

(a joint stock company incorporated in the People's Republic of China with limited liability) (Stock code: 1513)

# ENVIRONMENTAL, SOCIAL and GOVERNANCE REPORT 2019

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# **1 ABOUT THIS REPORT**

#### **OVERVIEW**

This report is the fourth Environmental, Social and Governance ("ESG") Report (the "Report") issued by the Company that serves as an annual report, which covers the period from 1 January 2019 to 31 December 2019 (the "Year") to disclose the latest sustainability performance of Livzon for 2019.

#### **REFERENCE FOR THIS REPORT**

This Report has complied with all "comply or explain" provisions in the "Environmental, Social and Governance Reporting Guide" (the "Guide") set out in Appendix 27 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "Hong Kong Listing Rules") issued by The Stock Exchange of Hong Kong Limited (the "Hong Kong Listing Rules") issued by The Stock Exchange of Hong Kong Limited (the "Hong Kong Listing Rules") issued by The Stock Exchange of Hong Kong Limited (the "Hong Kong Listing Rules") issued by The Stock Exchange of Hong Kong Limited (the "Hong Kong Listing Rules") issued by The Stock Exchange of Hong Kong Limited (the "Hong Kong Listing Rules") issued by The Stock Exchange of Hong Kong Limited (the "Hong Kong Listing Rules") issued by The Stock Exchange of Hong Kong Limited (the "Hong Kong Listing Rules") issued by The Stock Exchange of Hong Kong Limited (the "Hong Kong Listing Rules") issued by The Stock Exchange of Hong Kong Limited (the "Hong Kong Listing Rules") issued by The Stock Exchange of Hong Kong Limited (the "Hong Kong Limited on all recommended disclosures outlined in the Guide. The content index for the Guide is set out in Appendix 2 of this Report.

The content of this Report is prepared through a systematic process, including identifying and prioritizing important stakeholders, identifying and prioritizing material ESG issues, determining the scope of the Report, collecting the relevant materials and receipts, preparing the report based on materials and reviewing the data herein.

#### SCOPE AND BOUNDARY OF THE REPORT

The Report discloses the ESG risks and management measures of the Company in accordance with the "materiality" principle referred to in the Guide. The Report covers the Company and its wholly-owned subsidiaries and controlling subsidiaries. The scope of the Report is in line with the scope of consolidated financial statements set out in the 2019 Annual Report of the Company and shall be read in conjunction with the 2019 Annual Report of the Company.

#### **EXPLANATION FOR ABBREVIATIONS**

In order to facilitate presentation and reading, unless otherwise specified and for the purpose of this Report, "the Company" refers to Livzon Pharmaceutical Group Inc.\* (麗珠醫藥集團股份有限公司) and each of "the Group", "we" and "Livzon" refers to the Company and its subsidiaries.

## DATA SOURCE AND RELIABILITY STATEMENT

The data and case studies in this Report are mainly derived from the formal documents, statistic reports and relevant public documents of Livzon. The Company undertakes that this Report contains no false representations or misleading statements and is responsible for the truthfulness, accuracy and completeness of its contents.

#### **CONFIRMATION AND APPROVAL**

The board of directors (the "Board") and the senior management of the Company have reviewed this Report and guarantee that there are no false representations, misleading statements or material omissions in this Report.

## AVAILABILITY OF THIS REPORT AND FEEDBACK

This Report is available and can be downloaded from the website of the Hong Kong Stock Exchange (www.hkexnews. hk), the website of the Company (www.livzon.com.cn) and CNINFO (www.cninfo.com.cn).

For further enquiries or any comments or suggestions regarding this Report, please contact the Company by phone at (86) 756-8135888, fax at (86) 756-8891070 or email at LIVZON\_GROUP@livzon.com.cn.

The Report is prepared in both Chinese and English. In case of any discrepancies, the Chinese version shall prevail.

# 2 CHAIRMAN'S MESSAGE



Mr. Zhu Baoguo

Since the new round of medical and health system reforms launched in China in 2009, a complete basic medical insurance system has been gradually established and major health indicators of the residents are generally above the average level of middle-and high-income countries during the last decade. In 2019, the revisions to the Drug Administration Law of the People's Republic of China ("PRC") were overhauled and approved. Meanwhile, the Notice on Certain Policies and Measures in Further Deepening the Reform of the Medical and Health System issued by the Office of the Leading Group for Deepening the Reform of the Medical and Healthcare System of the State Council marked the fast development of the new medical reforms towards the target of universal health coverage.

Since the establishment of Livzon 35 years ago, we have been primarily engaged in pharmaceutical business with all efforts in achieving stable business growth, pursuing sustainable and quality development and consistently providing positive return to its shareholders. During 2019, Livzon has adopted the management objectives of "reform, responsibilities, innovation and development" to implement its three major strategies of "talents, products and markets". Stressing the importance of embracing the reforms in a new era, the Company has been enhancing its comprehensive ability to provide the world with quality and safe specialty medicines. At the same time, Livzon is committed to working with stakeholders in promoting universal health coverage during its operation development process, with a focus on environmental efficiency and protecting the rights of employees, while investing in community development as part of our efforts to advance sustainable development.



In 2019, Livzon achieved an expected increase in profit and outstanding operation results. These results provided us with strong support in continuously performing the social responsibility of providing healthcare services. In 2019, the Group realized operating income of RMB9,384.70 million, representing a year-on-year increase of 5.91%; the net profit was RMB1,461.58 million, representing a year-on-year increase of 23.68%; the net profit attributable to shareholders of the Company was RMB1,302.88 million, representing a year-on-year increase of 20.39%; excluding gains and losses from extraordinary items, the net profit attributable to shareholders of the Company generated from principal businesses of the Company in 2019 was RMB1,191.54 million, representing a year-on-year increase of the Company increase of 25.79%.

Livzon also place importance on return to shareholders and protecting the rights of investors. Following the implementation of its profit distribution plan with a high dividend payout ratio during the last 5 years that provided total cash dividends of approximately RMB2,410.62 million, Livzon formulated the Shareholders' Return Plan for the Three Years (2019-2021) to establish a stable medium to long-term system of shareholders' return. The plan provides that during the period from 2019 to 2021, in the case where the conditions for paying out cash dividends and the capital requirements for its normal production and operation are met, the Company shall distribute profits in the form of cash annually, and the profits to be distributed in cash each year shall not be less than 80% of the distributable profit achieved in the current year.

# 2 CHAIRMAN'S MESSAGE



Access to Health Care. "Affordable healthcare developed and shared by all" is a key national strategy of the development of Healthy China. Livzon's operation and development targets are highly in line with this strategy. Livzon has been promoting its quality products to major markets across the world. Since 2017, more than 12% of principal businesses income was mainly derived from overseas markets. The composition of income has shown an international trend. Livzon's was ranked among top API suppliers across the world in the sales of APIs, with outstanding development and operation results in the European and the US markets. At the same time, the Group actively engaged in the admission of medicines to the Medical Insurance Catalogue and the relevant negotiations, including the inclusion of Ilaprazole Enteric-Coated Tablet for Gastroesophageal Reflux Disease in the coverage of national medical insurance reimbursement, the inclusion of Perospirone Hydrochloride Tablets in the regular catalogue of national medical insurance, so as to provide quality and affordable pharmaceutical products.

**Human Capital Development.** "Innovative Development" is Livzon's development strategy. Accordingly, talents become the key factor of Livzon's business development. The Company has launched the Medium to Long-term Business Partner Share Ownership Scheme (Draft) at the end of 2019 following the implementation of the 2015 Restricted A Shares Incentive Scheme and the 2018 Share Options Incentive Scheme, to establish an innovative long-term incentive mechanism for stock ownership by senior management and core technical teams, which will effectively advance and promote their change from "managers" to "partners" and promote the long-term stable development of the Company and enhance the overall value of the Company.

**Environmental protection.** "Green mountains and clear water are equal to mountains of gold and silver". Livzon place importance on environmental protection in the course of operations by constantly investing in technical process improvement and renewing equipment. In 2019, the Group made an investment of approximately RMB102.59 million for renovation of environmental protection facilities and operating maintenance. Through the new RTO combustion device and other measures, pollutant emission in the production process has been decreasing, thereby reducing the environmental impact and enhancing the overall efficiency of use of energy and resources.

**Community investment.** Livzon actively engage in community activities by participating in poverty alleviation through provision of healthcare services and industrial support, while conducting its principal operations. Livzon has been performing its humanitarian duties voluntarily such as helping the poor in the disaster-stricken areas to provide contribute to society with actions. Through its chronic disease poverty alleviation projects, Livzon helped chronic disease patients with "three-hypers" in financial difficulties by drug donation; we have developed and established Huangqi planting bases in poverty-stricken regions of Shanxi (山西省) and Shanxi (陝西省) in China to provide plantation technology, which support and advance economic development and household income of people in these regions in the long run.

In future, Livzon will keep its commitment to the mission of "Livzon, Evergreen Life, Bright Future & Wisdom" and develop our business based on the philosophy of "back to square one and start all over again". Livzon will strike balance between environmental efficiency and social efficiency, and protect the interests of all stakeholders. Livzon will go along with pharmaceutical peers to improve the universal health coverage and be committed to the good health and well-being forever.

*Chairman of the Board* **Mr. Zhu Baoguo** 

# **3 ABOUT THE COMPANY**

## **3.1 THE COMPANY'S BUSINESS**

Founded in January 1985 and headquartered in Zhuhai, Guangdong, the PRC, the Company is a comprehensive group company that is principally engaged in pharmaceutical research and development, production and sales. We are among the top 100 Companies in Pharmaceutical Industry of China (中國醫藥工業百强企業) and among the listed companies with the best branding value in China. The A shares of the Company are listed on the Shenzhen Stock Exchange (Stock code: 000513) and the H shares of the Company are listed on the main board of the Hong Kong Stock Exchange (Stock code: 01513).

Currently, Livzon is primarily engaged in the research and development, production and sale of pharmaceutical products, which covered drug preparation products, active pharmaceutical ingredients ("APIs") and intermediates as well as diagnostic reagents and equipment. Major products included drug preparation products such as llaprazole (llaprazole Enteric Coated Tablet and laprazole Sodium for Injection) (壹麗安(艾普拉唑腸溶片及注射用艾普拉唑納)), a series of Bismuth Potassium Citrate Granules (麗珠得樂(枸櫞酸鉍鉀)) products, Leuprorelin Acetate Microspheres for Injection (貝依(注射用醋酸亮丙瑞林微球)), Urofollitropin for Injection (麗申寶(注射用尿促卵泡素)), Menotropins for Injection (樂寶得(注射用尿促性素)), Shenqi Fuzheng Injection (參苠扶正注射液), Anti-viral Granules (抗病毒顆粒), Voriconazole for Injection (麗福康(注射用伏立康唑)) and Mouse Nerve Growth Factor for Injection (麗康樂(注射用鼠神經生長因子)); APIs and intermediates such as Mevastatin(美伐他汀), Acarbose(阿卡波糖), Colistin Sulfate (硫酸粘菌素), Phenylalanine (苯丙氨酸) and Ceftriaxone Sodium (頭孢曲松鈉); and diagnostic reagents such as ELISA HIV Testing Reagent (HIV抗體診斷試劑), MYCOII Testing Reagent (肺炎支原體抗體診斷試劑) and TPPA Testing Reagent(梅毒螺旋體抗體診斷試劑).



Drug preparation product brands of Livzon

# **3 ABOUT THE COMPANY**

## **3.2 CORPORATE GOVERNANCE**

The Company carries out its operation in strict compliance with the Company Law of the PRC, the Securities Law of the PRC, the Stock Listing Rules of the Shenzhen Stock Exchange, the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited, relevant laws and regulations of China Securities Regulatory Commission and the Articles of Association of the Company. The general meetings, meetings of the Board and meetings of the supervisory committee of the Company are convened pursuant to the requirements of the Rules of Procedures for the General Meetings, the Rules of Procedures for the Board of Directors and the Rules of Procedures for the Supervisory Committee of the Company. During the Year, the decision-making and regulatory bodies of Livzon, including the general meetings, the Board and the supervisory committee, have strictly followed the requirements of the regulatory operating rules and internal system in performing management decision-making and supervision functions. The operating standards were proven to be effective. The special committees of the Board all performed their respective duties.

The Company has set up a corporate governance structure, which is composed of the general meeting, the Board and its special committees, the supervisory committee and the senior management. As at the date of this Report, the Board comprises 10 members, including 2 executive directors, namely Mr. Tang Yanggang (president) and Mr. Xu Guoxiang (vice chairman and vice president); 3 non-executive directors, namely Mr. Zhu Baoguo (chairman), Mr. Tao Desheng (vice chairman) and Mr. Qiu Qingfeng; and 5 independent non-executive directors, namely Mr. Xu Yanjun, Mr. Zheng Zhihua, Mr. Xie Yun, Mr. Tian Qiusheng and Mr. Wong Kam Wa.

# **3 ABOUT THE COMPANY**

## **3.2 CORPORATE GOVERNANCE**

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# 4 2019 OVERVIEW

Livzon is committed to making contribution to society and strives to be a leading domestic, world-class international pharmaceutical enterprise. Adhering to the philosophy of "reform, responsibility, innovation and development" in the management, Livzon has been improving the efficiency of its management and governance standards, thereby steadily promoting research and development, improving the sales marketing planning, and achieving steady growth in performance.

In 2019, the Group realized operating income of RMB9,384.70 million, representing a year-on-year increase of 5.91%; the net profit was RMB1,461.58 million, representing a year-on-year increase of 23.68%; the net profit attributable to shareholders of the Company was RMB1,302.88 million, representing a year-on-year increase of 20.39%; excluding gains and losses from extraordinary items, the net profit attributable to shareholders of the Company generated from principal businesses of the Company in 2019 was RMB1,191.54 million, representing a year-on-year increase of 25.79%.

At the same time, Livzon actively undertook social responsibility, paid tax in accordance with the law, and supported community philanthropy. During the Year, Livzon contributed tax revenue of RMB1,089.37 million to the government, the total amount of wages, bonuses, allowances, compensation, welfare, housing funds and social insurance paid to the employees was RMB964.29 million, interest paid to creditors such as banks was RMB7.26 million, donation to society was RMB3.75 million, and social contribution per share in 2019 was approximately RMB2.21 per share.

## **ENVIRONMENTAL MANAGEMENT**

- Greenhouse gas emissions intensity: 0.5 tonne of CO2 equivalent/RMB0'000 of operating income
- In 2019, Livzon invested approximately RMB102.59 million in environmental protection, including approximately RMB65.35 million for maintenance of environmental protection facilities and approximately RMB37.24 million for renovation of environmental protection facilities.

## ACCESS TO HEALTH CARE

- (1) Availability:
  - As at 31 December 2019, a total of 44 varieties in production have carried out registration for more than 300 projects in 93 countries and regions
  - In 2019, overseas income amounted to RMB1,233.65 million, representing a year-on-year increase of 12.93% or 13.24% as a percentage of principal businesses income
- (2) Affordability:
  - A drop of nearly 40% in the price of Ilaprazole Sodium for Injection following its inclusion in the negotiation catalogue of national medical insurance
  - The inclusion of Ilaprazole Enteric-Coated Tablet for Gastroesophageal Reflux Disease in the coverage of national medical insurance reimbursement
  - The inclusion of Perospirone Hydrochloride Tablets in the regular catalogue of national medical insurance

## **INNOVATION OF RESEARCH AND DEVELOPMENT**

- In 2019, the Group applied for 29 domestic patents, including 27 invention patents, 1 PCT patent and 24 authorized patents.
- •
- In 2019, the Group's total expenditure on research and development amounted to approximately RMB827.73 million, representing a year-on-year increase of 20.44% and accounting for approximately 8.82% of the Group's total operating income for the Year.

