smoothly achieved large-scale and professional manufacturing of implantable biodegradable medical materials mainly containing medical sodium hyaluronate and medical chitosan. We have thus developed unique core competitiveness and unique resources which earns recognition of customers, investors, the industry and society.

## • Our values, mission and vision

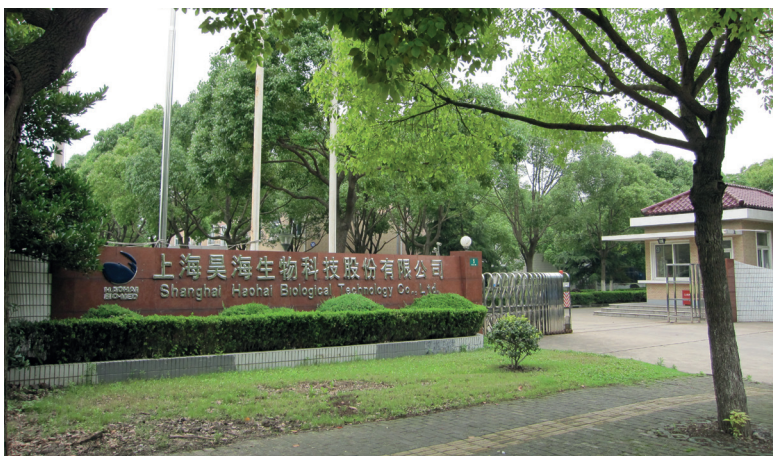


# Ten Years' Efforts of Solidarity

“Old” factory brings about “new” changes

In 2007, Haohai started its “legend” from the Songjiang factory in Shanghai. Today, the “old” factory has undergone “new” changes. Its transformation in ten years, including area expansion and upgrading of equipment, serves as the best witness to our efforts during the period.

Our dream started in 2007 from the Songjiang factory in Shanghai



Entrance to old Songjiang factory



Old entrance to Qisheng

2007

In 2008, active pharmaceutical ingredient (“API”) workshop started operation



2008

In 2009, Haohai’s productivity was significantly increased with introduction of the full automation production line



Brand new automated canning and packaging lines

2009

In the early years, Haohai was well aware of the difficulties in long-term development taking into consideration of the production conditions then. Through joint efforts of the entire Haohai team working towards the goal of reformation, transformation and upgraded productivity, we succeeded in transforming the small volume parenteral solution workshop, lyophilized preparation workshop and API workshop.

# 2012

In 2012, the production facilities undergone “star-grade” transformation



Groundbreaking ceremony of Songjiang factory



Commencement of transformation of Qisheng

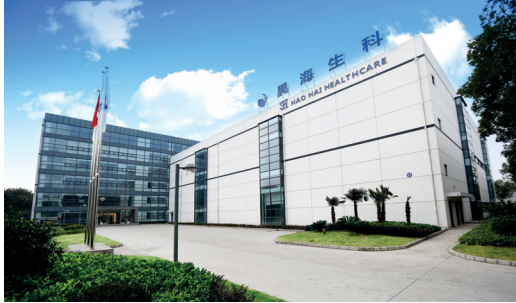


Works in progress at Likangrui site

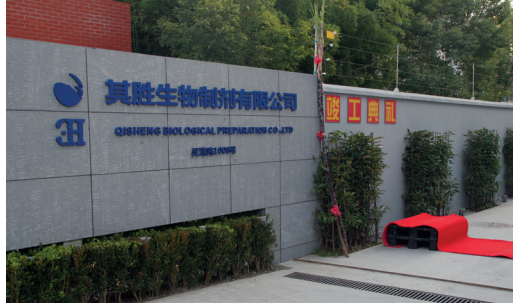
Restricted by reasons including backward manufacturing techniques at the time, Haohai only manufactured several ten thousand preparations annually. Productivity was seriously low. “Good tools helps one succeed”. After fully upgrading the production facilities, the production was expanded to more than 10 million units annually. This has laid the solid foundation which led Haohai to rank among the leading companies in the industry today. The “old” factory has really brought about “new” changes.



In 2014, new workshops of Songjiang factory and Qisheng factory commenced operation



New Look of Songjiang factory



New Look of Qisheng factory

In 2014, civil engineering works in the new Likangrui site were completed



2014

In 2017, Haohai celebrated the first 10th anniversary. Haohai's employees will continue to follow the principle of solidarity to promote development of the Company jointly, face challenges squarely and seize opportunities proactively to create even better future.

In 2016, Likangrui entered the pilot production stage



2016



## 2 Better Governance

The Group adheres to the vision of sustainable development and actively pays attention to the risks caused to the environment, society and governance in the course of research, development and manufacturing. When endeavoring to pursue sustainable development, the Group also actively performs its environmental and social responsibilities to provide even better and wholesome services to the general public.

- In 2016, the Group faced **no** litigation regarding corruption
- More than **150** valid questionnaires were returned and telephone interviews were conducted with more than **20** stakeholders from various sectors



## 2 Better Governance

### 2.1 Environmental, Social and Governance

In order to formulate effective sustainable development strategy in response to environmental and social compliance risks and disclose accordingly, the Group has set up the ESG Committee and ESG Working Group led by Haohai's board of directors (the "Board") to coordinate and handle ESG affairs to ensure that ESG-related tasks are smoothly assigned to employees of all ranks and grades from the top management. All departments report progress of their ESG tasks to the Board, which shall be responsible for supervising and assessing the efficacy of the system's operation to ensure sound environmental, social and governance.

#### Board of Director of the Company

1. To be responsible for assessing and determining the Group's ESG-related risks
2. To ensure the setting up of appropriate and effective systems for ESG and internal control
3. To review and approve ESG-related policies
4. To review and approve ESG reports

#### ESG Committee

1. To carry out ESG risk management and internal control
2. To guide ESG working group in its work
3. To review and approve ESG-related policies
4. To ensure accuracy of performance index in the ESG report

#### ESG Working Group

1. To arrange officers to specialize in the collection of ESG-related data and compilation of reports
2. To report to the Group's management on regular basis to help them assess and determine whether the Group's ESG risks management and internal control are appropriate and effective



## 2 Better Governance

- **Overall vision of ESG management**

The Group continues to strictly carry out sustainable tactics of the overall strategies, performs our corporate social responsibilities and pursues sustainable development in every business segment adhering to the vision of operating in wholesome manner in the best interest of public health. The Group endeavours to become the most responsible enterprise in the absorbable medical material and healthcare industry in China by insisting on scrupulous operation and scientific development.

The Group actively strengthens internal and external governance, provides safety training to employees, supervises the entire process from research, development to manufacturing on an ongoing basis, and continues to minimize the impact of the manufacturing process on the environment and peripheral communities by constantly improving manufacturing techniques, recycling used materials and upgrading environmental supporting facilities. When providing premium goods and services, we will continue to save energy, protect the environment and contribute to the society.

### **Innovation and R&D competitiveness**

- To cooperate with major universities, scientific research institutes and large hospitals
- To set up additional R&D laboratory bases

### **Environmental protection**

- To promote re-use of used materials
- To upgrade and transform supporting facilities

### **Guarantee product quality**

- To implement strict quality inspection process
- To set up customer feedback mechanism

### **Performance of corporate social responsibilities**

- To actively organize charity activities
- To promote cataract projects

## 2 Better Governance

- **Identification and communication with stakeholders**

The Group pays great attention to stakeholders' expectation and aspirations in ESG aspects. Key stakeholders like customers, shareholders, potential investors, government institutions, media, employees and suppliers are important to us. We have effective communication with all stakeholders on regular basis and assess and analyze from multiple perspective the risks related to the important ESG topics which they show great concern. Through analysis of the topics which are related to our development and are matters of stakeholders' concern, collection of feedback from all related parties, the findings are incorporated into the Company's system and sustainable strategies. Meanwhile, the efficacy of related actions are reviewed on regular basis; communication channels are also improved so stakeholders' opinions are more fully reflected.

Stakeholders	Topics of concern to stakeholders	Communication and feedback channels	Frequency/Number
Customers	R&D and innovation Product safety Smooth communication channels	– Hotline service – Customers' feedback – Satisfaction survey	Irregular
Shareholders and investors	Economic benefit  Compliant operation  R&D and innovation	– Annual reports  – Announcements  – Roadshows	One annual general meeting is held annually; Extraordinary general meeting will be held under special circumstances; and Investor meetings and on-site surveys are carried out on irregular basis.
Government and regulators	Pay tax pursuant to laws Promotion of employment Environmental protection	– Regular publication of reports – Offer employment – Regular inspection of factories	Irregular

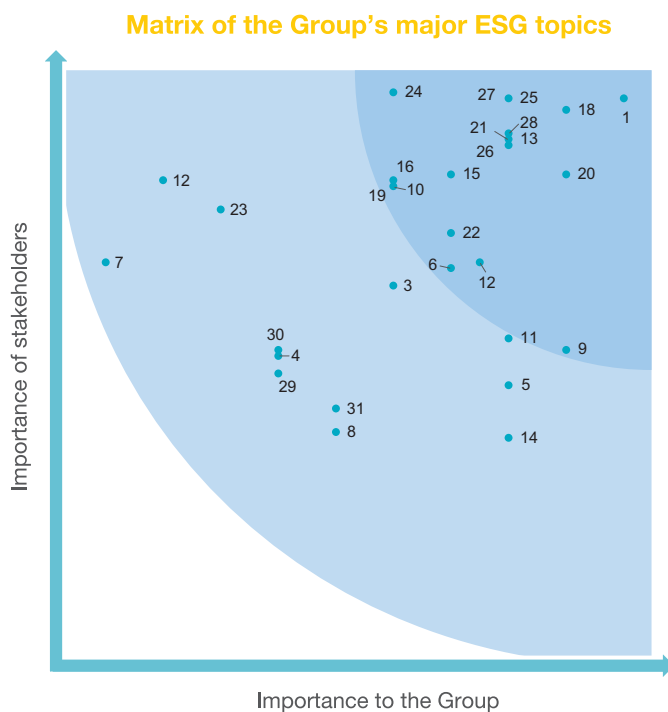
## 2 Better Governance

Stakeholders	Topics of concern to stakeholders	Communication and feedback channels	Frequency/Number
Employees	Salaries and benefits	– Physical examination for employees	Performance appraisal interviews on irregular basis
	Career development Humanistic solicitude	– Professional training – Organization of employee activities	
Suppliers	Integrity	– Public tender	Holding supplier meetings on regular basis
	Supply management Communication with community	– Equal negotiations – Evaluation on regular basis	
Community	Communication with community Environmental protection Product safety	– Volunteering activities – Charity activities	Irregular

## 2 Better Governance

- **Material ESG issues and matrix**

In the reporting period, we have devised the ESG-related questionnaires and surveyed stakeholders so as to understand the opinions and expectations of stakeholders in all aspects about us in ESG-related topics, and provide the Group with substantive basis for the formulation of long-term strategies. More than 150 questionnaires were returned and more than 20 stakeholders from different sectors were interviewed by ways of telephone or face-to-face meeting. Through surveying stakeholders, we got the matrix of the Group's major ESG topics in 2016.