# **4 2019 OVERVIEW**

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## **COMMUNITY INVESTMENT**

• In 2019, the expenditure of charitable donation of the Group amounted to RMB3.75 million, including funds donation of RMB1.54 million and materials donation value of RMB2.21 million.

## **MAJOR HONORS IN 2019**

Award	Granted by	Date	Picture
2019 Best Investor Relations Frontier Award	Road Show China, Infaith Consulting	9 January 2019	
Gold Award of the 5th Guangdong Patent Award for Virus Inactivation Method of Nerve Growth Factor	The People's Government of Guangdong Province	27 August 2019	ин. Баланди-тико Таланананананананананананананананананана
Best IR Hong Kong Listed Company, the 15th Gold Medal Secretary of the Board	New Fortune	5 September 2019	
Reputation List of Chinese Listed Companies of the Year 2019 Best Socially Responsible Listed Company	National Business Daily	8 November 2019	
Livzon Shenqi Fuzheng Injection was honored as the Best Chinese Finished Medicine Brand with Clinical Value of the Year 2019	China Association of Traditional Chinese Medicine	25 November 2019	
Top 100 Companies in China	The Organizing Committee of China Business Top 100 Forum and The Warton Economic Institute	6 December 2019	war REEFERENCESS 中国百靈金业奖 ····································
The 9th Golden Bauhinia Award for Listed Companies with Most Investment Potential in China and Best IR Team	Hong Kong Ta Kung Wen Wei Media Group	5 December 2019	
Intellectual Property Rights for Biological Pharmaceutical Products in Guangdong – Hong Kong – Macao Greater Bay Area- Top 10 Innovation Empowerment Enterprises for 2019	Guangdong Food and Drug Technology Association for Evaluation and Certification	20 December 2019	BMBEP WRINK IN SEAN OF AN BRING STATE 2013 WRING STATES AREA OF AN ANALYSIS

## **5.1 OPERATION COMPLIANCE**

In 2019, the Company paid close attention and actively adapted to the changes in industrial policies, continued to strengthen compliance and intensive market cultivation, and further improved our management and control efficiency and regulatory governance level.

The Audit Committee under the Board of the Company is mainly responsible for reviewing the Company's financial information, supervising the independence of external auditors and the effectiveness of their audits, and overseeing the Company's financial reporting system, risk management and internal control system. The risk management head office actively identifies the compliance risks in the course of the Company's business operations and constantly improves the internal control and risk management system. The legal compliance head office pays continuous attention to the trend of external regulatory requirements and comprehensively ensures the legal compliance of the Company's operations.

#### 5.1.1 Strengthening system construction

The Company maintains strict compliance with the Criminal Law of the PRC, the Anti-unfair Competition Law of the PRC, the Company Law of the PRC, the Interim Provisions on Banning Commercial Bribery (Order of the State Administration for Industry & Commerce No. 60), the Notice on Serious Investigation and Punishment and Proactive Prevention of Duty Crime in Food and Drug Supervision and other laws and regulations, and has established and improved its internal business ethics compliance and compliance management policies, including the Anti-corruption and Anti-commercial Bribery Regulations, the Interim Provisions on Anti-fraud, the Interim Measures for Whistle-blowing and Complaint Management and the Commitment for Anti-corruption and Anti-commercial Bribery, in order to strengthen our internal control, effectively prevent and control the fraud risk of the Company and establish the control and supervision mechanism against fraud. Such systems stipulate that the Company's leaders at all levels are the primary persons responsible for anti-corruption issues, and require the management to sign the Commitment for Anti-commercial Bribery to reflect the Company's zero tolerance attitude towards non-compliance behavior in breach of business ethics.

In 2019, a total of 751 employees of the Company, including all senior management, management personnel at or above the level of deputy manager of the Company and its subsidiaries and staff at important positions (such as procurement, engineering, environment, health and safety (EHS) positions), signed the Commitment for Anticommercial Bribery. The Company carried out cadre appointment and integrity inspection work and conducted all-round assessment on management cadres at all levels by formulating indicators in terms of moral quality and professional capability, with an aim to build a clean and efficient cadre management team.

## **5.1 OPERATION COMPLIANCE**

5.1.1 Strengthening system construction

#### Case: the Management of the Company Signing the Commitment for Anti-commercial Bribery

In order to ensure compliance of business ethics in all aspects of the Company's operations, strengthen the Company's compliance management and integrity building, on 11 February 2019, at the working meeting of the Company's middle management cadres and doctoral employees, the senior management of the Company made a promise to take the lead in self-integrity and self-discipline and prevent improper behaviors, made a presentation to all attendees on the theme of Anti-corruption and Encourage Integrity, Compliance Management and Building Up a Clean and Efficient Cadre Management Team and signed the Commitment for Anti-commercial Bribery.



In order to strengthen the Company's internal control, prevent the occurrence of malpractices and frauds, and supervise the business ethics management, the Company has stated clearly in the Interim Measures for Whistleblowing and Complaint Management that the employees of the Company have the rights to report and complain about the malpractice against the law, discipline or the Company's rules and regulations. The risk management head office of the Company is responsible for collecting the complaints, recording, reporting, investigating and following up the alleged malpractice. Employees may report the incompliant behaviors discovered by them to the risk management head office by letters, telephone, Wechat, intranet mailbox, e-mails, visits and other means. The risk management head office of the Company shall cope with such complaint letters and calls in a timely manner, classify, number, record and summarize them, and complete the required investigation within 30 days from the date of acceptance.

In order to protect the rights of whistleblowers, the Company has stated in the Interim Measures for Whistle-blowing and Complaint Management that the relevant departments accepting complaints shall keep the personal data and information of the whistleblowers and the content of the reports strictly confidential, the whistleblowing materials and records shall be designated as classified files and the completed whistleblowing cases shall be archived. Retaliating behaviors against the whistleblowers, once verified, shall be seriously dealt with by the Company in accordance with relevant provisions, and if such behaviors constitute crimes, the relevant persons shall be transferred to judicial authorities for investigating their criminal responsibilities according to the law.

Meanwhile, the Company requires in the Professional Code of Conduct for Employees that all employees shall abide by business ethics and prevent fraudulent behaviors. The Company aims to prevent and manage the risks in its sales operations by devising the Code of Conduct for Sales Personnel.

## **5.1 OPERATION COMPLIANCE**

#### 5.1.2 Performing internal audit

In accordance with the Corporate Governance Code contained in Appendix 14 of the Hong Kong Listing Rules, the Board has set up an Audit Committee, which is mainly responsible for reviewing the Company's financial reports, reviewing the Company's financial control, risk management system and internal control system, and reviewing the arrangement for the employees of the Company to raise concerns about the potential improper behaviors in financial reporting, internal control or other aspects. In March 2020, the Audit Committee considered and approved the Risk Management and Internal Control Self-evaluation Report of the Company for the year 2019 and the Resolution on Reviewing the Arrangement for Employees to Raise Concerns about Improper Behaviors, which effectively identified the risks and internal control level of the Company in its business operations in 2019.

The Company is endeavoring to strengthen and improve its risk management and internal control system, and the internal audit work of the Company is gradually becoming more professional, procedural and standardized. The Company has made continuous efforts to strengthen its system construction and established its internal audit system in line with the development of the Company, formulated risk management procedures and guidelines with different terms of reference, and revised and improved relevant audit system, code of conduct for auditors, auditing standards, guidelines for audit business, audit file management and etc.

The Company has established the audit and integrity department which is responsible for the audit of each department of the Company. Audit and integrity department carries out audit work in accordance with the audit plan established by it, performs audit on the risk management, internal control system and financial position of each subsidiary, confirms and assesses the comprehensiveness and effectiveness of risk management and internal control system of each subsidiary and continues to supervise and review regularly. In accordance with the audit needs, the Company has engaged specific audit staff to consolidate internal audit resource of the Group and establish an audit team comprising the audit and integrity department (as the leader) and staff from departments of laws, human resources, finance and chief production & technology, in order to carry out a comprehensive and special audit work on part of subsidiaries of the Company, the off-office audit and economic responsibility audit for the management staff in 2019 and recommend remedies for existing problems, organize and complete internal audit correction and self-inspection of the subsidiaries. Audit and integrity department shall prepare the comprehensive and special audit reports in accordance with specific audit contents, supervise the remedies of audited departments simultaneously, report to the management of the Group, and the management of the Group shall regularly report to the Audit Committee and the Board on effectiveness of the risk management and internal control system.

#### 5.1.3 Enhancing anti-corruption education

The Company is in a period of rapid development. Anti-corruption education and training programs can help all employees define commercial bribery, identify and prevent compliance risks, and clarify regulations and prohibitions through cases, strengthen internal supervision, and implement anti-fraud management systems.

During the Year, under the leadership of the municipal party committee, the Company's party committees at all levels actively carried out anti-corruption education and incorporated the education into party building activities. The Company's party committee takes the enrichment of "Two studies, one action" as the starting point for party building, the "Three meetings and one lesson" as the focus of party building, and "Do not forget the original intention, keep in mind the mission" as the organization's responsibility, and carried out a series of business ethics compliance related promotional activities.

## **5.1 OPERATION COMPLIANCE**

5.1.3 Enhancing anti-corruption education

Case: Anti-corruption Education and Training-"Do not forget the original intention, keep in mind the mission" Thematic Education and Training

In 2019, the Company's party committee conducted education and training with the theme "Do not forget the original intention, keep in mind the mission", to fully study the spirit of the General Secretary's important speech on building a new type of "Benignity, Clean" political and business relations, and integrate clean government construction into party building activities.



The Company's subsidiaries also actively carried out anti-corruption and integrity promotional seminars, to build a clean and efficient cadre management team, and clarify business ethics standards and compliance risks in the course of operation.

#### Case: Anti-corruption Education and Training-Anti-corruption Seminar in Fuxing Fuzhou

In 2019, Livzon Group Fuzhou Fuxing Pharmaceutical Co., Ltd.\*(麗珠集團福州福興 醫藥有限公司), a subsidiary of the Company, organized anti-corruption publicity seminars, which combined multiple industry cases as warnings and explained business ethics standards and company management systems, to clarify the definition of corruption and bribery, and communicated the high importance of the Company's attention on operation compliance and implemented the requirements of the Company's clean policy building and anti-commercial bribery.



The Group has continuously improved the construction of the anti-corruption system and continued to conduct anticorruption education. No corruption lawsuits were filed against the Group or employees in 2019.

#### 5.1.4 Establishment of clean supply chain

In order to strengthen the compliance management of the weak links in the construction of engineering projects, the Company formulated the Administrative Measures for Construction Project Establishment and Implementation Rules for Bidding for Construction Projects based on the characteristics of business operations. Project biddings were organized for projects with purchase amount in a single project of RMB 2 million or above or equipment purchase amount of more than RMB 1 million, a bid evaluation team would be formed through random selection from the Company's production technology head office and other relevant professional departments, and bidders would be evaluated for compliance based on the evaluation criteria. In terms of materials procurement, we formulated the Measures for the Administrative Measures for Centralized Procurement of Bulk and General-purpose Materials, the Administrative Measures for Material Procurement, etc. In 2019, the Company newly formulated the Implementation Rules for Bid Evaluation of Centralized Procurement of Construction Projects, the Operation Guideline for Tender Announcement of Materials and Service Projects on the Official Website, and Operation Principles for Tender Announcement of Material to fully ensure that the Group and contractors would cooperate with each other in any projects in accordance with clear codes of business ethics and regulations.

## **5.1 OPERATION COMPLIANCE**

#### 5.1.4 Establishment of clean supply chain

At the same time, the Company requires employees and suppliers in key positions to sign the Commitment for Anti-corruption and Anti-commercial Bribery according to the specific circumstances, and clearly stipulates that the offending employee shall be punished with the termination of the labour contract, and severe cases shall be transferred to judicial authorities.

#### 5.1.5 Party-building work

The Company closely integrated business management with party group building, and carried out a series of party building and co-construction activities with the party organizations of Zhuhai City, District and Local Taxation Bureau. During the Year, the Company had a total of 625 party members, including 393 party members in the Zhuhai headquarters area, 232 party members in the Company's branches outside Zhuhai City, 9 party branches directly under the Zhuhai Party Committee, and 7 party organizations of the Company's branches outside Zhuhai City.

#### Case: Take the Road of " mutually promoting between the party building and enterprises development "

From June 28 to 30, 2019, the party committee of the Group organized party members and party branch secretaries, outstanding party members, outstanding party workers, and representatives of the trade unions and the Communist Youth League in Zhuhai to carry out "keeping the original intention, undertaking the mission, winning the reform and seeking for development" study and education activities in Zunyi, to celebrate the party's anniversary. On the night when they arrived in Zunyi, the party committee of the Group held an enlarged party committee meeting for 2019.



#### Case: New Phrase, New Requirement and New Action-the Company Convened the Seventh Party Congress

On the morning of 8 September 2019, the Seventh Party Congress of the Livzon Group of the Communist Party of China was held in the Company's building, to review and approve the work report of the sixth Livzon committee and the work report of the Livzon disciplinary inspection committee, and elected party committee members, disciplinary committee members, party committee secretary, deputy secretary of the party committee, and secretary of the disciplinary committee of the new session.



## **5.2 SHAREHOLDERS' INTEREST**

The Company continues to strengthen various measures to protect shareholders' rights and interests, and is committed to create long-term and stable returns for shareholders. The Securities Law of the PRC was newly revised on 28 December 2019 and further emphasized on the protection of investors' rights and strengthened information disclosure requirements, and provided strategic guidance for the Company's information disclosure and investor communication.

#### 5.2.1 Communication with investors

Based on the Securities Law of the PRC, the Opinions on Further Strengthening the Protection of Legal Rights and Interests of Medium and Small-sized Investors in the Capital Market issued by the General office of the State Council and the China Securities Regulatory Commission ("CSRC")'s Work Guidelines for Relations between Listed Companies and Investors, the Company's Articles of Association have been improved in a timely manner. The Company timely answeres questions raised by shareholders through general meetings, timely reception and visits to investors, telephone communication, and an interactive platform for investor relations, and the Investor Complaint Handling Work System was formulated to effectively communicate with investors on information disclosure, establish an investor complaint handling account, and ensure that investors' opinions were effectively responded.

#### 5.2.2 Shareholders' return plan

In order to take into account the Company's long-term and sustainable development and comprehensively consider factors such as industry development trends, the Company's strategic development plan and shareholders' return, following the implementation of the high-proportion cash dividend plan for the past five years where the cumulative cash dividend reached approximately RMB2,410.62 million, pursuant to the relevant regulations and laws such as the Notice Regarding Further Implementation of Cash Dividends Distribution of Listed Companies and the Regulatory Guidelines of Listed Companies No. 3 – Cash Dividends of Listed Companies of CSRC and the relevant requirements of profit distribution policy under Articles of Association, the Company convened a Board meeting on 23 December 2019 to review and approve the Shareholders' Return Plan for the Three Years (2019-2021) of the Company to establish a sustainable, stable and scientific return plan and mechanism for investors.

The Company promised that during the term of the plan, in the case where the conditions for paying out cash dividends and the capital requirements for its normal production and operation are met, the Company shall actively distribute profits in the form of cash, and the profits to be distributed in cash each year shall not be less than 80% of the distributable profit achieved in the current year.

## **5.3 ESG GOVERNANCE**

The Company focused on the ESG performance by continuously improving the ESG governance structure and mechanism. In 2019, after reviewing our current ESG management and business development needs, the Company adjusted the ESG management structure, and the president being the leader of the ESG working team was responsible for the overall ESG management in all relevant aspects of the operation activities of the Company.

The ESG working team collected and analyzed key performance data regularly to assist the Board in identifying significant ESG risks and opportunities for the Company's business development and to develop counter measures. Meanwhile, it assessed the effectiveness of the Company's ESG management system by taking into consideration the current operating conditions, supervised the Company's relevant departments and our subsidiaries in improving the establishment of systems, and supported the effective implementation of the relevant proposals for protection and management.

ESG management level	Key members	Specific duties		
ESG governance	The Board	<ol> <li>Identifying significant risks associated with ESG</li> <li>Reviewing key ESG information</li> </ol>		
ESG leadership	The president serves as the team leader and the senior management serves as the deputy leader	<ol> <li>In charge of specific daily ESG management</li> <li>Regularly reviewing the Company's key ESG data</li> <li>Leading annual information summary and report preparation of ESG</li> </ol>		
ESG implementation	Top heads of relevant ESG functions	<ol> <li>Collecting and reporting ESG information</li> <li>Implementing specific ESG tasks</li> <li>Reporting to the ESG leadership</li> </ol>		

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## **5.4 IDENTIFICATION AND COMMUNICATION OF STAKEHOLDERS**

Based on stakeholders' concern, the Company established a long-term communication mechanism for stakeholders. We aimed to maintain good interaction with all stakeholders and actively respond to their expectations through targeted and diverse communication channels, thereby promoting our sustainable development.

Stakeholders identified	Purpose of communication	Communications channels
Government departments	<ul> <li>Comply with relevant laws and regulations</li> <li>Ensure quality and safety of drugs</li> <li>Cooperate with the regulatory work of the government in supporting healthy industrial development</li> <li>Ensure tax compliance and promote local economic development</li> </ul>	<ul> <li>Meetings between the government and the corporate sector</li> <li>Supervision and inspection</li> <li>Work reports and studies</li> </ul>
Shareholders	<ul> <li>Understand the operating results, governance standards and stringent risk control measures of the Company</li> <li>Ensure steady operation to maximize investment return</li> <li>Facilitate open, fair and equal information disclosure</li> </ul>	<ul> <li>General meetings</li> <li>Investor conferences and on-site visits</li> <li>Timely disclosure of material operating information and regular updates on financial information</li> <li>Face-to-face interviews, teleconferences and online interactive platform</li> </ul>
Employees	<ul> <li>Safeguard the basic rights of employees</li> <li>Care for employees' physical and mental well- being and safety</li> <li>Understand employees' needs and their suggestions to the Company</li> <li>Provide employee training and career development platform</li> </ul>	<ul> <li>Staff representative meeting and trade union</li> <li>Staff satisfaction survey</li> <li>Occupational, health and safety training</li> <li>Opinion feedback platform</li> <li>Daily communication</li> </ul>
Consumers	<ul> <li>Protect consumer rights</li> <li>Uphold business ethics</li> <li>Ensure drug quality and safety, timely recall of defective products</li> </ul>	<ul> <li>Product labelling and information disclosure</li> <li>Client visits</li> <li>Consumer satisfaction survey</li> <li>Address complaints and opinions of consumers</li> </ul>
Partners and suppliers	<ul> <li>Maintain good and stable cooperation relationship</li> <li>Operate with integrity and ensure pharmaceutical compliance</li> <li>Timely communication and coordination with upstream and downstream players to achieve mutual benefits</li> </ul>	<ul> <li>Regular exchange and communication</li> <li>Working meetings, phone calls and correspondences</li> <li>Company website</li> </ul>
Media	<ul> <li>Maintain open and transparent information disclosure</li> <li>Keep good interaction with media</li> </ul>	<ul> <li>Phone interview and correspondences</li> <li>Featured articles</li> </ul>
Industry peers	<ul> <li>Fair competition among peers to promote healthy industrial development</li> <li>Sharing of technology and experience among enterprises</li> </ul>	<ul> <li>M e e t i n g s o f i n d u s t r y organizations</li> <li>Experience sharing sessions</li> <li>On-site visits and exchanges</li> </ul>
Local community	<ul> <li>Emphasize the impact of manufacturing and operation activities on the local community</li> <li>Drive local economic development and provide assistance to the disadvantaged groups</li> <li>Promote health education and help patients</li> <li>Enhance recycling of product packaging and waste to reduce environmental pollution</li> </ul>	<ul> <li>Participate in community welfare events</li> <li>Provide regular assistance to the local community</li> <li>Organize volunteer service</li> </ul>

## **5.5 MATERIAL ISSUES**

The Company has engaged external professional consultants to review and assess its ESG issues for the Year. From the perspective of stakeholders, the consultants summarized and concluded the ESG issues that are material to the Company as the important basis of preparation of this Report.

#### Materiality assessment process

**Material issues matrix** 

- Review and update the pool of ESG issues: review the results of materiality assessment for 2018, and comprehensively consider and select the pool of ESG issues for 2019 by taking into account of the overall business development of the Group in 2019 and with reference to the ESG management practices of peer companies.
- Formulate and implement the stakeholder engagement program for the Year: communicating and investigating
  with important stakeholders to obtain relevant raw data by taking into account of the Company's own situation
  for the Year and with reference to the development of pharmaceutical industry and overall economic and social
  development.
- Quantify and evaluate from two dimensions: comprehensively consider and evaluate each issue from two
  dimensions of "materiality to corporate development" and "materiality to stakeholders" to obtain a list of
  material issues.
- Submit the report to, and obtain approval from the management: submit the assessment report on overall stakeholder engagement and material issues to, and obtain approval from the management.



## 2019 ESG Material Issues Matrix of Livzon

Materiality to Corporate Development

## **5.5 MATERIAL ISSUES**

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List of Material Issues in ESG for 2019 of Livzon				
	No.	Content		
Issues of high materiality	1	Product quality and safety		
2		Health and safety of employees		
3		Pollutant management (e.g. emission reduction, environmental expenses ar environmental monitoring)		
	4	Intellectual property protection		
	5	Corporate governance		
	6	Information security and privacy protection		
	7	Environmental internal governance and environmental risk management		
	8	Accountability for violations		
	9	Talent attraction and retention		
lssues of medium materiality	10	Employee training and development		
	11	Anti-commercial bribery		
	12	Use and management of water resources		
	13	Management of use of raw-materials (e.g. raw and auxiliary materials and packaging materials)		
	14	Internal control and risk management		
	15	Internal governance and planning of social responsibility		
	16	Supply chain management		
	17	Prevention of child and forced labour		
	18	Management of investor relations		
	19	Composition of the Board and its operation		
	20	Management of use of energy		
	21	Controlling shareholder and general meeting		
	22	Addressing negative opinion from stakeholders		
	23	Access to Health Care		
	24	Supervisory Committee's performance		
	25	Use of renewable energy		
	26	Greenhouse gases emissions		
Issues of low materiality	27	Protection of biological diversity		
	28	Contingency measures for tackling environmental incidents (e.g. excessive or non-regulated emission)		
	29	Risk associated with climatic change and countermeasures		
	30	Participation in charity activities and targeted poverty alleviation		

Adhering to the business strategy of "Excel in Quality" and continuously improving the quality control, Livzon's quality control over production and operation was in good working condition and our quality control system was operating healthily, which effectively guaranteed the safety and stability of the Company's products in various fields, thus further enhancing the market competitiveness of its products.

In 2019, the Group further improved its quality control in the following aspects:

- strengthening quality management over all stages of research and development ("R&D"), manufacturing and business operations;
- strengthening related audits and sub-contract production management of raw materials, auxiliary materials and packaging materials in accordance with the marketing authorization holder system;
- improving the Pharmacovigilance Management System and establishing a pharmacovigilance system of the Group;
- establishing a quality management system for clinical trial of the Group;
- establishing an implied license system for clinical trial management to strengthen clinical audit management.

## **6.1 QUALITY MANAGEMENT SYSTEM**

A well-established quality management system is the basic guarantee for the quality of pharmaceutical production and management. According to the Drug Administration Law of the PRC, the Good laboratory Practices for Pharmaceutical Products (GLP), the Good Clinical Practices for Pharmaceutical Products (GCP), the Good Manufacturing Practices for Pharmaceutical Products (GSP), the Pharmaceutical Products (GSP), the Pharmaceopeeia of the PRC, the Administrative Measures for Drug Registration and other relevant quality standards, as well as the Company's internal Quality Management System and Standard Operation Procedure, the Company established a three-dimensional quality management system covering product R&D, production and sales.

- Currently, the Group has a total of 44 varieties of APIs in production which have carried out registration for more than 300 projects in 93 countries (regions), and continuously promotes the quality system certification for affiliated production and operation units in accordance with the GMP and the GSP.
- As at 31 December 2019, a total of 36 production lines of 4 preparation enterprises of the Group have passed the GMP certification; 27 products of 5 APIs enterprises have passed the GMP certification, and 11 products have passed the GMP certification for veterinary medicines; and one production line of a diagnostic reagent enterprise has passed the GMP certification.
- 20 varieties of APIs have passed international certification for on-site inspection and obtained 28 international certifications during the validity period (including 9 varieties passed FDA on-site inspection and 7 varieties obtained CEP certificates); and one variety of drug preparation products has passed one international certification and obtained one international certification.
- 14 varieties of diagnostic reagents of the Company have obtained 15 medical device certificates from the European Union, 6 of which have passed the TUV international certification for on-site inspection.

The Company adopts the qualified persons system. The qualified persons are in charge of the release of each product batch and only releases products after reviewing all aspects of product manufacturing process to ensure that the quality of products to be delivered meets the Good Manufacturing Practice and other relevant regulations.

In addition, Livzon also has a quality laboratory based on the CNAS-CL01: 2018 Accreditation Criteria for the Competence of Testing and Calibration Laboratories. According to its application requirements, the operation procedures, equipment and facilities of the laboratories were upgraded in all aspects, and passed the regular evaluation of CNAS in 2019, ensuring that the Group possesses the technology for carrying out testing according to internationally recognized standards.

## 6.2 INTERNAL QUALITY AUDIT

The Drug Administration Law of the PRC, which newly amended in 2019, imposes higher requirements for the quality management of pharmaceutical manufacturing and operating enterprises. In order to better identify risks, the quality management head office of the Company carried out an all-around quality audit on the six major systems (quality system, production system, material system, laboratory system, equipment and facilities system and packaging system) of drug preparation and R&D subsidiaries based on the GMP, and assisted drug preparation manufacturers in conducting comprehensive inspections on the key varieties and production lines. The Company carried out follow-up and pre-inspection on new varieties, new production lines and re-certified production lines, on-site pre-inspection on generic drug consistency evaluation, and extended inspections on entrusted production enterprises. For the issues identified in the audits of the enterprises, the Company strictly implements the rectification, follows up on-site and verifies the completion of the rectification of defects on the spot.

In 2019, the quality management head office of the Company carried out 16 interactive inspections, 4 followup inspections, 2 special inspections and 2 extended inspections for entrusted production for drug preparation enterprises, effectively identifying potential risks the enterprises were exposed to. At the same time, the Company put more emphasis on the discovery, warning and instruction for ratification of high risk area during the monitoring work to further promote the effective operation of quality management system of the Group.

In addition, in order to facilitate the application and registration of scientific research projects, the Company conducts examination and special inspection on the preparation site (pharmacy part) of drug registration and production site simulation of drug registration for new products of R&D enterprises. In 2019, the quality management head office of the Company carried out 4 interactive inspections, 2 special inspections and 4 extended and follow-up inspections for R&D enterprises.

## **6.3 PHARMACOVIGILANCE SYSTEM**

The revised Drug Administration Law of the PRC explicitly requires that "a pharmacovigilance system shall be established to monitor, identify, evaluate and control adverse drug reactions and other adverse reactions related to drug use." Pharmacovigilance (PV) is an important system designed for docking with international drug regulatory standards. Livzon actively responded to such requirement and supported the establishment of a comprehensive pharmacovigilance system, and formulated the Pharmacovigilance Management System to ensure a balanced drug risk-benefit and safety and efficacy of drug.

The Pharmacovigilance Management System was implemented in January 2019. The drug marketing permission applicants and marketing permission holders of the Company are responsible for the pharmacovigilance work. An independent pharmacovigilance department and a pharmacovigilance management committee were set up with a rational departmental structure, division of responsibilities and collaborative work mechanism. The Company developed the system objective and requirements. By carrying out pharmacovigilance system management activities such as quality planning, quality compliance, quality control and assurance and quality improvement, the Company systematically penetrates the system objective and requirements into the all pharmacovigilance work. Under such guidance, the Company continues to improve the pharmacovigilance management structure and is planning to set up a pharmacovigilance department at group-level, which will co-ordinate the implementation of the pharmacovigilance system and rules and play a role in policy release, business guidance, management and supervision in pharmacovigilance.

Launching authorization applicants and launching authorization holders conduct drug risk management, make adjustment and analysis on the information of the drug safety (including adverse drug reaction/event) collected by multiple means and implement management measures such as safety monitoring, risk signal management, updating report of safety regularly and safety research upon listing during whole lifetime of the drug according to relevant laws and regulations and the requirement from the system on the basis of the pharmacovigilance system and its relevant activities

## **6.4 CONSISTENCY EVALUATION**

As the drug quality is directly related to the safety of the drug usage by the public, Livzon has been actively participating in the consistency evaluation work for generic drugs since the date when the National Medical Products Administration (NMPA) issued the Announcement of on Relevant Matters Concerning the Consistency Evaluation for Quality and Efficacy of Generic Drugs.

During the Year, there have been 17 projects established under consistency evaluation, 4 of which have been reported. Tinidazole Tablets(替硝唑片), Clarithromycin Tablets (克拉黴素片) and Amlodipine Besylate Capsules (苯 磺酸氨氯地平膠囊) have been registered and reported and have completed on-site inspection. Omeprazole Sodium for Injection(注射用奧美拉唑鈉) has been registered and reported, which is pending for on-site inspection.

## 6.5 SUPPLY CHAIN MANAGEMENT

The Company classifies the supply chain risk into Category I, Category II and Category III materials according to the extent of the impact on the quality of the drug production from raw materials, auxiliary material and packaging materials and the quantity of the drug required and the different quality risk of the drug production. As for the Category I material which is extremely important for the production and operation of the Company, the quality management head office of the Company has developed contingency plans against risk and has selected the back-up suppliers to ensure the stability and safety of the supply chain.

The Company carries out regular quality audit on the suppliers of the raw and auxiliary material for the all drug production according to the Administrative Procedure for Supplier Audit and carries out quality audit according to annual plan of suppliers quality reviewing. The audits are classified into onsite audits and questionnaires. It requires us to conduct at least one onsite audit on single supplier every 3 years and require us to understand the current control condition for the quality work by other suppliers by questionnaires covering 100% for the suppliers of raw and auxiliary material every year.

We have prepared management document such as the Catalogue of Qualified Material Suppliers and the Catalogue of Shortlisted Material Suppliers for convenient and effective retrieval and review of supplier information, thereby achieving refined management on suppliers. In 2019, the Group comprehensively promoted management system for suppliers so as to realize the online record and management of the information of the major suppliers.

Meanwhile, in the course of establishing annual audit plan for suppliers, the Company gradually upgrades the relevant requirement for the environment and safety management for suppliers, employment compliance and protection of interest for employees, encourages the suppliers to improve the management capability of EHS and the protection for interest of employees and encourages suppliers to actively adopt the certification system such as ISO14001:2015/ ISO45001:2018/ISO26000:2010 to lead them to continuously improve their relevant management capability by providing technical guidance and quality management training.

#### 6.6 PROTECTING THE RIGHTS OF CUSTOMERS

The Group places great emphasis on the drug quality management and has formulated administrative measures such as the Unqualified Drug Management System, the Adverse Drug Reaction Reporting and Monitoring Management System, the Drug Recall Management System as well as the Drug Trace Back Management System, pursuant to the Administrative Measures for Drug Recalls. We have a three-tier drug recall mechanism in place based on the severity of potential drug safety hazards. Prior to the recall, we establish a detailed recall plan and inform the sales companies and customers of the suspension of sales and delivery of drugs. At the same time, we quarantine the inventory and report to the drug administrative authorities as required. We also recall the drugs from distribution channels at all level, take stock, inspect and accept the products and return the drugs to the manufacturers pursuant to the product return procedure. In order to ensure the traceability of sold drugs, we establish and maintain complete sales and purchase record. We also actively cooperate with drug manufacturers or drug administrative authorities in the relevant investigation. In 2019, there was no sold product of the Group being recalled because of safety risks.