## 2 Better Governance

Serial	Name of topic	Serial	Name of topic
1	Business performance	17	Compliance of local employment regulations on environment and health
2	Climate change	18	Career development and training for employees
3	Air emission	19	Safe production
4	Consumption of packaging materials	20	Strict compliance of labour law
5	Energy consumption	21	Supervision and control of clinical adverse effects
6	Industrial and domestic waste water treatment	22	Criteria for screening suppliers
7	Solid waste management	23	Suppliers' performance in environmental and social aspects
8	Noise	24	Services and communication channels for customers
9	Consumption of materials for production	25	Intellectual property
10	Discharge and treatment of toxic and hazardous substances	26	Production safety
11	Water-saving and energy-saving measures	27	Privacy of customers
12	Compliance of local environmental regulations	28	Anti-corruption, anti-bribery
13	Employee salaries and benefits	29	Contributions to society
14	Diversification of and equal opportunities for employees	30	Maintenance of tie and communication with community
15	Staff turnover rate	31	Charity
16	Safe and comfortable workplace		

## 2 Better Governance

### 2.2 Corporate Governance

- **Corporate governance**

Pursuant to the Company Law of the People's Republic of China, Securities Law of the People's Republic of China, the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited ("Listing Rules"), the Securities and Futures Ordinance and other laws and regulations, the Company has set up the governance structure which includes the general meeting, board of directors, supervisory committee and management. There are four special committees under the board of directors. The Company has established an audit department as its dedicated internal audit function. Nearly 20 departments are also set up including the General Manager's Office, Finance Department, Business Department, Medical Department, Sales Support Department, Project Management Department, Human Resources Department, Sales Department, and Marketing Department. They represent the organ of power, executive arm and supervisory body as well as the mechanism which ensures clear-cut division of authorities between supervisory body and management; regulates operation besides mutually coordinating and checks and balances one another.

The Group has always observed all the applicable code provisions under the Corporate Governance Code as set out in Appendix 14 of the Listing Rules, and will continue to review and upgrade its corporate governance practices to ensure compliance with the code. For more information about corporate governance, please refer to the Corporate Governance Report section of the 2016 annual report.

- **Governance mechanism**

Good corporate governance is the foundation and guarantee of the company's development. The Group will continue to consolidate and further improve our corporate governance standard and strengthen our corporate competitiveness so as to bring even better operating results and returns to our investors.

We have a standard employment management workflow and pay great attention to employees' inclusiveness, management-employee relationship and promotion of family-like culture. We emphasize payment of same salary for same positions and implementation of equal and fair systems.

After multiple mergers and acquisitions, the Group has introduced reasonable management systems to all subsidiaries to help release their production capacity on the basis of the excellent technical background and market opportunities already enjoyed by the Company.

In the courses of multiple mergers and acquisitions, the Group has kept the original teams as far as possible. The Group's management team organically integrates Western modern management theories with the experiences we gained from operation in the Chinese market to help the newly-acquired companies optimize and improve their internal management systems in phases and discover values of the original companies as far as possible.

## 2 Better Governance

- **Anti-corruption**

The Group has further improved its compliance system by establishing regulations and organizational system while at the same time strengthened its educational efforts to promote the importance of integrity, self-discipline and having a trustworthy business operation. The Group also carries through its value of integrity and ensures a healthy, stable and sustainable development of its business through investigating reported corruptions, regulating the working conducts of employees, providing compliance consultation and servicing the operation and management of the Company. In 2016, the Group did not have any corruption cases.

The Group has established a management system to combat commercial bribery and corruption, and prevent conflict of interest and fraudulent behavior. Relevant codes of conduct targeting the sales staff are set up to clearly define prohibited behavior. All corruption cases reported by employees via telephone, email and other forms of reporting will be submitted for the Company's legal department's review. The Group's relevant internal systems and guidelines currently being implemented include Shanghai Haohai Biological Technology Co. Ltd. Anti-Fraud and Reporting System, Shanghai Haohai Biological Technology Co. Ltd. Conflict of Interest Declaration System, Shanghai Haohai Biological Technology Co. Ltd. Business Sales Management System, Shanghai Qisheng Biological Preparation Co. Ltd. Business Sales Management System, Shanghai Jianhua Fine Biological Products Co. Ltd. Sales Management System, Shanghai Haohai Biological Technology Co. Ltd. Integrity Sales Practices Code of Conduct.

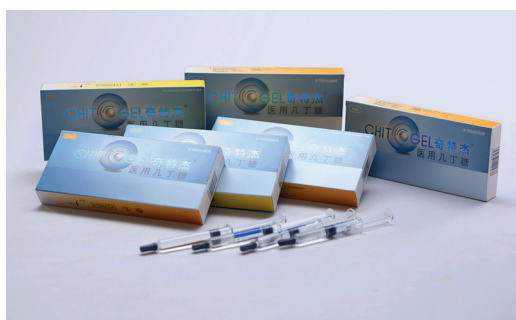
To ensure that the Group's operation is always in compliance with regulations, we need to make sure that all employees understand and comply with the Group's relevant management systems. The Group conducts regular training for existing staff. For new staff recruited in 2016, the Group also provided training for them and signed the "Integrity Sales Practices Code of Conduct" and "Conflict of Interest Declaration System" with sales-related staff.



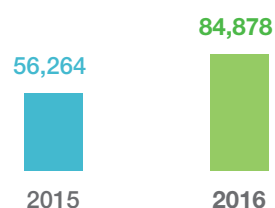
## Orthopedic Products

We are currently manufacturing and selling two products used for intra-articular viscosupplement, one is made of sodium hyaluronate and the other is made of medical chitosan. Intra-articular visco supplementation has been proven to be an effective and safe method for treating degenerative osteoarthritis.

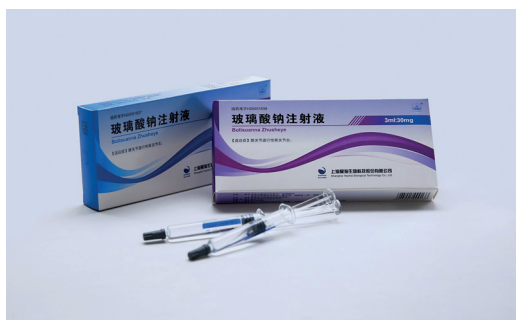
### Medical Chitosan (for the intra-articular injection)



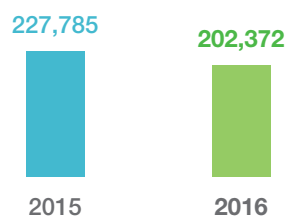
#### Medical Chitosan Qitejie Annual Sales Revenue (RMB'000)



### Sodium Hyaluronate Injection



#### Sodium Hyaluronate Annual Sales Revenue (RMB'000)



Although overall sales revenue of sodium hyaluronate injection products has declined in 2016, the current market penetration of sodium hyaluronate injection product – an effective medical product that is widely used in the world – is still very low in China. Going forward, we believe that its sales growth potential cannot be overlooked.

# 3 Better Products

The Group is committed to the product philosophy of ensuring supreme quality, being people-oriented and staying devoted to innovative development. We focus on areas related to absorbable biomedical materials. Our goal is to give full play to our advantages in innovative R&D technology and to promote the development of absorbable technologies and degradable bio-material industry by enhancing the quality of our products and services.

## Result Highlights in 2016

- R&D investment increased from **RMB 352,500** in 2015 to about **RMB 472,600**
- High-tech R&D team comprises of **183 people**
- **None** of the products sold or shipped by us has been returned due to complaints about quality or safety issues



## 3 Better Products

### 3.1 Research, Development and Innovation

- **R&D Investment**

The Group's strong R&D capability is one of our core competencies in the long term. It ensures the sustainable and healthy growth and development of our core businesses in the future. In terms of R&D capital investment, we are investing about 5% to 6% of our annual revenue in scientific research to expedite technological breakthroughs. We raise funds from different sources to construct new production bases, selectively acquire biopharmaceutical or biomedical materials companies or assets, purchase new production equipment, and reform and upgrade our enterprise facilities to enhance our R&D standards. In 2016, we continued to step up investment in R&D; investment in R&D during the year increased to around RMB 472,600 as compared to RMB 352,500 in 2015.

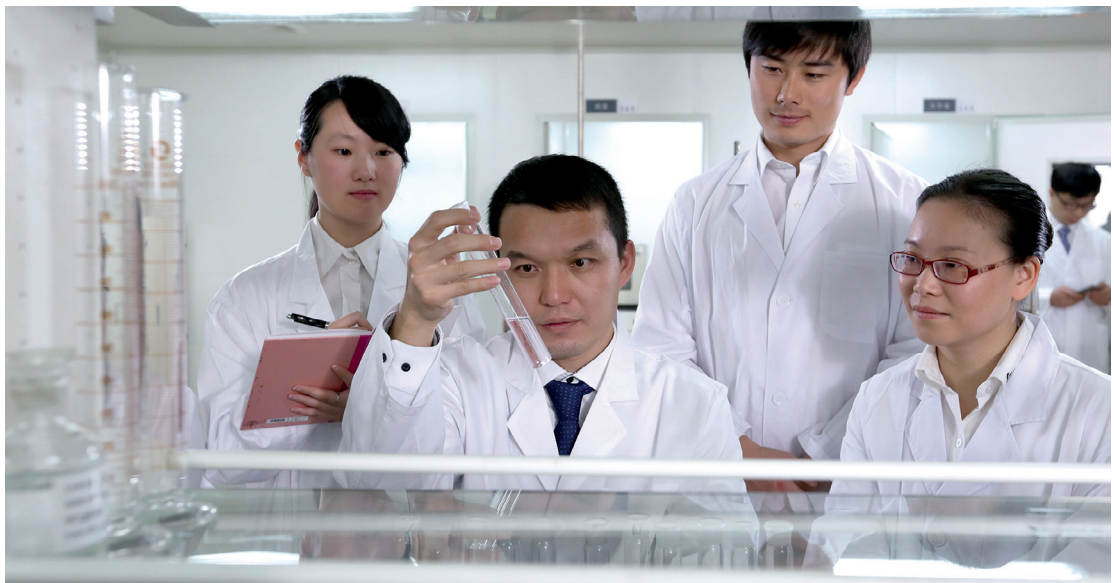
With years of experience in R&D, the Group has not only garnered a number of core and patented technologies that lead international and domestic peers, but it has also formed and trained an experienced and sophisticated high-tech R&D team, most of whom are senior technical talents. The team is equipped with a wealth of experience in R&D, as well as reporting and registration experience; it has gained highly-efficient management capabilities in R&D. These advantages have been successfully applied to the Group's R&D practices, laying a solid foundation for our development and representing the Group's core competitive advantage.