To safeguard medicine safety, the Company provides feedback channel for the patients or clinical trial subjects who are subject to adverse events after taking the medicine to assess the adverse events and the characteristic of the product timely and safeguards medicine safety by establishing report platform for Adverse Drug Event (ADE) in the official website of the Company and providing feedback telephone numbers and email address. During the Year, the Company received 129 relevant product feedbacks, among which there are 8 feedbacks of drug counseling and the main content of the 121 remaining product feedbacks is as follows: adverse reaction, solution problem, bottle cap falling and package quality problem and so on. The Company timely follows up and deal with the drug counseling and complaints received from customers according to relevant system with the addressing rate of 100%.

To fully protect customer rights, the Company conducts annual satisfaction survey on the drug and service quality. The Company collectes the suggestions and complaints from customers regarding the Company's products and services from multiple perspectives in respect of quality of medicines, efficacy of medicines, performance in contract, packaging, service attitude, etc. In 2019, we received 246 feedbacks from the inquiry schedules released to regional customers from provincial-level companies, which showed that there is continuous increase in the customer satisfaction for the product, quality and efficacy of the Group.





As the Group mainly engages in drug production and operation, there is less direct access to the end-customers and their private information. Due to the limited privacy safety management risk, the Group also maintains full compliance with applicable provisions in the Constitution of the PRC, the General Principles of the Civil Law of the PRC and the Tort Liability Law of the PRC regarding protection of personal information. This is to protect customer privacy, defend trade secrets and safeguard clients' interest. In 2019, there were no events on infringement of customer privacy or loss of customers' information in the Group.

Adhering to the management philosophy of "Reform, Responsibility, Innovation, Development", Livzon achieved steady growth in results by continuously improving management efficiency and governance standards, steadily promoting research and development ("R&D") process and strengthening marketing management.

#### 7.1 INNOVATION AND DEVELOPMENT

The Group has strong R&D capacity and international R&D philosophy in the fields of chemical and Traditional Chinese drug preparations, API and intermediates, biologics and diagnostic reagents and equipment and has established featured drug preparation R&D platforms such as sustained release microsphere R&D platform and biologics R&D platform with core leading R&D talents. The Group actively introduces domestic and foreign experienced experts and innovation talents, continuously increases R&D investment, establishes a clear products R&D pipeline focusing on medicine products such as antitumor, assisted reproduction, gastrointestinal, psychotropic and neurological drugs, which further enhanced the R&D competitiveness of the Group. Currently, in addition to further focusing on biologics R&D, Livzon has initiated the research and development of cell therapy business field. Under the policy of consistency evaluation and minimum procurement requirement, Livzon has unique strength on API and will continuously enhance the integration of API and drug preparations. The Group currently has 729 R&D employees (2018: 721), accounting for 8.08% of total number of employees (2018: 9.40%), with increasing scale of its R&D team.



In 2019, Livzon's total expenditure in R&D investment amounted to RMB827.73 million (2018: RMB687.24 million), representing a year-on-year increase of 20.44%, among which capitalized R&D investment accounted for approximately 8.14% (2018: 10.34%) of total R&D investment. R&D investment accounted for approximately 8.82% (2018: 7.76%) of the Group's total operating income for the Year.



## 7.1 INNOVATION AND DEVELOPMENT

7.1.1 Focusing on anti-tumor research

Tumors have become one of the leading culprits endangering human health, with more than 1.7 million new incidents of cancer worldwide each year and tumor treatment costs exceeding US\$133 billion. Anti-tumor drugs have also become a hot field of medical research, and immune checkpoint inhibitors are one of the mainstream development directions for anti-tumor drug.

Livzon is committed to working with our global pharmaceutical peers to improve human health, and actively invests in research and development of anti-tumor drugs. Currently, the Group's research and development work covers a number of research and development projects of monoclonal antibody and cell therapy. The main projects include:

Project name	Indication	Pre- clinical	Phase I clinical trials	Phase II clinical trials	Phase III clinical trials
Recombinant Anti-HER2 Domain II Humanized Monoclonal Antibody for Injection (重組抗HER2結構域 II 人源化單克隆抗體注射液)	HER2 positive breast cancer			1	
Recombinant Humanized Anti-PD-1 Monoclonal Antibody for Injection (注射用重組人源化抗PD-1單克隆抗體)	Advanced solid tumors			I	
Long-acting Tumor Targeting Cytokine Drugs for Treatment (治療用新型長效 腫瘤靶向細胞因子藥物)	Advanced solid tumors				
Humanized Dual Targeting Autologous CAR-T (人源化雙特異性自體CAR-T細胞注 射液)	Lymphoma				
Dual Targeting Autologous T cell Vaccines (新型治療性T細胞疫苗注射液)	Liver cancer				

In 2019, the R&D platform for biologics focused on promoting the launch approval application of 1 project, clinical development of 3 projects, pre-clinical research of 3 projects, and IND application of 2 projects. In the future, it will continue to accelerate the R&D of innovative drugs and similar drugs and their clinical and industrial development.

#### 7.1.2 Investing in studies on rare diseases

The "Healthy China 2030 Planning Outline" proposes "to improve the drug security policy for rare diseases"; in June 2018, five ministries and commissions including the National Health Commission of the PRC issued the "First National Catalogue of Rare Diseases". Subsequently, the Chinese government successively introduced a number of supporting policies such as the establishment of a national network for the diagnosis and treatment of rare diseases. Patients with rare diseases have received widespread attention from the society.

The introduction of Catalogue of Rare Diseases has a positive guiding effect on the drug R&D of Livzon. Based on the current status of R&D, and combined with 121 rare diseases in the catalogue, the Company actively considers inclusion of the rare diseases in its research and development work, and strives to improve the treatment of rare diseases in China.

## 7.1 INNOVATION AND DEVELOPMENT

#### 7.1.2 Investing in studies on rare diseases

Currently, the orphan drug products in the Company's R&D pipeline include Ryanodex for Injection (注射用丹曲林 鈉), which is an intracellular muscle relaxant used to treat malignant hyperthermia (MH), a rare disease. The incidence of malignant hyperthermia is less than 0.01%, and it is the only genetic disease known to cause perioperative death that can be caused by conventional anesthetics, that is, the skeletal muscle of a patient occurs tonic contraction after he/she is exposed to volatile inhalation anesthetics during general anesthesia, generating a large amount of energy and leading to a sustained and rapid increase in body temperature, which can eventually lead to death. In 2019, the Company submitted license application for Ryanodex for Injection (注射用丹曲林鈉), which has been included in the priority review. The drug will make up for the lack of specific drugs for the treatment of malignant hyperthermia in China after it is launched.

#### 7.1.3 Placing importance on the demand for pediatric medicine

In recent years, the pediatric outpatient and emergency medical treatment rate in China has remained high persistently for a long time, and the market for pediatric medicine has grown rapidly. The market size of pediatric medicine in China is relatively small, but there is a large population of children in China, the market for pediatric medicine is far from saturated and will have a great potential in the future.

The pediatric pipeline of Sichuan Guangda Pharmaceutical Manufacturing Co., Ltd. (四川光大製藥有限公司) ("Sichuan Guangda", a subsidiary of the Company) mainly include, among others, Anti-viral Syrup (抗病毒糖漿), Pediatric Feirekechuan Granules (小兒肺熱咳喘顆粒) and Jingfu Anti-pruritic Granules (荊膚止癢顆粒). In which, Jingfu Anti-pruritic Granules (荊膚止癢顆粒) and Anti-viral Syrup (抗病毒糖漿) are exclusive products of Sichuan Guangda, and Pediatric Feirekechuan Granules (小兒肺熱咳喘顆粒) is a original product of Sichuan Guangda.

In 2019, Sichuan Guangda organized multiple expert meetings around the exclusive products and key products of traditional Chinese drugs such as Anti-viral Granules/Syrup (抗病毒顆粒/糖漿), Jingfu Anti-pruritic Granules (荊虜止癢 顆粒) and Pediatric Feirekechuan Granules (小兒肺熱咳喘顆粒), deeply explored the product characteristics, discussed and analyzed the cultivation potential, cultivation strategies, main measures and implementation methods to be taken for the major products.

#### 7.1.4 Caring for patients with chronic disease

With the aging of the population and changes in the lifestyle of residents, the number of patients with chronic disease has been rising. Hypertension is one of the most common chronic diseases. Currently, there are approximately 270 million of patients with hypertension in China. Meanwhile, hypertension is also the most important risk factor for the cause of and death resulted from heart disease, stroke and kidney disease. Livzon deploys various antihypertensive drugs with multiple mechanism of actions, including Valsartan Capsules (纈沙坦膠囊), Amlodipine Besylate Capsules (苯磺酸氨氯地平膠囊), Carvedilol Tablets (卡維地洛片) and Lisinopril (賴諾普利), the total sales income from which represents 51% of the Group's sales income from cardio-cerebral vascular.

Diabetes has become one of the main problems that plague human health. According to statistics, approximately 460 million people worldwide suffered from diabetes in 2019, while there were approximately 120 million people with diabetes in China alone (International Diabetes Federation, 2019, IDF DIABETES ATLAS). In 2019, Livzon's income from sales of Acarbose (阿卡波糖), a API drug, amounted to RMB253 million. Acarbose is an antidiabetic drug of  $\alpha$ -glucosidase inhibitor. Meanwhile, Livzon has built a R&D platform for polypeptide to deploy the field of diabetes drugs.

In addition, for elderly patients suffering from chronic diseases such as hypertension, hyperlipidemia and cardiovascular and cerebrovascular diseases, in 2019, the Group has launched "Poverty Alleviation against Chronic Diseases" program for chronic diseases in Hunyuan County, Guangling County and Lingqiu County of Datong City, Shanxi Province, Dongxiang County and Tianzhu County of Gansu Province and Jilin Xianghai National Nature Reserve, and donated drugs worth millions of RMB for chronic disease including Pravastatin Capsules (普伐他汀膠囊), Amlodipine Besylate Capsules (苯磺酸氨氯地平膠囊), Irbesartan Tablets (厄貝沙坦片), Valsartan Capsules (纈沙坦膠囊), Isosorbide Bononitrate Tablets (單硝酸異山梨酯片) to poor counties, which benefited more than 2,000 local residents.

## 7.1 INNOVATION AND DEVELOPMENT

7.1.5 Fighting the Novel Coronavirus (COVID-19)

At the end of 2019, a novel coronavirus ("COVID-19") pneumonia outbreak occurred in Wuhan, Hubei Province, China. Zhuhai Livzon Diagnostics Inc. (珠海麗珠試劑股份有限公司) ("Livzon Diagnostics", a controlled subsidiary of the Company) actively responded to the needs of prevention and control of the epidemic of COVID-19. For the purpose of diagnosis of COVID-19, Livzon Diagnostics actively established a team to conduct the R&D and launch approval application of the diagnostic products and matched equipment related to the detection of viral nucleic acids and antibodies. The main products include:

#### COVID-19 nucleic acid diagnostic kit (PCR-fluorescence method)

Compared with the existing products on the market, the COVID-19 nucleic acid reagent independently developed by Livzon Diagnostics has unique technical advantages. It is produced with the all-components freeze-drying technology. Moreover, equipped with the self-developed automatic and high-throughput nucleic acid detection equipment, the positive results can be obtained within 30 minutes at the soonest, and the manual preparation steps before the test can be avoided to the greatest extent, which improves the labour efficiency. Meanwhile, the reagent is sealed with mineral oil during the whole test process to minimize the probability of generating aerosol, which can effectively solve the problem of safety and cross contamination.

#### Diagnostics kit for IgM antibody to COVID-19 (ELISA)/diagnostics kit for IgG antibody to COVID-19 (ELISA)

The product was jointly developed by Livzon Diagnostics and Wuhan Institute of Virology, Chinese Academy of Sciences. It is proposed to serve as an important auxiliary screening method in addition to the throat swab pathogen-based nucleic acid detection, providing serological evidence for clinical use and for screening the suspected cases and mild cases on a large scale.

#### Diagnostics kit for IgM antibody to COVID-19 (colloidal gold)/ diagnostics kit for IgG antibody to COVID-19 (colloidal gold)

The product was jointly developed by Livzon Diagnostics and Wuhan Institute of Virology, Chinese Academy of Sciences, and is proposed to be applicable to auxiliary diagnosis of early infection and epidemiological investigations of COVID-19. This product can produce the test result within 15 minutes and can either be operated manually or run on an automated instrument. It can assist the primary medical institutions in early screening and diagnosis, and adapt to the primary medical institutions' requirements for small-size, portability and fast speed of producing results.

#### 7.1.6 Intellectual property protection

Effective intellectual property protection is an important foundation for promoting Livzon's independent innovation, standardizing scientific research management and avoiding patent management risks. Livzon complies with the Patent Law of the PRC, the Intellectual Property Law of the PRC and other relevant laws and regulations, and has accordingly formulated the Patent Management Process, the Procedure for Establishment of Independent Research and Development Project and other rules to guide the Company in patent risk identification, patent application and management and trademark management, etc.

According to the Patent Management Process, the Company systematically conducts patent risk assessment and management before project establishment of products, patent transformation of R&D achievements and patent risk management of product launch so as to effectively avoid infringement of R&D and actively protects the Company's intellectual property achievements and enhances the overall competitiveness of the Company.

## 7.1 INNOVATION AND DEVELOPMENT

#### 7.1.6 Intellectual property protection

The Company's legal compliance head office actively conducts patent application and maintenance work. In 2019, the Company completed the daily maintenance of 357 valid patents and 134 application-stage patents. In 2019, there were a total of 29 patent applications, 27 of which were invention patent applications, and there was another one PCT application. A total of 24 authorized patents were granted in 2019.

To prevent patent infringement risks, the Company's legal compliance head office actively follows up the development of scientific research projects and builds a patent network in a timely manner. In 2019, the patent investigation and search report of 112 products and the patent analysis report of 11 key projects were completed.

The Company emphasizes independent innovation and actively explores the overseas markets. When planning to promote the innovative drugs to the overseas markets in the future, we will actively consider to conditionally implement the compulsory licensing system for patented drugs in the Doha Declaration on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and Public Health, and work with the international pharmaceutical peers to improve the universal health coverage.

Livzon's continuous investment in intellectual property management has been highly recognized by the outside world. In 2019, Livzon has achieved many achievements and honors in intellectual property management, including:

Won the silver award of Guangdong Patent Award for the Year 2019

"Livzon Anti-Virus Product Patent Layout" won the silver award in the Guangdong-Hong Kong-Macao Greater Bay Area High-Value Patent Cultivation Layout Competition for 2019

Completed the annual review of national intellectual property demonstration enterprises, the strong enterprise training assessment in Guangdong and the implementation of standard re-certification

Completed the intellectual property related content support for multiple projects such as the "Local Entrepreneurship and Innovation New Team Project in Guangdong"

Invited by Guangdong Intellectual Property Research Association to co-organize the Guangdong-Hong Kong-Macao Greater Bay Area Seminar

Won the gold award of the 5th Guangdong Patent Award for Virus Inactivation Method of Nerve Growth Factor

Won the Intellectual Property Rights for biological pharmaceutical products in Guangdong – Hong Kong – Macao Greater Bay Area-Top 10 Innovation Empowerment Enterprises for 2019

## **7.2 RESPONSIBLE MARKETING**

Based on the strategy of "Talent, Product and Market" in marketing management, the Company implements the refined management of marketing work, constantly improves the construction of marketing system, optimizes the incentive and assessment mechanism, strengthens academic marketing and terminal promotion, and gradually establishes a professional marketing team in the business areas of drug preparation products (including prescription drugs and OTC drugs), diagnostic reagents and APIs by optimizing the allocation of resources, forming a relatively complete marketing system. Livzon strictly complies with the relevant regulations on drug labeling management and the operational management practices of drugs, ensures that drug information is accurate and standardized, and helps to promote rational drug use by the public in the process of drug business.