### 3 Better Products

- **R&D team and its achievements**

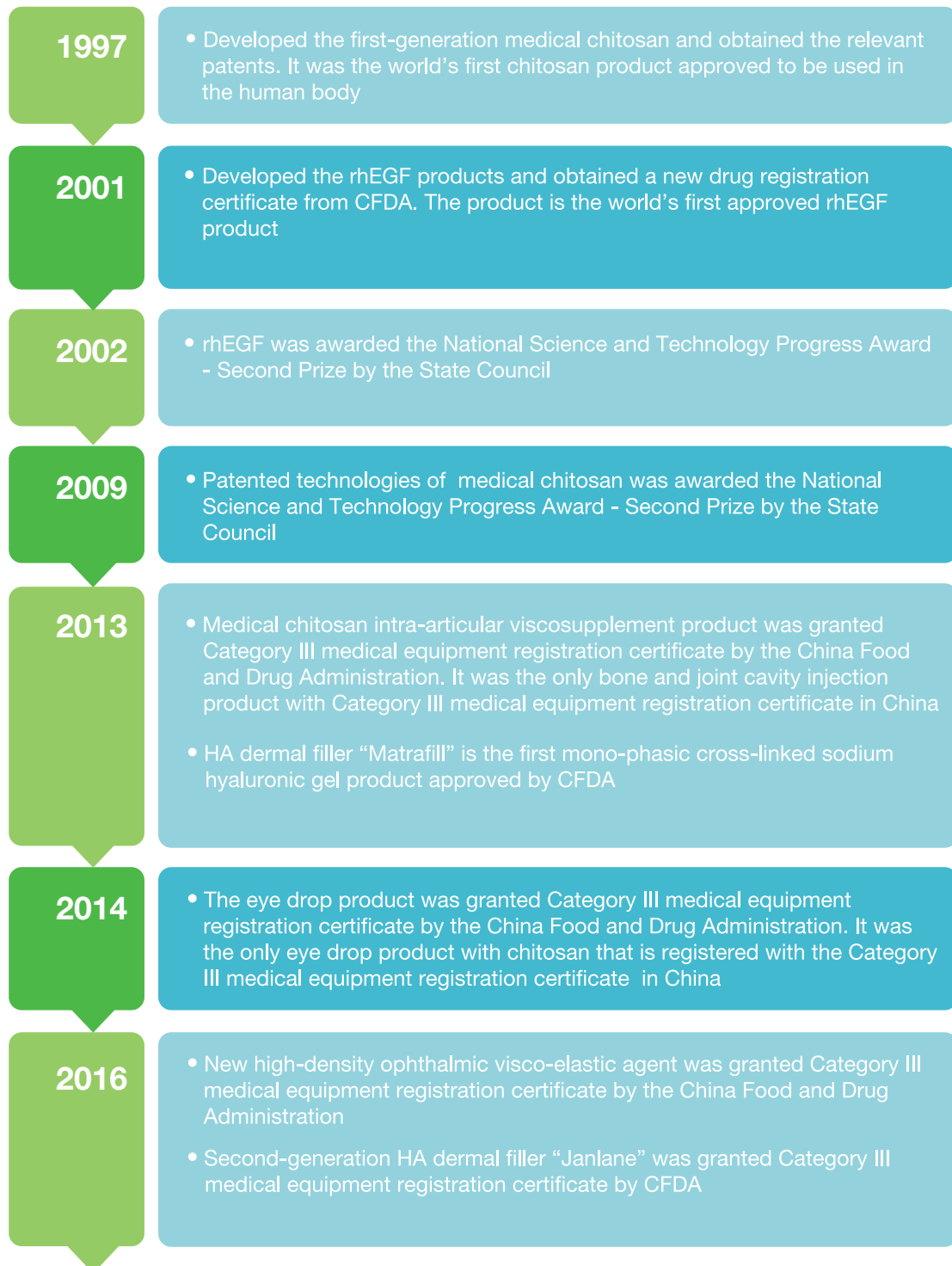
As a manufacturer of new biomedical materials, “innovation” is the ceaseless pursuit of us. In its R&D practices over the long term, the Group has formed a unique proprietary R&D strategy for new products. We strictly adhere to our philosophy in scientific research: “a new generation in production, R&D, pre-research and reserve” and to adopt the R&D model that “focuses on proprietary innovation, complemented by cooperation in production and research”, so as to maintain the continuity of R&D works and keep a forward-looking mindset.

The Group looks to the market as its guidance and strives for original innovations. It aims to integrate different innovations; this is the starting point, as well as our standing point in expanding our product line. The Group has been continuously consolidating the R&D team; it has also placed emphasized on its R&D strength and expanded the scope of its innovations. Through the establishment of the Shanghai Academician and Expert Workstation and the Post-Doctoral Research Station, and by vigorously introducing top-notch talents in biomaterials from home and abroad, the Group has strengthened horizontal cooperation with domestic and foreign colleges, research institutions and large-scale third-tier hospitals. This helps to enhance the Group’s ability in personnel training and lift its capabilities in technological innovation.



### 3 Better Products

Since the first-generation medical chitosan has obtained patent in 1997, over the previous decade we have endured hardships and expedited our development. We have stood firmly and forged ahead steadily to achieve a series of R&D accomplishments. We are already recognized across different fields:



### 3 Better Products

As at 31 December 2016, the Group owns 26 product pipelines in different stages of R&D. One is about to apply for production approval, three have completed clinical trial and are undergoing product registration, ten are under different stages of clinical trials or type inspection, and 12 are undergoing pre-clinical research or technical research.

Our R&D goals:



#### Short-to-medium term goals

##### Focus on R&D

- Third-generation HA dermal filler
- Fibrous protein sealant
- Second-generation thermal-sensitive products and new intraocular lens products
- Specification and indication enhancement for a launched product



#### Long-term goal

##### Strengthen R&D capabilities

- Leverage on the medical chitosan technology platform and the electrospinning technology platform to extend R&D coverage, so as to further expand the Group's product offering in the product sectors of sustained-release preparations, new compound anti-adhesion and hemostasis membrane products

## 3 Better Products

### 3.2 High-quality raw materials

- **Quality of raw materials**

The Group is committed to creating high-quality, safe and healthy absorbable biomedical products by using raw materials of the highest quality. The Group sources the best raw materials from around the world. Currently, our largest purchase of raw materials is the syringe from Becton, Dickinson and Company, a company in the United States. The Company is one of the world's largest medical technology companies engaging in the R&D, production and marketing of medical equipment, medical systems and reagents.

In the selection and utilization of raw materials, all aspects of the Group are in line with the rules of the new GMP "Pharmaceutical Production Quality Management Practices", ISO13485 "Medical Device Quality Management System" and the requirements set out in relevant national laws, regulations and quality standards. The Group will strictly enforce the requirements of the system and continuously improve the compliance standards.

- **Supply chain management**

When selecting suppliers, the Group attaches great importance to product quality, the market status and reputation of the supplier and other factors. Haohai has established the "Shanghai Haohai Biological Technology Co. Ltd. Procurement Management System" and the "Shanghai Haohai Biological Technology Co. Ltd. Procurement Management Procedures of Production Materials" to regulate the procurement procedures of Haohai in different aspects, including procurement principles, procurement types, and procurement authorization and so on. This can effectively prevent errors and fraud in the procurement and payment businesses and ensure that the risks throughout the whole process of procurement and payment management are reasonably controlled, so as to enhance the efficiency of the operation cycles of procurement and payment management.



### 3 Better Products

The selection principles and requirements for suppliers are as follows:

The products or services provided by the supplier completely satisfy the Group's technical and quality requirements

Suppliers must be able to meet the Group assessment criteria under its quality system and provide the relevant qualification materials for record-keeping

The Group will enter into a quality agreement with the supplier or enter into relevant agreements within the contract

The Group will assess the supplier's production scale, technical strength, service quality, capability in sustainable development, management quality, innovation capability, and its ability to continuously improve quality

The Group regularly conducts supplier site visits to carry out assessments and evaluations. The supplier must continuously meet the assessment standards of our quality system

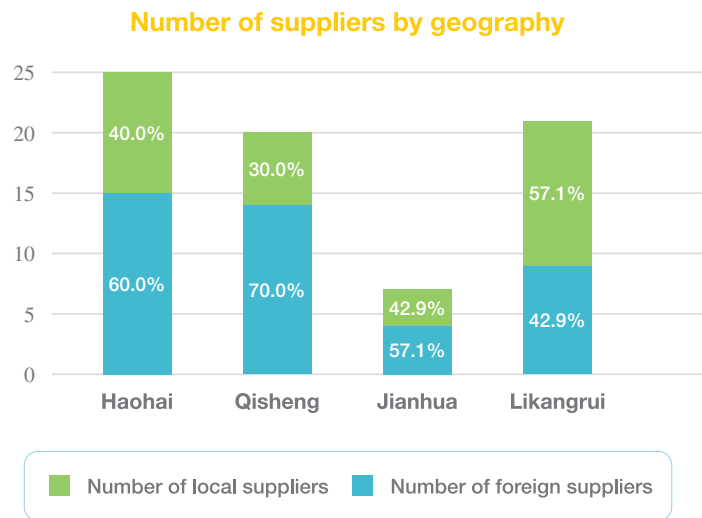
Under the guidance of the aforementioned systems, and in accordance with the requirements of the national GMP standard and the national ISO9001 quality control system, all subsidiaries have further integrated the characteristics of their respective procurement and payment businesses to formulated their own procurement and payment management rules and regulations, such as "Shanghai Qisheng Biological Preparation Co. Ltd. Procurement Control Procedures" and the "Shanghai Jianhua Fine Biological Products Co. Ltd. Procurement Control Procedures". These guidelines regulate the operating procedures of procurement and payment in great details; they carry relatively higher scientific and guiding values.

In assessing and selecting suppliers, the Group places special emphasis on the performance of suppliers in carrying through their social responsibilities. While our priority is to select the suppliers who can provide us with the best raw materials, we also consider their accomplishment in protecting the rights and interests of their employees, environmental protection, and social welfare and so on. We consider these factors in combination in the selection of the Group's suppliers.

### 3 Better Products

As at 31 December 2016, the Group's total procurement from the top five suppliers accounted for 75.5% of the Group's total annual procurement, of which the procurement from the largest supplier accounted for 57.8% of the Group's total procurement during the reporting period.

In addition, to support the development of local suppliers, the Group prioritizes local suppliers in its selection. There are a total of 73 suppliers with an annual procurement of more than RMB 100,000, of which 42 are local suppliers, accounting for 57.5% of this group of suppliers. In particular, local suppliers account for 70% of all suppliers in the factory of Qisheng. The percentages of local/foreign suppliers in the Company and Qisheng, Jianhua, Likangrui are as follows:



## 3 Better Products

### 3.3 Quality Assurance

The Group is in strict compliance with the national and industry-related quality standards; it strictly abides by the quality requirements of GMP and ISO9001 and so on. It has established a sound quality management system and a robust testing system to ensure that the whole production process is in line with regulatory requirements, and that the product quality is able to meet quality standards. Meanwhile, the Group has formulated internal standards that are more stringent than national and industry standards; it will make timely adjustments to these standards in accordance with the changes in national and industry policies.

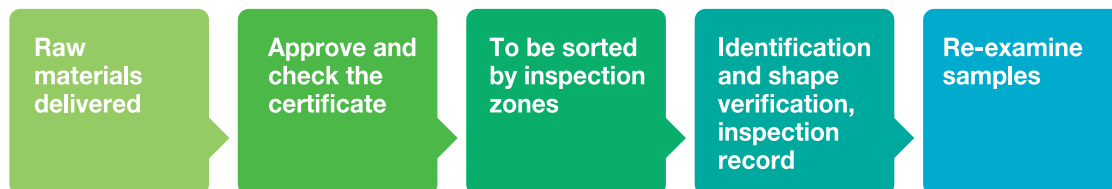
- **Quality inspection**

We deeply understand that as a pharmaceutical enterprise, only by strictly observing regulatory requirements and production standards can we truly be responsible to our consumers. Our products are not only backed by advanced technology, but they also need to undergo stringent quality controls throughout the production process. To ensure the safety and effectiveness of all products, we continuously endeavor to meet the four criteria of production.



#### Raw material controls

Using only high-quality raw materials is the first step in the production of quality products. Quality inspection on raw materials is one of the integral parts of any corporate quality management system. It can directly impact on product quality and safety. We carry out strict quality inspections on raw materials and resolutely implement procurement regulations, as well as sorting and release-inspection procedures. Details of the process include:



We strictly abide by China's requirements for raw materials of Category III medical equipment. Under the GMP system, we carry out a series of purification procedures, including sterilization and filtration, on the hyaluronic acid intermediates produced by microbial fermentation, so as to produce high-purity medical raw materials that are suitable for injections and to pass the stringent quality inspections before commencing production.

### 3 Better Products

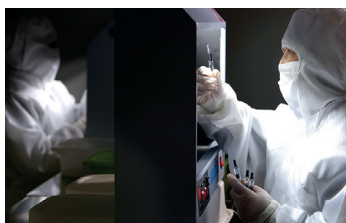
#### Manufacturing of drug preparations

With high-quality raw materials, we go on to manufacture the drug preparations. In high-grade, clean workshops, the raw materials undergo scientific and rigorous preparation, dissolution, cross-linking reaction, purification, granulation and other processes. Afterwards, the canning process is completed on the automatic bacteria-free vacuum-canned production line. At a later stage, the product has to pass the terminal sterilization test to ensure it meets the 10<sup>-6</sup> sterility bacteria-free assurance standard.



#### Quality control of finished products

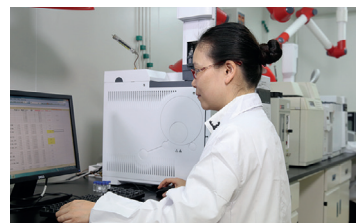
During light inspection, an important step in the process, our professional technical personnel will inspect the canned products one by one to ensure that the product does not contain any bubbles or impurities. In the process of producing the sodium hyaluronate gel “Matrifill”, the product will go through the internal and external packaging processes after the light inspection procedure. We use the world-class medical-grade plastic box “Cartolx” and the cover “Oliver-tolas” to create a bacteria-free environment and an excellent storage space for all products. Our quality control department strictly tests the physical and chemical properties of all products, which have to go through a 14-day sterility test to ensure product safety and effectiveness.



Inspection under a light



Packaging



Chemical properties inspection

## 3 Better Products

- **Product recall procedures**

If we receive complaints about our products, and if it is confirmed that there are defects in product quality and there are safety concerns, the recall procedures will be implemented according to the relevant “Product Recall Management Rules”, so as to ensure that if quality problems arise, we can take effective measures that are in compliance with the system and in line with the required processes to protect the interests and the health of consumers.

As at 31 December 2016, none of the products sold or shipped by the Group was returned due to complaints about quality or safety.

### 3.4 Serving with heart

- **Quality customer service**

The Group has established sound customer service processes and customer complaint handling mechanism, adhered to the principle of “customer first and quality assurance”, as well as regularly conducted in-depth communications with customers in regard to the usage condition of products.

For products and services, the Group’s sales staff will regularly visit customers and provide product information, as well as offer periodic product trainings and on-site question answering services to customers. In addition, we also set up the regular service feedback mechanism, actively visit our customers and provide service support. We regularly conduct customer satisfaction surveys for our products and services every year, so as to gain a better understanding of our customers’ opinions and suggestions, and continue to provide our customers with quality, healthy and safe products, as well as active and efficient services.

- **Complaints handling mechanism**

The Group attaches great importance to product quality and competent handling of products complaints, and the enterprise has set up relevant departments that responsible for handling customer complaints. All relevant information relating to complaints and investigation are timely gathered and delivered to quality supervisors of the Group. Particulars of customer complaints will be recorded in detail. Timely feedbacks will be given afterwards, and it is ensured that a satisfactory response will be provided to the complainant. After that, we will carry out overall monitoring and continuous improvement for product quality, so as to ensure that customers are provided with more decent, convenient and attentive services.

# Medical Aesthetics and Wound Care Products

The Group has always stressed its practical innovation. It does not follow any routines or trends, and has the courage to step into the unexplored field of medical and health science and technology. Applying its exclusive bionic patented technology, the Group develops the first monoface hyaluronate injection cosmetic filler product in China that meeting advanced international standards.

The Group currently manufactures and sells three medical aesthetics and wound care products, including HA dermal filler “Matrifill”, second generation HA dermal filler “Janlane” and rhEGF “Healin”.

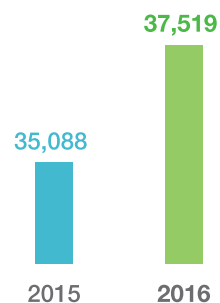
## rhEGF (Trade name: Healin)



### rhEGF “Healin”:

- The only product in China that has the same amino acid structure as the epidermal growth factors in human bodies
- The first registered rhEGF product in the world
- Approved as Class I new drug by the CFDA in 2001
- Awarded the Second Prize of National Science and Technology Progress Award in 2002

### Annual sales revenue of Healin (RMB'000)



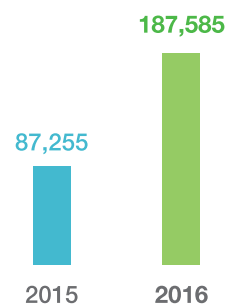
## Cross-linked sodium hyaluronate gel (Trade name: Matrifill)



### HA dermal filler “Matrifill”:

- The first monoface cross-linked sodium hyaluronate gel for injection approved by CFDA in China
- Repeatedly validated by a large-sample randomized (more than 550 cases) controlled clinical trial
- Obtained the European Union’s CE Mark in 2013

### Annual sales revenue of Matrifill (RMB'000)





## Second generation HA dermal filler (Trade name: Janlane)



The Group's self-developed second generation of HA dermal filler "Janlane" has completed the registration for medical device with CFDA on 8 September 2016 and was duly launched on 24 February 2017. HA dermal filler "Janlane" is mainly promoted for its filling function, and based on its characteristics and efficacy, it will have differentiated positioning from and supplementary development with HA dermal filler "Matrifill" (which focuses on shaping), leading the trend of combined application with Hyaluronic Acids in the non-invasive medical aesthetic market in the PRC.



# 4 Better Environment

Pharmaceutical enterprises are facing increasingly severe environmental pressures, which bring both challenges and opportunities. The Group has always adhered to its green and sustainable eco-friendly philosophy, which will become one of the core competitiveness of Haohai.

## Key performance in 2016

- Greenhouse gas emissions amounted to **8,271 tonnes**
- Total wastewater discharge amounted to **131,471 tonnes**
- Total power consumption amounted to **11,767,421 kWh**
- Total water consumption amounted to **233,096 tonnes**



## 4 Better Environment

### 4.1 Environmental Management

The Group is in strict compliance with the Environmental Protection Law and relevant laws and regulations. Currently, the Company has obtained ISO14001: 2004 environmental management system certification. Through the establishment of the system, the Company constantly strengthens the promotion and implementation of environmental management system in the factories, as well as standardizes corporate environmental management practices, in order to achieve continuous improvement. The Company encourages its subsidiary companies to introduce eco-friendly new products and new technologies, proactively carry out various environmental improvement projects, vigorously reduce electricity consumption, energy consumption and various resource consumption through cleaner production measures including process optimization and source control, improve resources cycle utilization rate, as well as minimize the impact of business activities on the environment.

Meanwhile, the Group has increased its investment in the construction of pollutant treatment facilities, and has made efforts to reduce the discharge of various pollutants including sewage, atmospheric emissions and solid wastes, lower environmental risks such as soil and groundwater pollution, and minimize the negative impact on the environment.

- **Green production management**

In accordance with the requirements of ISO14001: 2004 environmental management system, the Company assesses the possible environmental risks arising from product development after the establishment of R&D project, avoids the use of toxic and hazardous substances as far as possible in the product design and during R&D process, and reduces the impact of the product on the environment. In regard to discharge of waste gas, waste water and solid waste during the production process, the Company has developed a corresponding program management file, and carried out management in strict accordance with ISO14001: 2004 environmental management system.

In 2016, the emission data of the Group is as follows:

#### Discharge from the Group in 2016

Types of discharge		Unit	Songjiang			
			factory	Qisheng	Jianhua	Likangrui
Waste water	Total discharge of waste water	ton	48,826	47,000	1,770	33,875
Non-hazardous wastes	Packaging wastes (such as cartons, cardboard, bottles, etc.)	ton	47.9	3	1	1.8
	Other industrial wastes		14.4	/	0.1	/
	Domestic wastes		7.8	11.5	/	/
	Office wastes		21.6	24	0.05	15

Note: “/” represents not applicable.

## 4 Better Environment

### 4.2 Resource and Energy Consumption

The Group continues to promote energy conservation and emission reduction. Through optimization of layout and strengthening energy management and control, introduction and promotion of new energy-saving technologies, and vigorously promoting energy conservation and environmental awareness and other measures, the Group minimizes energy consumption, improves the energy efficiency of the production process, as well as advocates green and low carbon concepts. We have adopted various measures, so as to contribute to sustainable development of the environment by practical actions.