## 7.2 RESPONSIBLE MARKETING

7.2.1 Drug labeling management

Livzon complies with the relevant provisions on pharmaceutical labels and direction stipulated in the 2019 revision of the Drug Administration Law of the PRC and the Provisions on the Administration of Pharmaceutical Direction and Labels issued by the NMPA. All of our drugs are printed with pharmaceutical direction and labels which have been approved by the NMPA in accordance with the Quality Management System and the Standard Operation Procedure of the Company.

In order to fully protect public health, Livzon requires that all contents of the pharmaceutical direction and labels should be scientific, standardized and accurate, and warnings should be put on the pharmaceutical direction and labels proactively to guide the patients to use drugs properly and reasonably. For over-the-counter drug, the Company uses easy-to-understand words in their direction so that patients can make judgement and selection and use them.

#### 7.2.2 Pharmaceutical operation audit

In accordance with relevant laws, regulations and quality standards, and combined with regulatory requirements and dynamic regulatory data by drug regulatory agencies, the Company conducts routine audits on the affiliated drug operation units in respect of standardization of drug storage, transportation, wholesale and retail and drug labeling management during drug operation processes.

In 2019, the quality management head office of the Company conducted quality audits for three secondary drug operation enterprises under the Group in accordance with the GSP system focusing on identification, warning and rectification guidance of high-risk points, and urged the healthy operation of the quality management system of the enterprises mainly against the current dynamic high-risk points of the industry. The audit results have been fed back to the relevant enterprises, and the rectification and improvement were required to be implemented on time to improve the level of quality management.

For a long time, Livzon has been aware that environmental protection is an indispensable component of sustainable development of enterprises. Under the guidance of our environmental policy of "green production, environmental protection and energy conservation", Livzon actively promotes environmental management and green production, and is committed to reducing the impact of business development on the environment and natural resources.

#### 8.1 ENVIRONMENTAL MANAGEMENT

Livzon strictly complies with national laws and regulations including the Environmental Protection Law of the PRC and the Environmental Impact Assessment Law of the PRC, and continuously strengthens environmental risk management to ensure that production and operation of the Group meet national environmental protection standards.

#### 8.1.1 Environmental management system

The Company establishes and improves the environmental management system in combination with the actual operation conditions and the features of the pharmaceutical industry. We sets up the EHS management department for overall management at the headquarters, with professional dedicated personnel responsible for system management, supervision, and guidance of environmental protection. Each subsidiary also has a dedicated EHS department responsible for the specific implementation of energy conservation, emission reduction, wastes discharge, environmental protection investment and environmental protection technology. All production subsidiaries operate and maintain the effectiveness of the system under the plan-do-check-act (PDCA) operating model in accordance with the requirements of the ISO14001 Environmental Management System.

ISO14001 certified companies					
Shanghai Livzon Pharmaceutical Manufacturing Co., Ltd. (上海麗珠製藥有限公司)					
Livzon Group Livzon Pharmaceutical Factory (麗珠集團麗珠製藥廠) ("Pharmaceutical Factory")					
Livzon Group Xinbeijiang Pharmaceutical Manufacturing Inc. (麗珠集團新北江製藥股份有限公司) ("Xinbeijiang Pharmaceutical")					
Gutian Fuxing Pharmaceutical Co., Ltd. (古田福興醫藥有限公司)					
Sichuan Guangda Pharmaceutical Manufacturing Co., Ltd. (四川光大製藥有限公司)					
Livzon Group (Ningxia) Pharmaceutical Manufacturing Co., Ltd. (麗珠集團(寧夏)製藥有限公司) ("Ningxia Pharmaceutical")					
Zhuhai FTZ Livzon Hecheng Pharmaceutical Manufacturing Co., Ltd. (珠海保税區麗珠合成製藥有限公司) ("Livzon Hecheng")					
Livzon Group Fuzhou Fuxing Pharmaceutical Co., Ltd. (麗珠集團福州福興醫藥有限公司) ("Fuzhou Fuxing")					
Livzon Group Limin Pharmaceutical Manufacturing Factory (麗珠集團利民製藥廠)					
Jiaozuo Livzon Hecheng Pharmaceutical Manufacturing Co., Ltd. (焦作麗珠合成製藥有限公司) ("Jiaozuo Hecheng")					

The Company has formulated management system including the General Requirements of EHS Management System and the Administrative Measures for EHS Information and Communication. We regularly reviews the system operation of each production subsidiary and analyzes various environmental management index in time to ensure continuous improvement of management performance.

#### 8.1.2 Environmental risk management and control

In order to further strengthen the environmental risk management and control, the Company has generated the Identification and Assessment Requirements of Environmental Factors, the Administrative Measures for EHS Accident and the Guidelines for Management of EHS Changes. By identifying and regularly reviewing the risk level of environmental factors, we strengthen the daily environmental pollution monitoring, increase investment in environmental protection to upgrade environmental protection facilities and equipment, strengthen emergency response capabilities for environmental incidents, and continuously improve environmental performance.

## 8.1 ENVIRONMENTAL MANAGEMENT

8.1.2 Environmental risk management and control

**Identification of major environmental factors:** by analyzing the environmental factors in production and operation activities, products and services, evaluating the risk levels through qualitative and quantitative methods, the Company formed a list of major environmental factors, and developed sound management plan and control measures to prevent environmental risk events.



Environmental Factor Identification Flow Chart

In 2019, the Company added the Soil Pollution Potential Hazards Inspection System in accordance with the requirements of the Soil Pollution Prevention and Control Law of the PRC, and organized regular monitor to identify the potential risks of spread or leakage, and made timely rectification to eliminate soil pollution hazards and prevented environmental pollution events.

- Strengthening environment pollution monitoring: according to the requirements of the Self-monitoring Technical Guideline for Pollutant Discharging Units on Chemical Synthesis Pharmaceutical Industry, our production subsidiaries carry out self-monitoring of pollutants in accordance with their actual conditions to achieve effective monitoring of pollutants sources. We also regularly disclose environmental monitoring information and receive the supervision of administrative authorities such as the government and of the public.
- **Continuous increase of investment in environmental protection:** in order to further improve environmental protection capability and quality, on the basis of ensuring the normal and effective operation of the environmental protection facilities, our production subsidiaries continue to increase investment in upgrading environmental protection facilities and equipment for wastewater discharge, air pollutant emission and solid waste storage. In 2019, the Group's total investment in the renovation of the environmental protection equipment was approximately RMB37.24 million.
- **Strengthening emergency response capabilities:** each production subsidiary has set up an emergency response leading team and working team, and formulated the Environmental Emergency Contingency Plan based on actual environmental risks. We regularly conduct professional training and emergency response drills in order to ensure that the emergency measures can be quickly initiated and executed in the event of environmental incidents and to improve our emergency response capabilities for crisis events.

## **8.2 GREEN PRODUCTION**

Livzon always adheres to green production, adheres to the principle of minimizing resources and energy consumption in exchange for maximum product output in operation management. Livzon adopts new technologies, new processes and new equipment, promotes clean production, reduces pollutant emissions, and strives to reduce the impact of its production and operation on environment.

#### 8.2.1 Use of resources and energy

Livzon has been improving the energy and resources management. In accordance with the relevant provisions of the Energy Conservation Law of the PRC and the Recycling Economy Promotion Law of the PRC, Livzon increases the efficiency of energy and resources consumption through management improvement and technology innovation as well as taking energy conservation performance as a major indicator for the annual EHS performance evaluation.

- Management for energy conservation: to optimize the energy efficiency in production and operation process, the Group introduces new environmental equipment and gradually phases out energy-intensive facilities and updates technologies for energy conservation and environmental protection, such as centralized energy supply and energy recycling, to extensively explore energy conservation potentials. In 2019, Livzon cooperated with electricity providers to carry out the planning of electricity consumption. In order to improve the accuracy of power supply, we changed the transformer-capacity-based power supply to the predicted demand management. Moreover, we promoted the stable operation of power generation enterprises though technological measures such as shifting electricity use to off-peak hours and storing electricity with coolants at off-peak hours.
- Management for water conservation: the Group attaches great importance to the rationality and efficiency of water consumption: on one hand, we make plans for water consumption at their source and improve the efficiency of cooling water to reduce water consumption; on the other hand, we reuse clean water, such as steam condensate water, post-purification primary and secondary concentrated water, in order to enhance the efficiency of water recycle and reuse and make the best of water. In 2019, Shanghai Livzon Biotechnology Co., Ltd. (Jiaozuo Branch) (上海麗珠生物科技有限公司焦作分公司) recycled the cooling water of the vacuum pump in the vacuum drying system instead of direct discharge, and upgraded the vacuum pump to auto start-stop from 24-hour continuous operation. After the upgrade, the water saving was 1,500m<sup>3</sup>/year.
- **Management of packaging materials:** the Group conducts packaging material management mainly by introducing new technology and reducing material consumption. To reduce the consumption of plastics, the Group has changed the original packaging mode: from full wrapping with plastic membrane to partial strapping for medicine boxes through equipment upgrade. As a result, the unit consumption of material reduced to 0.00016kg/box from 0.0004kg/box, realizing a significant reduction in the consumption of this type of packaging material.

## **8.2 GREEN PRODUCTION**

8.2.1 Use of resources and energy

#### Table: Livzon's energy and resources consumption<sup>1</sup>

Indicator	Unit	Data for 2019
Gasoline	liters	365,628.3
Diesel	liters	362,836.3
Coal	tonnes	72,714.2
Natural gas	0'000 cubic meters	1,111.5
Steam purchased	tonnes	284,016.2
Electricity purchased	kWh	374,098,694.8
Electricity consumption per RMB0'000 of operating income	kWh/RMB0'000	398.6
Biomass fuel	tonnes	6,466.0
Alcohol based liquid fuel	tonnes	18.5
Water consumption	tonnes	6,385,615.3
Water consumption per RMB0'000 of operating income	tonnes/RMB0'000	6.8
Paper packaging materials	tonnes	3,095.7
Paper packaging materials per RMB0'000 of operating income	tonnes/RMB0'000	3.3

#### Table: Livzon's greenhouse gas emission<sup>2</sup>

Indicator	Unit	Data for 2019
Total greenhouse gas emission	tonnes of CO2 equivalent	490,460.3
Total greenhouse gas emission in scope I	tonnes of CO2 equivalent	183,982.0
Total greenhouse gas emission in scope II	tonnes of CO2 equivalent	306,478.3
Greenhouse gas emission per RMB0'000 of operating income	tonnes of CO2 equivalent/RMB0'000	0.5

#### 8.2.2 Pollutants emission control

Livzon has strictly complied with requirements for environment protection of construction projects. For new construction, renovation and expansion projects, Livzon implements the "Three Simultaneous" system (environmental protection facilities shall be designed, constructed and put into operation simultaneously with the main body of the project) pursuant to the "Environmental Impact Assessment Law of the PRC" and the Administrative Rules of Environmental Protection for Construction Projects, to achieve effective control over the emission of pollutants.

<sup>&</sup>lt;sup>1</sup> The disclosure scope of Livzon's energy and resource consumption covers the total consumption of industrial process of Livzon's manufacturing enterprises.

<sup>&</sup>lt;sup>2</sup> The disclosure scope of Livzon's greenhouse gas emission covers the total emission of the industrial process of Livzon's manufacturing enterprises.

## **8.2 GREEN PRODUCTION**

8.2.2 Pollutants emission control

#### **Exhaust gas management**

The Group formulated the Procedure for Exhaust Gas Emission Management according to the Prevention and Control of Atmospheric Pollution Law of the PRC to continuously carry out work to reduce total emission of pollutants. Through measures such as flue gas ultra-low emission upgrade for coal fired boilers, renovation of natural gas boilers, substitution of biomass boilers with natural gas boilers, comprehensive VOCs (volatile organic compounds) treatment and central treatment of diffuse exhaust gases, we reduced the emission of air pollutants including sulfur dioxide, nitrogen oxides, smoke and dust.

From 2018 to 2019, four sets of RTO (Regenerative Thermal Oxidizer) equipment were set up by our APIs subsidiaries such as Livzon Hecheng, Fuzhou Fuxing, Ningxia Pharmaceutical and Xinbeijiang Pharmaceutical, with an investment of nearly RMB20 million. The exhaust gas from fermentation and refining workshops can be treated by RTO with the process of recovery, adsorption, incineration and harmless emissions. As an efficient organic exhaust gas treatment equipment, RTO oxidizes the organic matter in the exhaust gas to corresponding carbon dioxide and water under high temperature, so as to purify the exhaust gas and reduce VOCs emissions.

#### Case: exhaust gas treatment

- In order to reduce the emission of dust and particles, Ningxia Pharmaceutical upgraded the existing dedusting facility of boiler. We transformed the spraying feeding structure in the demisting tower into tube bundle type to improve the efficiency of demisting and dedusting. Ningxia Pharmaceutical also installed dust collecting channels and a water spraying tower at the top of the coal yard with a storage capacity of 40,000 cubic meters, to carry out water dedusting treatment on the collected dust and reduce the diffuse emission of dust.
- To improve the VOCs treatment efficiency, Jiaozuo Hecheng added activated carbon cartridges, channels, exhaust pipes and ventilators at the end of existing VOCs treatment facilities, employed the process of spraying-absorbing-analyzing-condensing and conducted in-depth VOCs treatment, reducing non-methane hydrocarbon to 20mg/m<sup>3</sup> from 60mg/m<sup>3</sup>.
- To reduce the mission of odor, Ningxia Pharmaceutical added a cover to the open sink (5,500 m2) at the anaerobic section of the wastewater treatment station, installed ozone collecting pipes and ventilators and conducted spray to the collected diffuse ozone before emission. Ningxia Pharmaceutical also added exhaust gas centralized collecting pipes in the phenylalanine refinery workshop and conducted treatment through three spraying towers for exhaust gas treatment and sodium hypochlorite spraying dewatering towers + diphasic ozone water + micro-nano bubble facilities before emission.

#### Table: Livzon's emission of gas pollutants<sup>3</sup>

Indicator	Unit	Data for 2019
NO <sub>x</sub>	tonnes	141.1
SO <sub>2</sub>	tonnes	76.3

The disclosure scope of Livzon's emission of gas pollutants covers the total emission of the industrial process of Livzon's manufacturing enterprises.
## **8 GROWTH WITH SUSTAINABILITY**

### **8.2 GREEN PRODUCTION**

8.2.2 Pollutants emission control

#### Wastewater management

The Group has complied with the Water Pollution Prevention and Control Law of the PRC and formulated the Procedure for Wastewater Management to continuously improve the proportion of wastewater reuse, and reduces new water consumption. In addition, our key sewage discharge subsidiaries have installed on-line monitoring instruments at the discharge outlet, connecting the on-line system with local environment authorities to realize real-time monitor on the COD (Chemical Oxygen Demand), ammonia nitrogen, pH, flow and other pollutant indicators of the treated wastewater, so as to ensure the discharge up to the standard.

#### Case: wastewater treatment with air floatation devices

In 2019, Livzon Hecheng made an investment of RMB0.45 million in the construction of air floatation devices for the post-treatment of biochemical wastewater, which can remove the suspended solids by a rate over 90% and COD by a rate between 30% and 40% in the wastewater, further reducing the concentration of pollutants.

#### Case: construction of wastewater treatment stations

With the development and capacity expansion of Livzon Industrial Park, Pharmaceutical Factory made an investment of RMB6 million in the construction of a new set of wastewater treatment system with a daily capacity of 500 tonnes to increase the wastewater treatment capacity of the industrial park while enhancing the automation level of the wastewater treatment station.

### Table: Livzon's discharge of wastewater pollutants<sup>4</sup>

Indicator	Unit	Data for 2019
Industrial wastewater	tonnes	4,368,313.4
Chemical Oxygen Demand (COD <sub>cr</sub> )	tonnes	343.2
Ammonia nitrogen	tonnes	19.2

#### Waste management

The Group strictly complies with requirements under relevant laws and regulations, including the Law on the Prevention and Control of Environmental Pollution by Solid Waste of the PRC, the Technical Specifications of Collection, Storage and Transport for Hazardous Waste and the Administrative Measures on Hazardous Waste Transfer Receipt, implements measures on preventing solid waste pollution, recycles, treats and handles the solid waste by categories, according to the principle of "reduction, recycling, non-hazardous".

In respect of hazardous waste, such as waste medicine and medicine residue, we start from production process, effectively control the storage, transfer and transport of waste through the administrative measures, so as to ensure that the hazardous waste is effectively handled by third party qualified companies. In respect of non-hazardous waste, such as waste carton boxes and packages, we reasonably classify them from the source and recycle them to enhance the recycle value of the waste and to reduce end waste.

The disclosure scope of Livzon's discharge of wastewater pollutants covers the total discharge of the industrial process of Livzon's manufacturing enterprises.

## **8 GROWTH WITH SUSTAINABILITY**

## **8.2 GREEN PRODUCTION**

8.2.2 Pollutants emission control

### Waste management

#### Case: waste reduction

In 2019, Xinbeijiang Pharmaceutical made an investment of approximately RMB1.02 million to dry fungi residues under low temperature, reducing the water content by 50%, so as to realize the reduction of fungi residues.

#### Table: Livzon's generation of solid waste<sup>5</sup>

Indicator	Unit	Data for 2019
Medical waste (HW02) and waste medicine (HW03)	tonnes	10,198.6
Other hazardous waste	tonnes	1,018.5
Total hazardous waste	tonnes	11,217.1
Hazardous waste per RMB0'000 of operating income	kg/RMB0'000	12.0
Total general industrial waste	tonnes	100,914.9
General industrial waste per RMB0'000 of operating income	kg/RMB0'000	107.5

The disclosure scope of Livzon's generation of solid waste covers the total generation of the industrial process of Livzon's manufacturing enterprises.

Livzon has always been developing with innovation, taking high-quality talents as the basis for its core competitive strength. We actively encourage a diverse and inclusive workplace atmosphere. We also formulate a long-term incentive schemes to attract and retain talents and keep ensuring the lawful rights as well as health and safety of the staff, striving for a common growth together with our employees.

### 9.1 DIVERSIFIED EMPLOYMENT

Livzon is dedicated to building a professional and efficient talent system by proactively introducing domestic and overseas experts and innovative talents. It also encourages a diversified and inclusive atmosphere. Meanwhile, the Group attaches importance to the compliance with the laws and regulations in the process of employment, strictly adhering to relevant provisions of the Labour Law of the PRC and the Labour Contract Law of the PRC. In addition, the Company has formulated and optimized its internal management regulations such as the Employment Management System and the Recruitment Management System, specifying rules and standards in relation to various procedures for its employees' recruitment and retention, training and development as well as remuneration and performance, ensuring that all employees could fully display their talents after joining Livzon.

As at the end of the Year, the total number of employees of Livzon is 9,019, representing an increase on a continuous basis. The employee turnover rate for the Year was 16.81%, indicating a decline trend as compared with previous year.



#### Table: Livzon's Employment Data

Category	Indicator	Unit	Data for 2017	Data for 2018	Data for 2019
By gender	Male employees	persons	3,902	4,177	4,796
	Female employees	persons	3,061	3,494	4,223
By age	30 and below	persons	3,003	3,344	3,780
	30-49	persons	3,521	3,906	4,838
	50 and above	persons	439	421	401
Total number of employ	ees	persons	6,963	7,671	9,019
Employee turnover rate <sup>6</sup>		%	19.00	19.25	16.81

Calculation of employee turnover rate: employees turnover/(total number of employees at the beginning of the period + new recruits)

### 9.1 DIVERSIFIED EMPLOYMENT

#### 9.1.1 Employment compliance

In order to ensure compliance with laws and regulations in respect of employment process and avoid child labour or forced labour, Livzon has complied with the relevant regulations and applicable provisions in its human resources system and required job applicants to present their original identification documents for verification, so as to ensure that they have met the minimum working age requirements for employment. Meanwhile, the Code of Conduct of Employees and other human resources management systems of the Company fully safeguard employees' legal rights and interests and prohibit child labour or any forced labour. During the Year, there was no child labour or force labour within the Group.

Recruitment and enrollment	The Group truthfully informs the job applicants of the job duties, condition, location, occupational hazards, details of production safety, remuneration and other information at request during recruitment.
Employment regulation	The Company neither engages in forced labour by means of violence, threat or illegal restriction on personal freedom, nor endangers the personal safety of employees by instructing and ordering them to carry out dangerous operation in breach of regulations.

#### 9.1.2 Diversity and inclusiveness

Livzon insists on implementing its talent strategy and focuses on recruitment of innovative talents globally, has diverse teams with members from different regions and nationalities. In addition, Livzon emphasizes on the diversity and inclusion of its staff force.

The Company considers that the diversity of Board is one of the key factors to maintain its competitive strength and promote its sustainable development. Since 2014, the Company has issued the Board Diversity Policy and has taken into consideration gender, age, cultural and education background, professional experiences, skills and knowledge in considering the composition of the Board and has actively promoted a diversified Board with members of different backgrounds.

To promote a diverse and inclusive workplace atmosphere, the Human Resources Management System of the Company clearly states that "Each employee is treated equally regardless of the employee's ethnicity, race, nationality, gender, religion, age, sexual orientation, political affiliation, marital status and other social identities, which shall not affect their employment, treatment, promotion, etc.".

As at the end of the Year, the total number and percentage of Livzon's female employees continued to increase. In 2019, female employees accounted for 46.8% of total number of our employees and the gender ratio showed a positive and balanced trend.



### 9.2 RESPECT FOR TALENTS

Livzon has been constantly improving its core competitiveness in R&D innovation and academic promotion and considers the excellent talent teams as "business partners" of the Company, and has been continuously improving training and scientific research cooperation resources and formulating long-term incentive programs in order to become a domestic leading and international first-class international pharmaceutical company.

### 9.2.1 Long-term share incentive

Since the end of 2014, the Company has successively launched the 2015 Restricted A Shares Incentive Scheme and the 2018 Share Options Incentive Scheme to constantly improve the long-term incentive mechanism for employees and encourage the retention and development of outstanding talents. In order to achieve leapfrog development and focus on long-term development and governance, the Company launched the Medium to Long-term Business Partner Share Ownership Scheme (Draft) in 2019, which was approved at the general meeting in February 2020. The ownership scheme has been formulated to establish an innovative long-term incentive stock ownership mechanism for senior management and core technical teams. By attaching rights and obligations to the holders and establishing the business partnership mechanism of "enjoying the benefits and assuming the risk together", it is expected to effectively advance and promote the change from "managers" to "partners" in the Company, help to optimise the compensation structure of the Company, promote the long-term stable development of the Company and enhance the overall value of the Company.

The ownership scheme will be implemented in ten phases. Within the ten years from 2019 to 2028 (as the years of assessment), the ten independently existing phases of the ownership scheme shall be implemented on a rolling basis. During the years of assessment, the Board of the Company shall be responsible for extracting the incentive fund according to the incentive fund extracting principles. The incentive fund shall be extracted with net profit attributable to the shareholders of the Company after deducting the extraordinary gains or loss in 2018 as the base. During the period of assessment, the Company will use the compound growth rate of net profit achieved in each year as the assessment indicator to calculate and set aside a progressive incentive fund for each period. The ratios are set out in details as below:

Compound growth rate of net profit achieved in each year of assessment (X)	Percentage of progressive incentive funds with a compound growth rate of over 15%
X≤15%	0
15% <x≤20%< td=""><td>25%</td></x≤20%<>	25%
20% <x< td=""><td>35%</td></x<>	35%

### 9.2.2 Remuneration and promotion

The Company has established a remuneration structure consisting of fixed income and floating income with reference to the market salary level in accordance with relevant laws and regulations. The remuneration is determined with reference to the value of job position and the performance and skill level of employees, which guarantees equal pay for equal work and fully mobilizes the enthusiasm and initiative of employees through the establishment of share incentive schemes to facilitate common development and benefit sharing between the Company and our employees.

## 9.2 RESPECT FOR TALENTS

#### 9.2.2 Remuneration and promotion

In 2019, the total wages, bonuses, allowances, compensation, welfare, housing funds and social insurance paid to the employees by the Group amounted to RMB964.29 million with an average of RMB0.1069 million per person.



The Group guarantees fair career development opportunity for employees and provides dual development channels for administrative personnel and technical personnel in accordance with the Measures for the Management of the Administrative and Technical Personnel Ranking System to support employees to grow in different career development paths. The human administration head office of the Company regularly manages the construction and reserve of talent teams, and organizes and publicizes internal job opportunities timely to encourage employees to achieve internal promotion through open competition.

#### 9.2.3 Training and development

Adequate training resources are necessary guarantee to realize the development of employees. Livzon continues to improve the training system and supporting resources in accordance with the Training Management System, standardizes the training management, enables the systemization and institutionalization of employee training, so as to ensure the effective implementation of talent strategy of the Company.

The Company deems "Livzon Business School" as its core platform to develop a diverse and comprehensive employees training system. By fully integrating internal and external resources, the training system improved the motivation and initiative of employees and enhanced sense of belonging of employees, which facilitated the full and comprehensive development of our human resources and equipped our talent reserves with stronger competitiveness.

In 2019, combined with the development strategy, Livzon focused on creating capacity improvement projects on product quality management and safety and environmental protection management, and developed internal and external training resources to provide targeted training courses for employees in corresponding positions, assisting the Group to improve its overall performance in quality control and safety and environmental protection management.

## 9.2 RESPECT FOR TALENTS

9.2.3 Training and development

### Table: Human Resources Training Data of Livzon

Category	Indicator	Unit	Data for 2019
Training hours of all employees		hours	586,536
	Of which: quality specific training	hours	297,372
	Of which: EHS specific training	hours	114,316
By gender	Training hours of male employees	hours	335,535
	Training hours of female employees	hours	251,002
Average training hours per employee		hours	65.0
By gender	Average training hours per male employee	hours	70.0
	Average training hours per female employee	hours	59.4

Note: the training hours of all employees and the training hours by gender shown in the table are rounded to the nearest whole number.

Additionally, taking into account of employees' professional background, qualifications and career development paths and matching with various skills improvement projects and support, Livzon supports and encourages employees to pursue further learning on management or job-related skills or obtain certification during their employment. Livzon provides its qualified employees with further learning opportunities for postgraduate studies in management for master or doctoral degrees through systematic projects. For an employee who has been offered the further learning opportunity and has graduated on time and obtained the degree as scheduled according to the relevant regulations of the university, the tuition fees shall be borne by the unit he or she works for; and during the study period, he or she shall be entitled to enjoy standard salary, year-end rewards and corresponding project rewards.

### Rules Related to the Training of Doctoral Candidate (or Master Degree Candidate in Management) for In-service Employees

In order to promote the learning and education of employees, and improve the creative vitality and competitiveness of the talent team, Livzon has issued this regulation since 2015 to provide employees with sponsored postgraduate education opportunities, primarily in medical universities and institutions, including Peking University, Sun Yat-sen University, Shenyang Pharmaceutical University, etc.

### 9.3 HEALTH AND SAFETY

The health and safety of employees is the foundation of Livzon's sustainable development. We implement safety production responsibilities, continuously improve safety management mechanisms, strengthen safety risk emergency response capabilities, and create a safety culture atmosphere so as to ensure the health and safety of employees.

The EHS department under the production technology head office of the Company is equipped with dedicated occupational health and safety management personnel, and responsible for occupational health and safety supervision and management; each subsidiary has an occupational health and safety management department in place, which is equipped with dedicated occupational health and safety management personnel as required, who are responsible for the management of safe production and occupational health. As at 31 December 2019, 10 enterprises of the Group had passed OHSAS180001 or ISO45001 certification of Occupational Health and Safety Management System.

### 9.3 HEALTH AND SAFETY

OHSAS18001/ISO45001 certified companies
Shanghai Livzon Pharmaceutical Manufacturing Co., Ltd. (上海麗珠製藥有限公司)
Livzon Group Livzon Pharmaceutical Factory (麗珠集團麗珠製藥廠)
Livzon Group Xinbeijiang Pharmaceutical Manufacturing Inc. (麗珠集團新北江製藥股份有限公司)
Gutian Fuxing Pharmaceutical Co., Ltd. (古田福興醫藥有限公司)
Sichuan Guangda Pharmaceutical Manufacturing Co., Ltd.(四川光大製藥有限公司)
Livzon Group (Ningxia) Pharmaceutical Manufacturing Co., Ltd. (麗珠集團 (寧夏)製藥有限公司)
Zhuhai FTZ Livzon Hecheng Pharmaceutical Manufacturing Co., Ltd. (珠海保税區麗珠合成製藥有限公司)
Livzon Group Fuzhou Fuxing Pharmaceutical Co., Ltd. (麗珠集團福州福興醫藥有限公司)
Livzon Group Limin Pharmaceutical Manufacturing Factory (麗珠集團利民製藥廠)
Jiaozuo Livzon Hecheng Pharmaceutical Manufacturing Co., Ltd. (焦作麗珠合成製藥有限公司)

#### 9.3.1 Safe production

Livzon implements the relevant requirements of the Production Safety Law of the PRC and the Fire Protection Law of the PRC, and adheres to the safe production policy of "safety comes first, prevention as primary concern, integrated governance, total involvement, risk control and continuous improvement", and formulates procedures such as the General Requirements of EHS Management System, Administrative Measures for EHS Accident, Regular EHS Meeting and Flight Check Management System, Administrative Measures for EHS Information and Communication and Administrative Procedure for Internal EHS Audit. These procedures cover the management structure of safety and rules of procedure, emergency plan, inspection method, measures of accountability, etc. In 2019, Livzon added the Regulations on Safe Production Penalties, Safe Production Training Management System and Safe Production Responsibility Management System to further strengthen safety management goals at all levels and implement safe production management requirements.

- **Safety risk management and control:** in accordance with the Hazards Identification and Risks and Opportunities Evaluation Requirements, we identify and analyze hazard sources in production and operation activities, products and services, evaluate the level of risks, and formulate safety management and control measures based on the risk levels.
- **Safety emergency management:** according to the Administrative Measures for Contingency Plans for Production Safety Accidents, we prepare plans covering comprehensive emergency, special emergency and onsite disposal, and provide training for relevant personnel and conduct regular emergency response plan drills, so as to ensure that the contingency plan is target-oriented and effective.
- **Risk assessment:** we conduct regular risk assessments in respect of the production procedure of factories, production sites, warehouses, construction sites, etc., Once risk is found, ratification shall be implemented within the time specified, and the progress of ratification shall be reported to the headquarter for monitor and control.
- Safety training and education: the Group place great importance on the employees' health and safety training. We develop practical EHS training materials based on the actual work content of each position, conduct targeted safety education, and implement compulsory pre-work training for personnel who are newly recruited, change positions and return to positions. The employees can only be arranged to work after passing the assessment. We also conduct qualification training for special operational personnel to ensure that they work with permits. We enhance the overall awareness of health and safety of employee through safety education for different levels and types of employees. In 2019, the Group provided employees with approximately 114,316 hours of EHS specific training, and each employee received nearly 13 hours of EHS specific training.