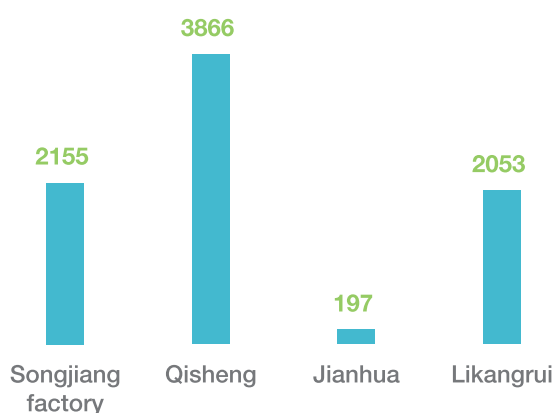
In 2016, the energy and resource consumption of the Group are as follows:

Energy and resource consumption in 2016

Company	Power consumption (kWh)	Natural gas (Cubic meters)	Water consumption (Tonnes)	Packaging materials (Tonnes)
Songjiang factory	3,065,791	432,287	54,251	/
Qisheng	5,500,000	426,470	52,000	577.7
Jianhua	280,080	/	1,967	13.64
Likangrui	2,921,550	/	124,878	1.3

In 2016, the greenhouse gas (scope II) emissions due to power consumption of the Group amounted to 8,271 tonnes. The specific emissions of the Group are as follows:

Greenhouse gas (scope II) emissions of the Group (Unit: Tonnes)



Note: Greenhouse gas calculations are based on the power consumption multiplied by the emission factor of the regional power grid covering the area. Emission factor refers to the average of operating margin emission factor ("OM") value and build margin emission factor ("BM") value of "Baseline Emission Factors for Regional Power Grids in China" promulgated by Climate Change Department of National Development & Reform Commission in 2015.

## 4 Better Environment

### Energy saving and consumption reduction cases

Qisheng is equipped with a 3T/H Fulton natural gas steam boiler, which provides uninterrupted process steam for production workshops. Due to normal running of Qisheng production plant, as such the boiler had been operating for a lengthy period, and the exhaust temperature of boiler backpass reached 180 °C , with the peak of 185 °C . In August 2016, Qisheng transformed the boiler and installed Fulton energy saving device. As a result, the exhaust temperature drops to below 100 °C , and the flue gas waste heat is recycled for heating boiler feed water or supplying domestic hot water. This improvement not only reduces emissions, but also saves energy.

For selection of raw materials, the Group will consider choosing natural and eco-friendly raw materials as far as possible, such as discarded animal materials. We extract sodium hyaluronate from cockscombs and chitosan from shrimp shells, which contributes to recycling and reuse of natural waste, and it is both natural and eco-friendly.

We have been committed to reducing the use of packaging materials through improvements in packaging design and taking reasonable measures. This not only complies with the concept of environmental sustainability, but also reduces the cost of business.

### Case

#### *Reduce the use of packaging materials through improvement in packaging design*

Medical chitosan anti-adhesion products was initially contained in a box set. The packaging box was consisted of three parts including packaging wrapper, inner box and packaging inserts, and was printed on PET silver cardboard, with the size of 97\*82\*171mm and the unit purchase price of more than RMB10. After the actual production, it was found that the size of the product box was too large, the appearance of the box was too complicated, the purchase price was relatively expensive and the price-performance ratio was rather low. As such, it was decided to change the design, as well as reduce the size and excessive packaging. The size of the box now changes to 57\* 57\*120mm, reducing by two-thirds as compared to the original one. The artwork has also been simplified, while the procurement cost of small box drops by more than two-thirds. Apart from being aesthetic and solid, the use of small box facilitates both cost and waste reductions, which represents an eco-friendly improvement.

## 4 Better Environment

### 4.3 Emissions Management

- **Air emission management**

Within its controllable areas, the Group strives to minimize air emissions, so as to ensure compliant emissions. The Group continues to reinforce professional training for its staff, strictly monitor the routine monitoring points, carry out conservation and maintenance works for environmental protection equipment, and make the relevant records. Specific exhaust purification and emission measures are as follows:

- The emission concentration level of smoke and dust, sulfur dioxide and nitrogen oxides and the blackness of flue gas generated by the boiler are within the specified range and meet the requirements of DB 31/387-2014;
- Ethanol volatiles and non-methane hydrocarbon generated from production process are discharged to outdoors through the air conditioning filter system;
- Gas generated from laboratory tests are collected by fume hoods. After that, high-altitude emission of exhaust gas is conducted on the roof of building (through 15m exhaust funnel);
- Odor generated from animal room are discharged to outdoors after processed by the air purification system.

#### Case

##### *Boiler “coal to natural gas”*

Apart from low calorific value of coal, coal combustion also generates greenhouse gases, sulfur oxides, nitrogen oxides, particulate matters and other pollutants, which causes pollution to the environment, and intensifies smog levels. In December 2015, Haohai transformed the original coal boiler, and the boiler is now fueled by natural gas. Despite the higher cost, it reduces the emission level of greenhouse gases and a series of harmful gases and pollutants, which contributes the protection of atmospheric environment.

## 4 Better Environment

### *Exhaust gas purification*

The exhaust gas generated from production process is discharged after receiving purification treatment of activated carbon adsorption devices, and the height of each exhaust funnel is not less than 15 meters. The boiler is equipped with low nitrogen burner, and the height of exhaust funnel is not less than 15 meters. The exhaust gas generated by the sewage treatment devices are collected and discharged after treatment of washing tower.

### *Effective recovery of ethanol*

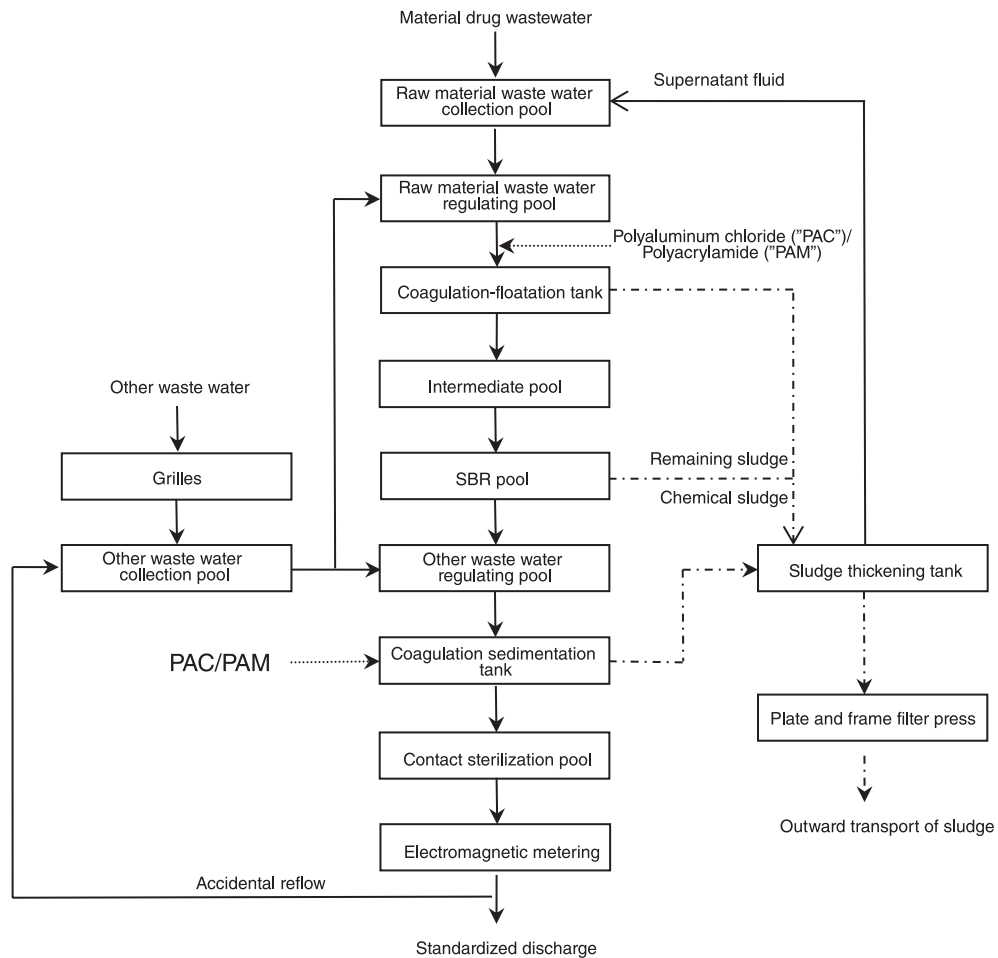
Production department of Songjiang factory is newly equipped with ethanol recovery device, which includes distillation tower, heater, high efficiency condenser, secondary condenser and exhaust gas recovery condenser. By virtue of the device, the effective recovery rate of ethanol can reach about 90%, while the cauldron bottom residue contains about 2% ethanol. Compared to the original process, it greatly reduces the volume of ethanol volatiles generated during production process.

- **Wastewater discharge management**

Currently, sources of waste water of each manufacturing facility of the the Group mainly involve process wastewater from production, wastewater generated during cleaning and domestic sewage. Among which, part of the acid-alkali wastewater contained in wastewater generated during production and cleaning process are intercepted by stop valves under the CIP (Clean in place) system. After passing the pH value tests, the said water, together with other process and domestic wastewater, will be emitted by piped discharge. The manufacturing facility is equipped with full-time sewage treatment operators and professional sewage analysis equipment for processing and monitoring the sewage generated by the facility. Once the indicators of sewage quality satisfy the piped discharge standards, the sewage will be discharged to the municipal sewage pipe network outside the facility.

## 4 Better Environment

A sewage treatment station has been set up in the manufacturing facility, and treatment process of the sewage treatment station is the currently widely used “anaerobic + hydrolysis acidification + membrane bioreactor (“MBR”)” process. Full-time staff carries out conservation and maintenance works for environmental protection facilities on a regular basis, in order to ensure that the sewage discharge level meets the standards.