### 9.3 HEALTH AND SAFETY

9.3.1 Safe production

### Case: automated high-rack warehouse

At the beginning of the construction, the Pharmaceutical Factory invested RMB130 million to build an automated high-rack warehouse with an area of 13,580 m<sup>2</sup>. The transportation between the warehouse and workshop is mainly completed by the automatic stacker, Huanchuan (環川) and AGV intelligent transport vehicles. The entire process is automatically controlled by the computer without on-site manual operation, which greatly reduces the operational safety risks of warehouse personnel, and effectively improves the storage and transportation capacity.

#### **Case: emergency drills**

In 2019, Livzon Hecheng carried out 4 emergency drills at the plant-level and 36 emergency drills at the workshop-level. The plant-level drills are:

- Emergency evacuation drill for fire on tank area
- Emergency evacuation drill for liquid ammonia leakage
- Emergency drill for fainted personnel due to restricted space operations
- Fire drill for acetone leakage in the tank area





### 9.3.2 Occupational health

Strictly abiding by the Law on the Prevention and Treatment of Occupational Disease of the PRC, Livzon formulates the Administrative Procedure for Occupational Health, and adopts proactive measures to reduce or lessen employees' occupational hazard exposure. The actions are based on the principles of prevention-oriented, comprehensive planning, adapting to local conditions and comprehensive management, in order to provide the employees with a healthy and safe working environment.

- **Occupational health notification:** for job positions with occupational health hazards, we inform employees of the specific risks in writing and the adopted occupational disease protection measures before working in the position.
- **Labour protection products:** we equip employees who are exposed to occupational hazards with appropriate and effective personal labour protection equipment and supervise the usage, and set up flushing facilities in places with corrosive substances such as acid and alkali or potential risk of chemical burns.
- **Occupational health examination:** we organize an occupational health examination once a year, and apply for an Occupational Health Guardianship Certificate for employees exposed to occupational hazards, and establish occupational health files and manage the tracking thereof.

### 9.4 CARING FOR STAFF

#### 9.4.1 Employee welfare

To promote the interests of employees through employees wellbeing initiatives, Livzon has established and continuously improved a competitive overall welfare system, so as to enhance the centripetal force and cohesion of the enterprise. Our labour union presents birthday allowances every month and festive bonus. Moreover, female employees are entitled to statutory maternity leaves. The Company provides standardized annual health check for employees to let them understand their health status, which is beneficial for building a healthy talent team, provides allowances for employees' family member funeral and provides allowances of Spring Festival for employees with special difficulties. The Company also provides assistance to employees with difficulties and disabilities through charitable fund-raising and allocations from labour union funds, and keeps in close contact and follows up on their status as well.

In 2019, the Company provided allowances of Spring Festival for employees with special difficulties, birthday allowances, funeral subsidies and retirement benefits, and gave condolences allowances to employees or their families with severe illness.

To commend the long-term service of the Livzon's employees, according to the Employee Retirement Reward Scheme, the Company provides the employees who have maintained a labour relationship with the Company for more than 10 years and have gone through retirement procedures at the Group with a certain reward according to their length of service. The plan is applicable to all employees of the Company and the Company's wholly-owned or controlling subsidiaries established in Zhuhai.

#### 9.4.2 Staff communication

By insisting on the "people-oriented" concept and adheres to the spirits of "practicability, innovation, standardization, efficiency", Livzon provides employees with diversified communication channels, and is committed to creating an equal, harmonious, smooth and transparent communication environment. The Company takes advantage of various channels and forms such as employee forums, forums, websites, WeChat communities and public accounts to fully understand employees' feedback and demands on the Company, and make timely adjustments to problems in the Company's processes based on employees' suggestions for improvement of employees' sense of belonging and motivation.

The Company regularly organizes the employee congresses. The congress facilitates timely disclosure of the Company's operation and system establishment to employees, allowes us to respond to and understand employees' needs and improve and implement the corporate system. Meanwhile, the Company established the Livzon Industrial Park Logistic Management System, formed comprehensive policy and requirements for the management of accommodation, canteen, safety, greenery, cleaning and vehicles, aiming to create a healthy working and living environment for employees, strengthen communication with employees, standardize the working tasks and enhance the work efficiency.

In 2019, in respect of online activities, the Company has established a platform for communication with employees through the WeChat public account of the support service center. The public account promoted positive energy of the support service center through advocating good Samaritans, published announcement and information of the support service center, and fully utilized the platform to collect opinions, and added functions such as food pre-order. Additionally, in order to improve the employee accommodation services in the Livzon Industrial Park, located at the headquarter of the Group, the support service center has established two dormitory service WeChat groups, which is a platform to receive service needs, complaints and suggestions, thereby increasing channels for communication with employees. In respect of offline activities, the Company actively carried out activities to collect reasonable suggestions for support service center, which raised the satisfaction of employees and, at the same time, provided powerful help and support for exploring ways to increase efficiency and reduce energy consumption of the Company.

### 9.4 CARING FOR STAFF

9.4.3 Work-life balance

Livzon cares about employees' health, promotes the balance between work and life, and organizes a series of sports and team-building activities to enrich employees' amateur life, promote the healthy development of working atmosphere, and create a harmonious working atmosphere.

### Case: diversified sports events

In 2019, the Company actively organized a series of sports events to promote a balanced lifestyle for the employees, including the 16th Employee Badminton Competition, Livzon & Yinlong Sodality, mountain climbing activity and other various activities, in order to create a diversified cultural life for the employees.



Case: fun games and garden party

In 2019, the Company organized fun games and garden party attracting nearly 2,000 employees, their family members and children to participate. Over the years, the garden party has been a traditional activity of Livzon. In autumn each year, Livzon's employees and their family members gather at Livzon Industrial Park to feel the growth and history of the Company. They also enjoy talking and laughing and relaxing themselves through over 10 meticulously prepared games.



Good health and wellbeing is one of the Sustainable Development Goals (SDGs) of the United Nations and is also one of the core goals in the Outline of "Healthy China 2030". With the vision of "Livzon, Evergreen Life, Bright Future & Wisdom", Livzon is committed to improving health standards, actively fulfills social responsibilities and contributes to the society with practical actions, which is highly consistent with the SDGs and the healthy China plan.

### **10.1 ACCESS TO HEALTH CARE**

Lizvon continuously enhances its overall strengths and is devoted to providing better products and services to doctors and patients and improving the health and well-being with global peers. The Company's management formulates the global market entry strategies for our major products based on our R&D pipelines and product positioning on a timely basis and makes regular review and adjustments in light of market change trend.

The Group regards Access to Health Care as an important topic within the scope of ESG management. As the principal businesses of the Group are primarily located in the PRC which is a developing region, the Group needs to take into consideration the economic development and level of healthcare in the PRC as well as market characteristics of different overseas regions in formulating our strategy of Access to Health Care. The Group is committed to improving the availability and affordability of our pharmaceutical products and promoting reasonable use of drugs for greater health and well-being.

Currently, our Moxidectin (莫昔克丁) and Kanamycin Injection (卡那黴素針劑) have been included in the project list of the Bill & Melinda Gates Foundation and were successfully nominated for the Prix Galien USA Award (equivalent to the Nobel Prize in the pharmaceutical industry) this Year. Moxidectin products are mainly used to treat the River Blindness in Africa, which make significant contributions to the improvement of healthcare standards and treatment of diseases in developing areas.

#### 10.1.1 Improve availability of health care

continuously promotes our global presence by active pursuit of overseas production and sale of our products, and facilitates our extended development in overseas markets by establishing investment companies with equity investment, and markets our quality products to major overseas markets.

In recent years, Livzon has become one of the global major API suppliers with outstanding development and operating results in standardized markets such as the United States, Europe and Eastern Europe. Non-standardized markets primarily include India, Middle-east, South America and Southeast Asia. As at the end of 2019, the Group ranked No. 1 in the world and in the PRC in terms of the market share of each of our 12 API and intermediate products. The Group develops two markets simultaneously and adopts different product mix and pricing strategies for different markets. In addition, in developing the non-standardized markets for drug preparation products, the Group focuses on developing markets such as Southeast Asia, Southern Asia, Central Asia, Central and South America and certain countries in Africa. In 2019, the Group ranked No. 8 among the pharmaceutical enterprises in the PRC in terms of export sales.

In 2019, the Group has a total of 44 varieties of APIs in production which have carried out registration for more than 300 projects in 93 countries (regions). In addition, as for overseas sales of drug preparation products, the Company continuously advanced the market access and sales of gonadotropic hormones, gastroenterology, psychotropic and anti-infective drugs in the countries and regions including Pakistan, Philippines and Central America. Meanwhile, we have evaluated and selected products in overseas market with higher potential and have increased efforts in registration to continuously expand new international markets. During the Year, Kanamycin Solution for Injection (卡那黴素注射液) passed international certification (WHO project).

### **10.1 ACCESS TO HEALTH CARE**

10.1.1 Improve availability of health care

The Group continues to explore overseas markets. In 2019, Livzon's overseas income amounted to RMB1,233.65 million, representing a year-on-year increase of 12.93% and accounting for 13.24% of income from principal businesses.



#### 10.1.2 Improve affordability of health care

Improving healthcare standards and achieving balance between significant R&D expenses and terminal prices of pharmaceutical products are common concerns of countries and regions around the world and are global difficulties, which need joint efforts between governments and pharmaceutical enterprises. The Outline of "Healthy China 2030" also actively focuses on the supply of pharmaceutical products and specifies that "the pricing mechanism of pharmaceutical products shall be improved, the interconnection of pricing, medical insurance and procurement policies shall be enhanced" and "the price control on the pharmaceutical products without a fully competitive market and high-value medical consumables shall be tightened, the pharmaceutical product price information monitoring and information disclosure system shall be established and the payment policy for pharmaceutical products covered by medical insurance shall be formulated and improved". The National Medical Products Administration and the National Healthcare Security Administration implemented the "Two-invoice System", reduced value-added tax for anti-cancer pharmaceutical products, commenced minimum procurement requirement on a trial basis, and propelled negotiation on the medical insurance catalogue in order to promote medical reform and effectively achieve decrease of medical fees and prices.

Livzon also actively responded to the entry into the National Medical Insurance Catalogue and strives to provide high quality pharmaceutical products with reasonable prices to patients. In 2019, a total of 187 products of the Group were included in the new version of the National Medical Insurance Catalogue (the "Catalogue") issued by the National Healthcare Security Administration, 95 of which were included in Catalogue A and 92 were included in Catalogue B. Among such pharmaceutical products, Ilaprazole Sodium for Injection (注射用艾普拉唑鈉) (brand name: Yilian (壹麗安)), one of the Group's original proprietary new drugs, was included in the Catalogue of Pharmaceutical Products Covered by National Medical Insurance for Price Negotiation in 2019, resulting in a decrease of its price from RMB256 per unit to RMB156 per unit or nearly 40%, the therapeutic expenses of which is nearly 50% lower than that of similar original PPI (Proton Pump Inhibitor), thereby making it more cost effective. Ilaprazole Sodium for Injection is used to treat upper gastrointestinal hemorrhage with one doge per day, featuring fast efficacy, less usage counter and shorter course of treatment. Such product is expected to replace certain imported PPI injection within the scope of reimbursement in 2020 with expanding market share and rapid growth of sales, thereby benefiting more patients in the PRC and significantly reducing medical insurance expenses of the State.

In addition to exploring and establishing our presence in overseas markets, Livzon sets equitable pricing policies which aligns local development status by reference to the product pricing of peers and by taking into consideration local economic development and healthcare standards, in order to promote affordability.

### **10.1 ACCESS TO HEALTH CARE**

#### **10.1.3 Promote rational use of drugs**

Antimicrobial resistance has become a serious global public health concern. Under the requirements of the Outline of "Healthy China 2030" and the National Action Plan for Curbing Bacterial Resistance (2016-2020), the National Health Committee issued the Notice on Continued Management of Clinical Usage of Anti-bacterial Drugs in 2018 to continue to strengthen the management on key process of anti-bacterial drugs.

Livzon has a series of antimicrobial products, including various types of antibiotic products. Therefore, the Group places high emphasis on the reasonable clinical use of antibiotics by strengthening the management on prescription drugs in the process of drug business operation and cooperating with medical institutions in implementing hierarchical anti-bacterial drugs and doctor's prescription authority management. Meanwhile, the Group actively conducts monitoring on plasma concentration in respect of antibiotics such as Voriconazole (伏立康唑), guides individualized clinical medication, advocate to study rational clinical usage of antibiotics (such as the Rules for Assessment of Clinical Application of Carbapenem Anti-bacterial Drugs (碳青黴烯類抗菌藥物臨床應用評價細則)) and strengthens the management on special filing of antibiotics.

### **10.2 PUBLIC WELFARE AND CHARITY**

Livzon has long been "committed to the cause of human life and health", actively participating in social welfare, consciously fulfilling its duties of humanity such as "rescue and poverty-alleviation", offering benefits to the public and contributing to the society with practical actions. In accordance with external regulations and internal rules such as the Management System for Charity Donation, the Company has standardized the usage and audit of funds, implemented management and coordination and continuously strengthened the planning, systematicity and sustainability of public welfare work in order to carry out public welfare work in a more standardized and more responsible manner. In 2019, the Group's public welfare and charity work focused on public welfare activities in health poverty-alleviation and industry poverty-alleviation fields. During the Year, the expenditure of charitable donation of the Group amounted to RMB3.75 million.

### Case: public welfare and charity activities in 2019

- In May 2019, we participated in the targeted poverty-alleviation activity "Ten Thousand Enterprises Helping Ten million of Villages (萬企幫萬村)" held in Jinwan District, Zhuhai and donated drugs of RMB300,000 to Shuangla Village, Bingzhongluo Town, Gongshan Country, Nujiang;
- In May 2019, we donated RMB150,000 to the Education Development Foundation of Nanjing China Pharmaceutical University (Teacher Awards of College of Science) (totaling RMB1.5 million, RMB150,000 per year from 2017 to 2026);
- In June 2019, we participated in the Guangdong 630 Targeted Poverty-alleviation Activity and donated RMB100,000 to Zhuhai Administration for Market Regulation (Zhuhai NMPA);
- In June 2019, we participated in the Guangdong Poverty-alleviation Day activity and donated RMB100,000 to Zhuhai Poverty-alleviation Foundation;
- In July 2019, we participated in the Guangdong Poverty-alleviation Day activity and donated RMB100,000 to Zhuhai Poverty-alleviation Foundation;
- In July 2019, we participated in the Guangdong Poverty-alleviation Day activity and donated RMB50,000 to Zhuhai Science-Technology Innovation Bureau;
- In July 2019, we participated in the Guangdong Poverty-alleviation Day activity and donated RMB30,000 to Shaoguan Wujiang Charity Foundation;
- In July 2019, we donated RMB100,000 to Shenyang Pharmaceutical University (Livzon Teacher Awards) (totaling RMB1 million, RMB100,000 per year from 2019 to 2028);
- In October 2019, we donated RMB100,000 to the Education Development Foundation of Nanjing China Pharmaceutical University (Student Scholarships of the College of Basic Medicine and Clinical Pharmacy) (totaling RMB1 million, RMB100,000 per year from 2016 to 2025);
- In October 2019, we donated RMB100,000 to the Education Foundation of Sichuan University (totaling RMB1 million, RMB100,000 per year from 2018 to 2027).