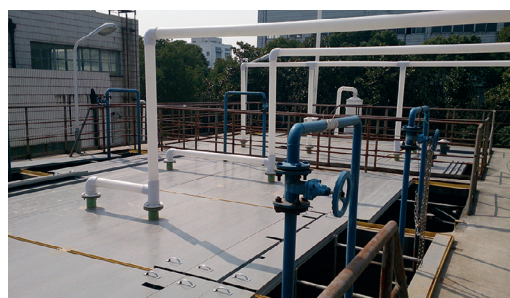


**Wastewater Treatment Process Flow Chart**

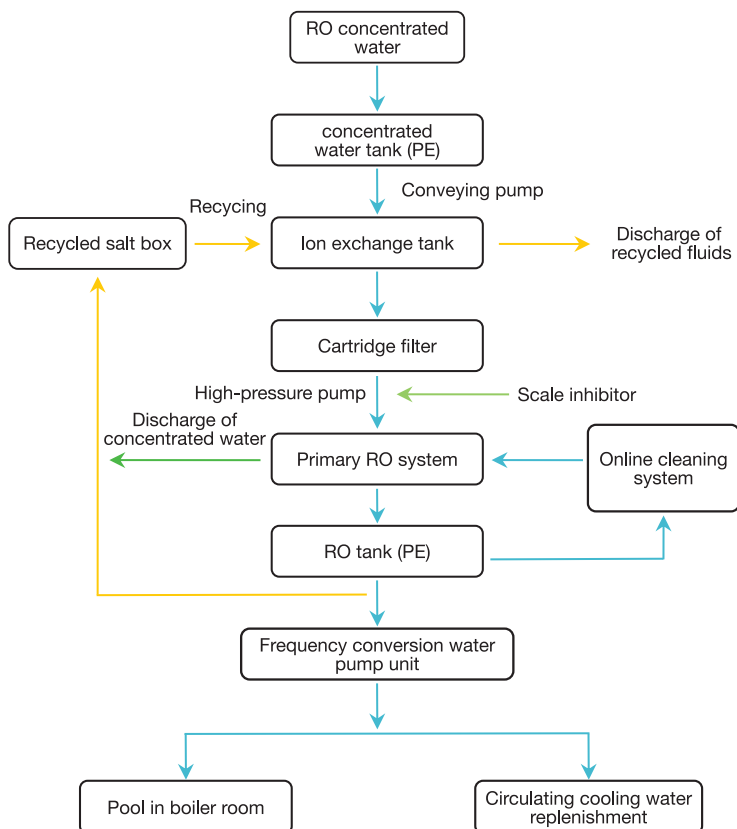


## 4 Better Environment

### Sewage treatment system of Songjiang factory



The following processes are used for reverse osmosis (“RO”) concentrated water treatment and recycling:



**Process Flow Diagram For  
Reuse of Concentrated Water**

## 4 Better Environment

- **Solid waste management**

The Group shall, in accordance with the provisions of the National Safety Law “Standard for pollution control on hazardous waste storage” (GB18597-2001) (revised in 2013), ensure proper storage of hazardous wastes, and engage qualified companies to dispose of hazardous wastes in compliance with statutory requirements of application, approval, transportation and disposal. The treatment of general industrial solid wastes is in line with the provisions of the “Standards for pollution control on the storage and disposal site for general industrial solid wastes” (GB18599-2001) and its amendments, and the general industrial solid wastes are sold to the relevant materials units as waste materials. Haohai has established its internal solid waste treatment library, so as to carry out categorized processing, and strictly regulate eco-friendly records, transfer and other processes.

Categories and treatment measures of solid wastes are as follows:

Category	Treatment measures
Medical wastes	Filter residues, filter cartridges and unqualified products generated during the process of production, sludge from waste water treatment stations, organic waste fluid from laboratories, animal carcass, high efficiency activated carbon screening programs and other solid wastes are classified as hazardous wastes. After collection in the plant area, these wastes will be transferred to qualified professional units of hazardous waste disposal for unified treatment
Hazardous wastes	Shanghai Solid Waste Disposal Center is commissioned to dispose the infectious wastes and other damaging wastes
Domestic wastes	Domestic wastes are separately collected and stored in trash bins, with daily clearance. Such wastes are regularly gathered by environmental hygiene departments for external disposal. Recyclable garbage (including waste cartons) are dealt with uniformly by waste recycling stations

### 4.4 Animal Welfare

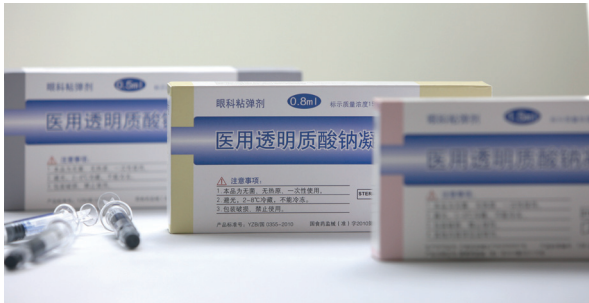
In order to fulfill our responsibilities for animal welfare, we carefully consider the use of experimental animals, and improve the living environment of experimental animals as far as possible. For example, in Likangrui experimental animal room, which uses pig blood as raw materials, the animal breeding area is equipped with air conditioning system and automatic water supply system, and animals are fed by dedicated staff regularly. Since Likangrui collects viable blood samples from pigs, in order to minimize the pain and injury of pigs, the Group has developed a device for collecting tissues from live pigs and catching live pigs, and the device has now been awarded authorized patents.

# Ophthalmology Products

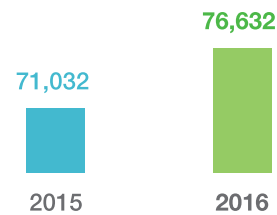
The Group currently manufactures and sells three types of ophthalmology products, including three ophthalmic viscoelastic devices (commonly known as “OVD” products), five intraocular lens, one lubricant eye drops product and other ophthalmology high-valued materials. Among the main brands of OVD products in the PRC, the Group’s products have prominent competitive advantages such as advanced technology, high quality, high price-performance ratio and diversified specifications and densities.

In May 2016, the Group successfully obtained the CFDA product licence for the new high concentration OVD “Survisc”, which was officially launched in September 2016. The launch of the new high concentration OVD “Survisc” will help to enhance the OVD products of the Group, and further expand the comparative advantage against the imported overseas brands of the same type of products.

## Medical sodium hyaluronate gel (Ophthalmic viscoelastic devices “OVD”)



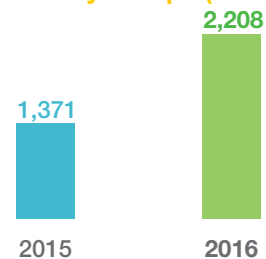
### Annual sales revenue of OVD products (RMB'000)



## Lubricant eye drops (Trade name: Eyesucom)



### Annual sales revenue of lubricant eye drops (RMB'000)





## 5 Better Team

“Enterprise as the mainstay, intelligence as the basis, demand as the core, effectiveness as the foundation” is our working principle. We will work with all staff to enhance its capability of independent innovation and core competitiveness, so as to establish itself as the science and technology innovation center with global influence.

### Key performance in 2016

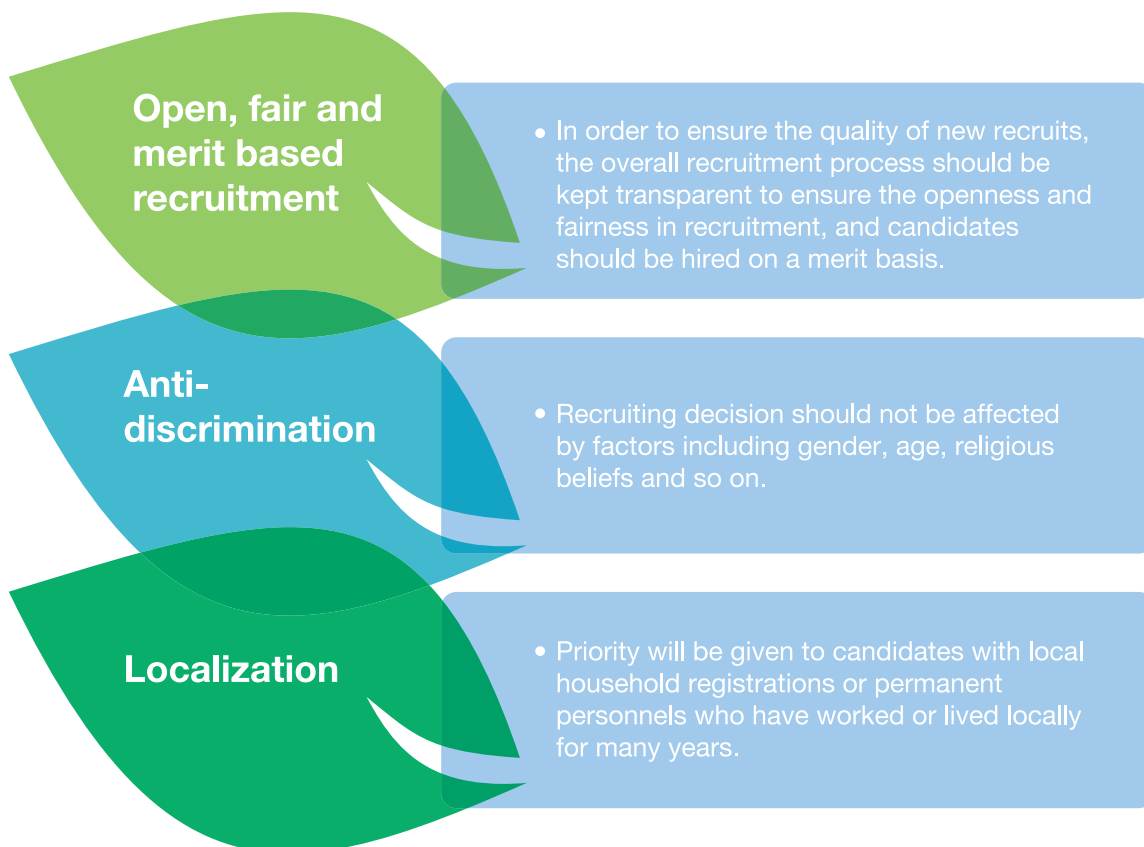
- **886** employees in total
- The cumulative total training hours of our employees was approximately **25,650 hours**, and the average number of training hours per employee was approximately **30.9 hours**
- Organized more than **10** staff activities

### 5.1 Overview of Employees

The Group implements its sustainable development strategies through integration of human resources, optimizes the allocation of its internal human resources, as well as eliminates redundant positions. Through centralized and integrated management of originally independent, repetitive and decentralized departments, the Group achieves rational flow and deployment of internal manpower at all levels. As a result, the working efficiency is improved, and the learning-oriented corporate culture is established.

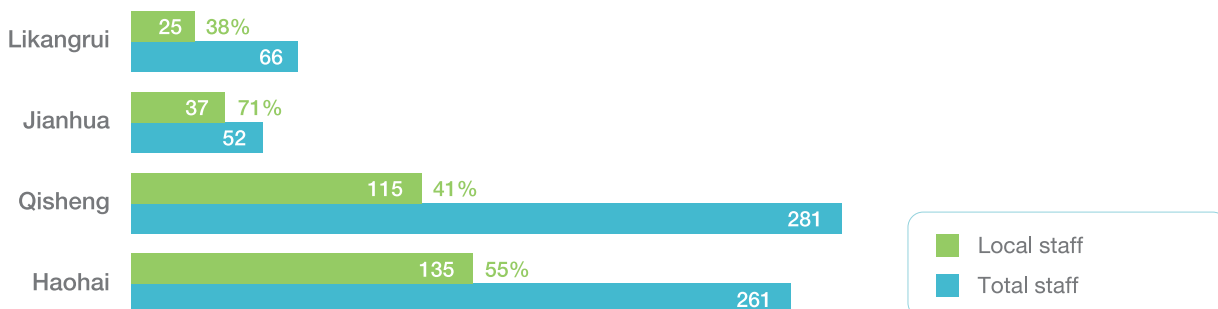
As at 31 December 2016, the Group had a total of 886 employees. The Group strictly abides by national and local laws and regulations, and resolutely rejects the illegal use of child labor and forced labor. If any illegal use of child labor is found, we will, in accordance with provisions of Decree No. 364 “Prohibition of the use of child labor” published by the State Council, immediately send the child labors back to their original residences and to their parents or other guardians, and the required transportation costs and board and lodging expenses will be fully borne by the employer. The relevant responsible persons will also be dealt with in a serious manner for their negligence during recruitment. In the reporting period, no illegal use of child labor and forced labor cases happened in the Group.

We guarantee the fairness, justice and compliance of recruitment process, in order to ensure the optimal allocation of human resources. Generally, our recruitment mainly adheres to the following three principles:



## 5 Better Team

We keep an eye on the recruitment localization. As at 31 December 2016, the percentage of local staff of the Company and Qisheng, Jianhua, Likangrui is as follows:



### • Salary and Benefits

Our overall salary level is highly competitive among industry peers. By drawing reference to the market pay levels, our professional human resources team designs a broadband salary system based on the Group's strategy and job functions. Through flexible structure design, employees are able to receive basic protection and recognize the fairness and justice of performance-based incentives. We guarantee that every employee's hard work and dedication would make the staff and Haohai a step closer to the dream.

Our extensive welfare design provides numerous benefits for our employees.

#### Leaves

- Paid annual leave
- Marriage leave
- Maternity leave and funeral leave
- Sick leave
- Casual leave

#### Social welfare

- Social insurances & housing fund
- Transportation, telecom, housing and high temperature subsidies
- Free lunch and overtime work meal
- Festival gifts and annual outing
- Cultural and sports activities
- Offer help and condolences to those if required

### 5.2 Training and Development

We have set up a professional training team, which is committed to building a sound training system and creating a learning-oriented organization. We integrate the career development of our employees with the strategic planning of our business, and attach great importance to the close connection and deep transformation between training courses and professional practices.

Our professional training team will design career development paths for each employee in accordance with their own characteristics, and strives to nurture comprehensive management professionals, job experts and other kinds of talents. This formulates talent ladder for our future development, and enhances comprehensive qualities and professional skills of our staff.

The Group develops corresponding personal training programs based on individual situation of each employee. The training principle is: based on the Group's development strategy, the capabilities of implementing the Group's strategy are divided, and our training courses and system are then formulated based on the division. For professional and technical training, we pursue strict quality control, assesses training effectiveness, and regularly tracks training performance. In 2016, the cumulative total training hours of our employees was approximately 25,650 hours, and the average number of training hours per employee was approximately 30.9 hours.

The Group provides its staff with the following three types of training:

- All new recruits will receive new staff training within one month of joining the Group, which includes introduction of the Group's history, development strategy, rules and regulations;
- Based on career development path of each employee, human resources department will develop specific personalized training systems with the employees' departments, which include training of general skills, professional and technical skills and other skills;
- Provide leadership training programmes for managerial grade or above.

We value the individual rights and benefits of each employee, and ensure that each employee has the same development opportunities. Haohai develops and follows the promotion decision-making model, in order to ensure the five principles of openness, objectivity, consistency, two-way communication and refutability of the results. By establishing a sound system, the stability, trustfulness and loyalty of our staff would be enhanced.



## 5 Better Team

### 5.3 Health and Safety

The Group is committed to providing employees with a healthy and safe workplace. In 2016, the Group continued to promote the implementation of the occupational health and safety management system. Currently, the Company has obtained OHSAS18001: 2007 certification in occupational health and safety management system, and is preparing to apply for ISO18000: 2008 occupational safety and health system. During the year, the Group did not have any significant safety or fire accidents and cases of occupational diseases, and there was no workplace fatal injury incident.

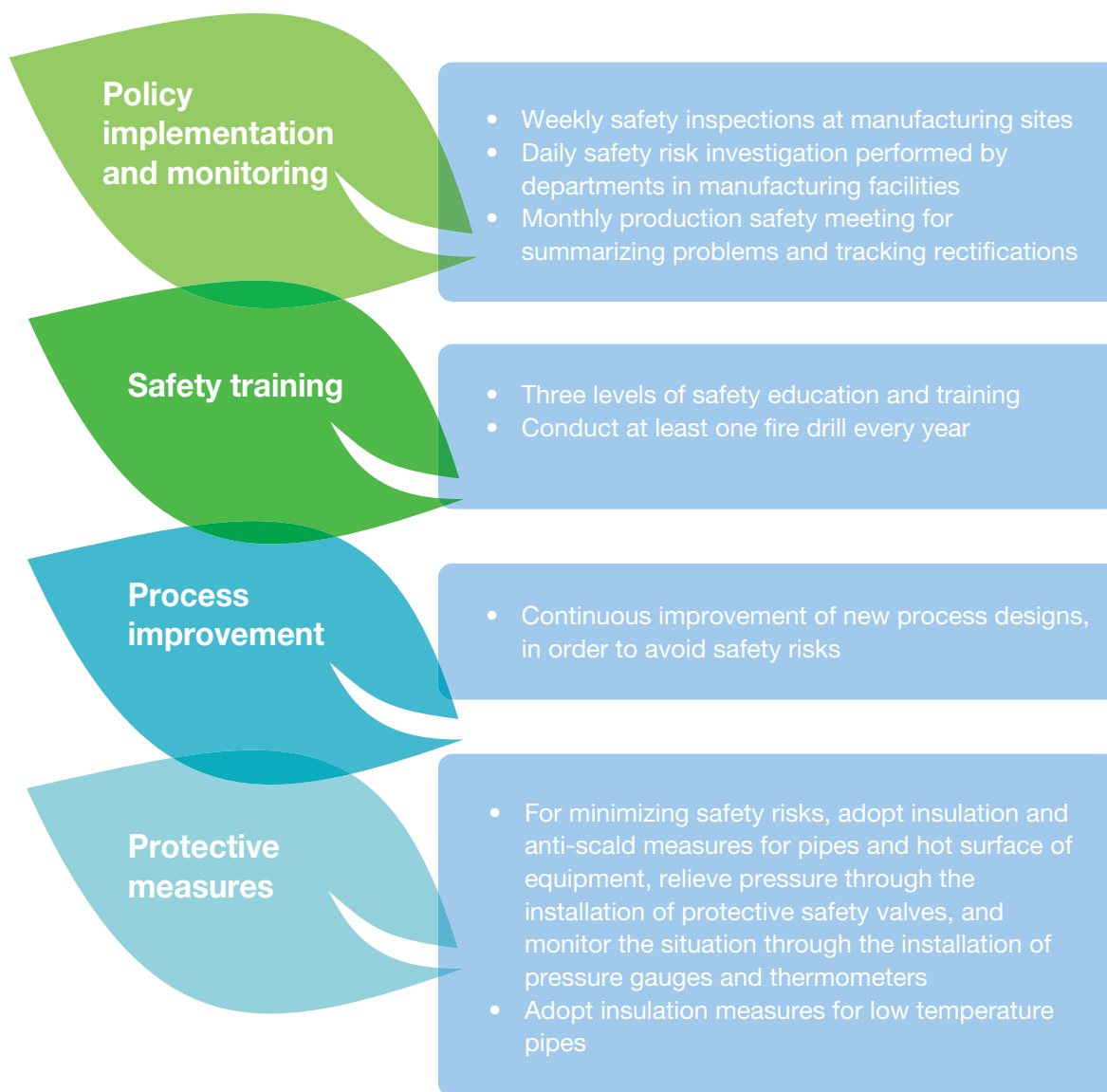
The Group regularly organizes relevant personnel to carry out safety production and emergency program exercises and drills, so as to strengthen the safety awareness of personnel at all levels and enhance the emergency handling skills of dangerous accidents, in order to ensure that once unpredictable events and safety incidents occur, our staff can quickly and correctly take the corresponding measures to minimize environmental pollution and reduce the risk of personal injury.

The Group continues to actively carry out various safety improvement projects, and no major safety risk is found at workplace. Currently, the safety risks associated with the production mainly include:

1. Burn injuries due to high temperature steam and pressure leaks of sterilization equipment;
2. Frostbite associated with cooling pipes of freeze dryer.

## 5 Better Team

Therefore, the Group reinforces production safety and fire training. Through protective measures, process improvement, safety training, policy implementation, monitoring and other methods, we strive to ensure that no accident will occur. For safety risks, the specific measures are as follows:



During the R&D process in the laboratory, in order to ensure the operational safety and to prevent exposure to toxic and hazardous reagents, laboratory technicians are equipped with protective clothing, masks, gloves and other safety-related supplies.

We continuously improve the overall management standards, enhance the degree of automated production, regularly revise exhaust measures, conduct noise detection, reduce the use of toxic and hazardous reagents, as well as carry out safety transformation for workshops. Meanwhile, we provide pre-job, on-job and post-job occupational health examinations for workers who are exposed to risks of occupational diseases, and establish occupational health records, so as to minimize the risks associated with workplace accidents and occupational diseases.

## 5 Better Team

### 5.4 Caring our People

The Group always concerns the work and life of every employee. We encourage two-way communication with employees. Through regularly held staff communication activities, we receive timely feedbacks from employees, and constantly improve the working and living environment of employees. At the same time, we inherit our corporate culture by actively carrying out staff care activities and enriching the afterwork lifestyle and spiritual world of our staff, as such employees can be better integrated into the family.

Effective communication channels:

#### Satisfaction survey

- The Group conducts surveys of employee satisfaction every year, which look into dimensions including salary, welfare, corporate culture, career development, leadership management and others. After receiving the survey reports, the Group will make targeted correction and improvement in accordance with survey questions, with a view to continue improving employee's satisfaction level.

#### Message board

- Employees can provide any recommendations to the Group directly on the WeChat platform of Haohai. There are people in charge of referring the relevant recommendations or the related departments for handling.

#### General manager's seminar

- The Group will organize a seminar for new staff on a quarterly basis. The general manager will meet and communicate with new employees face-to-face, and answer queries from new employees.



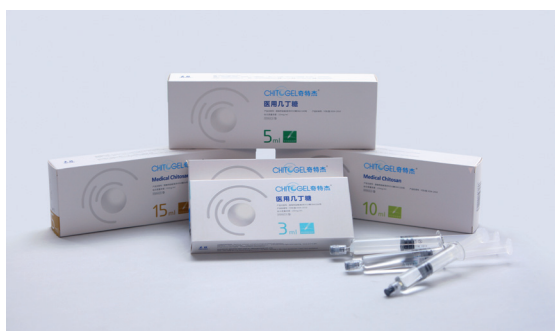
Tour to Taizhou

The team activities can deepen the friendship between the staff, and strengthen the sense of belonging and team cohesion.

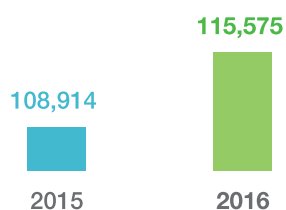
## Anti-adhesion and Hemostasis Products

The Group currently manufactures and sells five post-operative anti-adhesion and hemostasis products, including hyaluronate-based and chitosan-based products, as well as medical collagen sponge. Anti-adhesion and hemostasis products are widely used in various surgeries to shorten the operation time and prevent a wide range of tissue and organ adhesion resulting from trauma and injuries in surgical operations.

### Medical chitosan (Trade name: Chitogel (奇特杰))



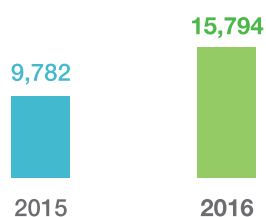
#### Annual sales revenue of medical chitosan (RMB'000)



### Medical collagen sponge (Trade name: 奇特邦)



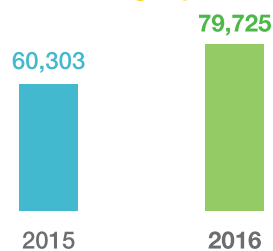
#### Annual sales revenue of collagen sponge (RMB'000)



### Medical sodium hyaluronate gel (Anti-adhesion)



#### Annual sales revenue of sodium hyaluronate gel (RMB'000)



## 6 Greater Contributions

Despite on the road of rapid development, the Group has fulfilled its social responsibilities, actively contributed to the society and promoted the standardization and development of the industry, so as to materialize the “Chinese dream” of Haohai by social cultivation with vision and vigor, remarkable achievements and self-dedication.

### Key performance in 2016

- Haohai’s total donation to society amounted to about **RMB 771,900**
- Total tax paid amounted to approximately **RMB 108 million**



## 6 Greater Contributions

### 6.1 Social Contributions

In 2016, the Group donated approximately RMB 771,900 to the society.

- **Contribute to local economy**

The Group pays taxes in accordance with the law. Considering the overall interests and long-term development of building a moderately prosperous society, the Group consciously assumes its corresponding social responsibilities, and makes positive contributions to the public and society. In 2016, the total tax paid by Haohai amounted to RMB 108 million. The Group's good tax records also indicate the improvement of operational efficiency contributed by continuous optimization of business management.

- **Charity**

The Group's ophthalmology products are the core materials and the necessary devices for cataract surgery. We proactively participate in the "Illumination-Smile" Project, collaborate with charitable foundations to provide them with ophthalmology products at prices below the market rates. Meanwhile, acquisition and integration of desired domestic and overseas enterprises with matured products, high-end technology and market resources will lead to the domestic industrialization of overseas matured intraocular lens production technology, re-development and enhancement of the productivity, quality and market competitiveness of domestic enterprises, and finally, replacement of imported products.

### 6.2 Promotion of Industry Development

In the context of a changing demographic structure and enhanced economic transition, the medical and health care sector is becoming an important sector highly concerned by the nation and society. As a leading enterprise in the absorbable biomedical industry, the Company proactively participated in the establishment of both the international and national industry standards and the promotion of the sustainable and healthy development of the industry, and in turn reflected how the Group values its responsibility to the industry.

The Group has so far participated in the establishment of the following industry standards:

- Aseptic processing of health care products - Part 1: General requirements (YY/T 0567.1-2005)
- Aseptic processing of health care products - Part 2: Sterilizing filtration (YY/T 0567.2-2005)
- Medical sodium hyaluronate gel (YY 0308-2015)
- Medical Carboxymethyl Chitosan (YY 0963-2015)
- Tissue engineered medical products: Sodium hyaluronate (YY/T 1571-2017)
- Collagen sponge (YY/T 1511-2017)



## 6 Greater Contributions

The Group has been active in academic research of the industry that it launched and participated in various seminars of different sizes to encourage communication between experts and research institutes, and in turn promote the development of the industry. Industry events that the Group has taken part in 2016 include the National Orthopedics Annual Meeting, Academic Specialization Meeting, China Joint Surgery Conference and Asia Pacific Regional Joint Annual Meeting, National Ophthalmic Sector Summit Forum, China Medical Aesthetics Sector Investment Leader Summit and the 75<sup>th</sup> China International Medical Equipment Fair.



On 19 March 2016, the “National Ophthalmic Sector Summit Forum 2016” launched by the Group and jointly organized by the Shanghai Innovation and Transformation Promotion Center of Medical Absorbable Biomaterial, the Shanghai Strategic Alliance for Innovation of Medical Absorbable Biomaterial, the Shanghai Engineering and Research Center of Medical Absorbable Biomaterial, Shanghai Institute of Materia Medica Chinese Academy of Sciences and Shanghai Center of Biomedicine Development took place in Shanghai, putting together a number of academic authorities, top ophthalmic experts, government think tanks and corporate representatives from the ophthalmic industry of China. Sharing and discussions were done centering on the opportunities, challenges and countermeasures against the development of the ophthalmic sector in China as well as the latest methods and technologies of diagnosis and treatment in the ophthalmic field. Hence, the harmonization of “government, sectors, education, research and users” has been accelerated.



## 7 Appendix – Index of ESG Content

Index of content of Environmental, Social and Governance (ESG) Reporting Guide by Hong Kong Stock Exchange

Index	Details	Quote	Remark
A. Environmental			
Aspect A1: Emissions			
General Disclosure	Information on: (a) policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to emissions of waste gas and greenhouse gas, water and land pollution, harmful and hazardous waste generation.	4.1 Environmental Management 4.3 Emission Management	
KPI A1.1	The types of emissions and respective emissions data	4.1 Environmental Management 4.3 Emission Management	
KPI A1.2	Greenhouse gas emissions in total and intensity	4.2 Resource and Energy Consumption	
KPI A1.3	Total hazardous waste produced and intensity	—	
KPI A1.4	Total non-hazardous waste produced and intensity	4.1 Environmental Management	
KPI A1.5	Measures to mitigate emissions and results achieved	4.3 Emission Management	
KPI A1.6	How hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved	4.3 Emission Management	
Aspect A2: Use of Resources			
General Disclosure	Policies on effective use of resources (including energy, water and other raw materials). Resources can be used for production, storage, transportation, buildings and electronic equipment.	4.1 Environmental Management 4.2 Resource and Energy Consumption	
KPI A2.1	Direct and/or indirect energy consumption by type in total and intensity	4.2 Resource and Energy Consumption	
KPI A2.2	Water consumption in total and intensity	4.2 Resource and Energy Consumption	
KPI A2.3	Energy use efficiency initiatives and results achieved	4.2 Resource and Energy Consumption	
KPI A2.4	Water efficiency initiatives and results achieved	—	
KPI A2.5	Total packaging material used for finished products and with reference to per unit produced	4.2 Resource and Energy Consumption	

## 7 Appendix – Index of ESG Content

Index	Details	Quote	Remark
Aspect A3: The Environment and Natural Resources			
General Disclosure	Policies on minimizing the significant impact of the issuer on the environment and natural resources.	4.1 Environmental Management	
KPI A3.1	The significant impacts of activities on the environment and natural resources and the actions taken to manage them		Production and operation activities have no significant impact on the environment and natural resources
B. Social			
Aspect B1: Employment			
General Disclosure	Information on: (a) policies; (b) relevant laws and regulations that have a significant impact on the issuer relating to remuneration and dismissal, recruitment and promotion, working hours, holidays, equal opportunities, diversity, anti-discrimination and other treatments and benefits.	5.1 Overview of Employees	
KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	5.1 Overview of Employees	
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	—	
Aspect B2: Health and Safety			
General Disclosure	Information on: (a) policies; (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to provision of a safe working environment to and protection of employees from occupational hazards.	5.3 Health and Safety	
KPI B2.1	Number and rate of work-related fatalities	5.3 Health and Safety	
KPI B2.2	Lost days due to work injury	—	
KPI B2.3	Occupational health and safety measures adopted, how they are implemented and monitored	5.3 Health and Safety	
Aspect B3: Development and Training			
General Disclosure	Policies on enhancing the knowledges and skills of employees to perform duties. Describe training activities. Training refers to vocational training and may include internal and external courses paid by employers.	5.2 Training and Development	
KPI B3.1	The percentage of employees trained by gender and employee category	—	
KPI B3.2	The average training hours completed per employee by gender and employee category	5.2 Training and Development	

## 7 Appendix – Index of ESG Content

Index	Details	Quote	Remark
Aspect B4: Labour Standards			
General Disclosure	Relating to prevention of child labor or forced labor: (a) policies on; (b) information on compliance with relevant laws and regulations that have a significant impact on the issuer.	5.1 Overview of Employees	
KPI B4.1	Measures to review employment practices to avoid child and forced labour	5.1 Overview of Employees	
KPI B4.2	Steps taken to eliminate such practices when discovered	5.1 Overview of Employees	No occurrence of relevant events
Aspect B5: Supply Chain Management			
General Disclosure	Policies on managing environmental and social risks of the supply chain.	3.2 High-quality Raw Materials	
KPI B5.1	Number of suppliers by geographical region	3.2 High-quality Raw Materials	
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored	3.2 High-quality Raw Materials	
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.	3.2 High-quality Raw Materials 3.3 Quality Assurance	
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	3.4 Serving with Heart	
KPI B6.2	Number of products and service related complaints received and how they are dealt with	—	
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights	3.1 Research, Development and Innovation	
KPI B6.4	Description of quality assurance process and recall procedures	—	
KPI B6.5	Consumer data protection and privacy policies, how they are implemented and monitored	—	The company's operations will not directly dock with the consumer, so it is not involved in this item

## 7 Appendix – Index of ESG Content

Index	Details	Quote	Remark
Aspect B7: Anticorruption			
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.	2.2 Corporate governance	
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	2.2 Corporate governance	
KPI B7.2	Preventive measures and whistle-blowing procedures, how they are implemented and monitored	2.2 Corporate governance	
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.	6.1 Social contributions 6.2 Promotion of industrial development	
KPI B8.1	Focus areas of contribution	6.1 Social contributions 6.2 Promotion of industrial development	
KPI B8.2	Resources contributed to the focus area	6.1 Social Contributions 6.2 Promotion of industrial development	