### **10.2 PUBLIC WELFARE AND CHARITY**

10.2.1 Poverty alleviation through healthcare

Hypertension, hyperlipidemia and cardiovascular and cerebrovascular diseases are the three major chronic diseases that plague the health of Chinese residents. Elderly patients with chronic diseases not only often suffer from diseases, but also lead to poverty due to drug purchase expenses. In response to the Opinions of State Council on the Implementation of Healthy China (《國務院關於實施健康中國行動的意見》) and providing assistance to alleviate poverty through healthcare, Livzon launched a "Poverty Alleviation against Chronic Diseases" program by leveraging its own advantages in the pharmaceutical industry. We regularly donates medicines to patients with chronic diseases in poverty-stricken areas in the PRC to help patients with financial difficulties to reduce their medical expenses, making our contribution to enhance the healthcare services of residents in poverty-stricken areas.

This form of targeted poverty alleviation is the first of its kind in the PRC enterprises, and it is also the only form of public welfare poverty alleviation that has formed a certain scale. The poverty alleviation program for chronic diseases is specifically launched for hypertension, hyperlipidemia and cardiovascular and cerebrovascular diseases, through which the Company donated drugs worth millions of RMB for chronic disease including Pravastatin Capsules (普伐他汀膠囊), Amlodipine Besylate Capsules (苯磺酸氨氯地平膠囊), Irbesartan Tablets (厄貝沙坦片), Valsartan Capsules (纈沙 坦膠囊), Isosorbide Bononitrate Tablets (單硝酸異山梨酯片) to poor counties. The drugs can really help patients with financial difficulties, make it easy for patients in the area to get medicines nearby and provide timely assistance to low-income residents. Depending on the actual situation, Livzon regularly makes continuous drug donations to poverty-stricken areas to help poverty alleviation in poverty-stricken areas.

As at 31 December 2019, the Company and Joincare Pharmaceutical Industry Group Co., Ltd. (健康元藥業集團股 份有限公司) (the controlling shareholder of the Company) jointly entered into the poverty alleviation agreements with nine poverty-stricken counties (including eight counties and one national-level nature reserve), and there were registered poor people of not less than 500 who received our aids, which is expected to be not less than 2000 by 2020. By showing documentary film, we called for more efforts to take participation in the implementation of the great state policy of targeted poverty alleviation. We were invited to attend 2019 Beijing International Public Service Advertisement Conference and won 2019 Golden Flag Award, an award renowned as OSCAR in marketing industry

#### Case: achievements of poverty alleviation program for chronic diseases

In 2019, the Company launched chronic disease poverty alleviation projects in poor counties/townships including Hunyuan County, Guangling County and Lingqiu County of Datong City in Shanxi Province, Dongxiang County and Tianzhu County in Gansu Province and Xianghai State Nature Reserve in Jilin Province, helping more than 2,000 local people, including 500 registered poor people. The Company will donate drugs valued at RMB6 million to Guangling County and Hunyuan County, Datong, Shanxi Province in the future.



Livzon and Joincare entered into a poverty alleviation agreement for chronic diseases at the People's Government of Guangling County, Datong City, Shanxi Province (山西省)

### **10.2 PUBLIC WELFARE AND CHARITY**

#### 10.2.2 Poverty alleviation through industrial development

It is better to teach a man how to fish than to feed him for a day. Therefore, Livzon has gradually started to embark on poverty alleviation through industrial development while maintaining sustainability of poverty alleviation through healthcare. With the poverty alleviation model of "Company + Base + Poor households", the Company led poor households to plant Huangqi(黃芪) and process Huangqi, so as to develop Huangqi medicinal herbs industry based on local conditions and build a sustainable pillar industry to achieve the goal of allowing more poor people to get rid of poverty permanently.

#### Case: poverty alleviation through industrial development

Livzon built a Huangqi(黃芪) GAP base in Hunyuan County, Datong City in 2005, planted nearly 10,000 mu of Huangqi(黃芪) and established Datong Livzon Qiyuan Medicine Co., Ltd. (大同麗珠芪源藥材有限公司) ("Datong Livzon "). In addition, Datong Livzon co-built over 30,000 mu of high-quality Huangqi(黃芪) GAP bases in Yingxian County, Shuozhou City, Shanxi Province (山西), Tianzhen County, Datong City, and Zizhou County, Yulin City, Shanxi Province (陝西), and entered into co-construction agreements. In 2019, Datong Livzon, has employed approximately 45 workers for its self-built base and jointly-constructed base, including 30 impoverished people (including workers at the base and processing staff at the workshop). Datong Livzon conducted 10 trainings on Huangqi planting, processing and storage for plant workers, growers, processing workers and Huangqi planting cooperatives in Shanxi (山西) and Shaanxi (陝西) self-built base and jointly-constructed base with 55 trainees. Datong Livzon docked with the Huangqi Industry Poverty Alleviation Project in Zizhou County, Yulin City, Shaanxi (陝西) Province. Datong Livzon entered into Huangqi purchase agreements with Shaanxi (陝西) Zizhou Fufa Cooperative and other cooperatives, pursuant to which it acquired 74 tons of finished Huangqi and helped 25 poor growers. In 2019, Datong Livzon acquired 74 tons of finished Huangqi and helped 25 poor growers. In 2019, Datong Livzon acquired 74 tons of finished Huangqi Fom Zizhou with an output value of RMB6.217 million, and 29 tons of fresh Huangqi with an output value of RMB0.63 million.

#### Table: Data of Livzon's Charity Donation

Indicator	Unit	Data for 2017	Data for 2018	Data for 2019
Funds donation	RMB0'000	1,105.0	335.5	154.2
Materials donation value	RMB0'000	153.5	57.1	220.4

### **10.2 PUBLIC WELFARE AND CHARITY**

Livzon's continuous investment in charity work has been highly recognized. In 2019, Livzon received annual honors related to poverty alleviation as belows:



#### 10.2.3 Support to fight against COVID-19

The outbreak of the novel coronavirus pneumonia (COVID-19) in late 2019 affects the hearts of people across the country. After the outbreak, Livzon responded positively and acted quickly. To support the fight against epidemics in Wuhan and other places, the Company made donations in a total amount of RMB12 million, including RMB5 million in cash and RMB7 million worth of antiviral drugs, diagnostic kits and equipment. The antiviral drugs, diagnostic kits and equipment worth of RMB7 million were used to prevent and control epidemics in Hubei and other places; As for cash of RMB5 million, RMB2 million was used for research and development expenses of the team led by Mr. Zhong Nanshan(鍾南山), an academician, and RMB3 million was used in the construction of epidemic prevention and control bases in Hubei and other places. Mr. Zhu Baoguo, the chairman of the Board, said that Livzon will go all out to support the country in fighting against the epidemic and provide help and support to prevent and control the epidemic.

## **APPENDIX 1.1 LIST OF POLICIES**

List of policies and indicators ESG areas	Laws and regulations the Company is subject to	Some policies of the Company
A1. Emission	Environmental Protection Law of the PRC	Identification and Assessment Requirements of Environmental Factors
	Law on the Prevention and Control of Environmental Pollution by Solid Waste of the PRC	
	Water Pollution Prevention and Control Law of the PRC	Procedure for Noise Emission Management Procedure for Solid Waste Management
	Prevention and Control of Atmospheric Pollution Law of the PRC	Procedure for Hazardous Chemicals Management
	Environmental Protection Tax Law of the PRC	Procedure for Wastewater Management
	Soil Pollution Prevention and Control Law of the PRC	Soil Pollution Potential Hazards Inspection System
	Regulations on the Prevention and Control of Environmental Pollution by Solid Waste of Guangdong Province	Guidelines for Management of EHS Changes
	National Catalogue of Hazardous Wastes	
	Administrative Regulations for Urban Construction Waste	
	Environmental Impact Assessment Law of the PRC	
	Administrative Rules of Environmental Protection for Construction Projects	
	Technical Specifications of Collection, Storage and Transport for Hazardous Waste	
	Administrative Measures on Hazardous Waste Transfer Receipt	
A2. Use of Resources	Energy Conservation Law of the PRC	Procedure for Resources Management
	Recycling Economy Promotion Law of the PRC	Procedure for Energy Management
A3. The Environment	Environmental Protection Law of the PRC	General Requirements of EHS Management
and Natural Resources	Energy Conservation Law of the PRC	System Environmental Hygiene Management Rules for Factory Area
		Soil Pollution Potential Hazards Inspection System
		Environmental Emergency Contingency Plan

## **APPENDIX 1.1 LIST OF POLICIES**

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List of policies and indicators ESG areas	Laws and regulations the Company is subject to	Some policies of the Company
B1. Employment	Labour Law of the PRC	Employment Management System
	Labour Contract Law of the PRC	Recruitment Management System
	Labour Right Protection Law	Employee Retirement Reward Scheme
	Social Security Law of the PRC	Code of Conduct of Employees
	Provisions on the Prohibition of Using Child Labour	Board Diversity Policy Human Resources Management System
	Tax Law of the PRC	numan Resources Management System
B2. Health and Safety	Labour Law of the PRC Labour Contract Law of the PRC	General Requirements of EHS Management System
	Social Security Law of the PRC	Administrative Measures for EHS Accident
	Production Safety Law of the PRC	Regular EHS Meeting and Flight Check Management System
	Law on the Prevention and Treatment of Occupational Disease of the PRC Fire Protection Law of the PRC	Administrative Measures for EHS Information and Communication
		Administrative Procedure for Internal EHS Audit
		Hazards Identification and Risks and Opportunities Evaluation Requirements
		Regulations on Safe Production Penalties
		Safe Production Training Management System
		Safe Production Responsibility Management System
		Administrative Measures for Contingency Plans for Production Safety Accidents
		Administrative Procedure for Occupational Health
B3. Development and	Labour Law of the PRC	Training Management System
Training	Labour Contract Law of the PRC Social Security Law of the PRC	Safe Production Training Management System
	······,···,···	Rules Related to the Training of Doctoral Candidate (or Master Degree Candidate in Management) for In-service Employees
		Measures for the Management of the Administrative and Technical Personnel Ranking System

## **APPENDIX 1.1 LIST OF POLICIES**

List of policies and indicators ESG areas	Laws and regulations the Company is subject to	Some policies of the Company
B4. Labour Standards	Labour Law of the PRC	Employment Management System
	Labour Contract Law of the PRC	Recruitment Management System
	Social Security Law of the PRC	
B5. Supply Chain	Company Law of the PRC	Administrative Procedure for Supplier
Management	Contract Law of the PRC	Standard
	E-commerce Law of the PRC	Administrative Procedure for Supplier Audit
		Code of Practice for On-site Supplier Quality Audit
		Catalogue of Qualified Material Suppliers
		Catalogue of Shortlisted Material Suppliers
		Administrative Measures for Material Procurement
		Material Management System
		Administrative Measures for Centralized Procurement of Bulk and General-purpose Materials
		Implementation Rules for Bidding for Construction Projects
		Implementation Rules for Bid Evaluation of Centralized Procurement of Construction Projects
		Operation Guideline for Tender Announcement of Materials and Service Projects on the Official Website
		Operation Principles for Tender Announcement of Material

## **APPENDIX 1.1 LIST OF POLICIES**

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List of policies and indicators ESG areas	Laws and regulations the Company is subject to	Some policies of the Company
B6. Product Responsibility	Patent Law of the PRC Trademark Law of the PRC Copyright Law of the PRC Drug Administration Law of the PRC Good Manufacturing Practices for Pharmaceutical Products (GMP) Good Laboratory Practices for Pharmaceutical Products (GLP) Good Clinical Practices for Pharmaceutical Products (GCP) Good Supply Practices for Pharmaceutical Products (GSP) Pharmacopoeia of the PRC Administrative Measures for Drug Registration Administrative Measures for Drug Registration Administrative Measures for Drug Recalls Regulations on Protection of Traditional Chinese Medicines Advertising Law of the PRC The Implementation Rules on the Drug Administration Law of the PRC Provisions on the Administration of Pharmaceutical Directions and Labels Intellectual Property Law of the PRC Tort Liability Law of the PRC	Procedure for Establishment of Independent Research and Development Project Quality Management System Pharmacovigilance Management System Standard Operation Procedure Procedure for Drug Inspection and Acceptance Administrative System of Quality Enquiries and Quality Complaints User Complaint Management Procedure Patent Management Process Unqualified Drug Management System Adverse Drug Reaction Reporting and Monitoring Management System Drug Recall Management System Drug Trace Back Management System

## **APPENDIX 1.1 LIST OF POLICIES**

List of policies and indicators ESG areas	Laws and regulations the Company is subject to	Some policies of the Company
B7. Anti-corruption	Criminal Law of the PRC	Interim Provisions on Anti-Fraud
	Anti-Unfair Competition Law of the PRC Interim Provisions on Banning Commercial	Commitment for Anti-corruption and Anti- commercial Bribery
	Bribery	Interim Measures for Whistle-blowing and Complaint Management
	Notice on Serious Investigation and Punishment and Proactive Prevention of Duty Crime in Food and Drug Supervision	Anti-corruption and Anti-commercial Bribery Regulations
		Code of Conduct for Sales Personnel
		Administrative Measures for Construction Project Establishment
		Administrative Measures for Construction Projects Settlement
		Implementation Rules for Bid Evaluation of Centralized Procurement of Construction Projects
		Implementation Rules for Bidding for Construction Projects
		Material Management System
		Administrative Measures for Material Procurement
		Administrative Measures for Approval of Allocation and Written-off of Idle Materials (Trial)
		Administrative Measures for Centralized Procurement of Bulk and General-purpose Materials
		Professional Code of Conduct for Employees
B8. Community Investment	Charity Law of the PRC	Management System for Charity Donation

## **APPENDIX 1.2 LIST OF DATA**

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	ESG Indicator	Unit	Data for 2017	Data for 2018	Data for 2019
Α.	Environmental				
A1.	Emissions				
A1.1	Types of emissions and emiss	sion data			
	Industrial wastewater	tonnes	4,612,173.0	4,329,594.0	4,368,313.4
	Chemical Oxygen Demand (COD <sub>cr</sub> )	tonnes	471.6	366.2	343.2
	Ammonia nitrogen	tonnes	24.1	27.8	19.2
	NO <sub>x</sub>	tonnes	311.7	133.6	141.1
	SO <sub>2</sub>	tonnes	96.3	91.2	76.3
A1.2	Greenhouse gas emissions ar	nd intensity			
	Total greenhouse gas emissions	tonnes of CO <sub>2</sub> equivalent	599,464.5	454,715.8	490,460.3
	Greenhouse gas emissions per RMB0'000 of operating income	tonnes of CO <sub>2</sub> equivalent/ RMB0'000	0.7	0.5	0.5
A1.3	Hazardous waste produced				
	Medical waste (HW02) and waste medicine (HW03)	tonnes	10,476.5	12,646.5	10,198.6
	Other hazardous waste	tonnes	290.0	489.3	1,018.5
	Total hazardous waste	tonnes	10,766.5	13,135.8	11,217.1
	Hazardous waste per RMB0'000 of operating income	kg/ RMB0'000	12.6	14.8	12.0
A1.4	Non-hazardous waste produ	ced			
	Total general industrial waste	tonnes	106,430.7	98,545.9	100,914.9
	General industrial waste per RMB0'000 of operating income	kg/ RMB0'000	124.8	111.2	107.5
A2.	Use of Resources				
A2.1	Total energy consumption ar	nd intensity			
	Direct energy consumption				
	Gasoline	litres	257,034.4	286,800.3	365,628.3
	Diesel	litres	1,873,443.6	506,185.9	362,836.3
	Coal	tonnes	142,748.0	63,140.0	72,714.2
	Natural gas	0'000 cubic meters	748.3	973.9	1,111.5
	Indirect energy consumption				
	Steam purchased	tonnes	173,912.4	237,117.8	284,016.2
	Electricity purchased	kWh	357,254,498.0	407,384,975.0	374,098,694.8
	Electricity consumption per RMB0'000 of operating income	kWh/ RMB0'000	418.8	459.8	398.6

## **APPENDIX 1.2 LIST OF DATA**

	ESG Indicator	Unit	Data for 2017	Data for 2018	Data for 2019
A2.2	Water consumption and inter	nsity			
	Total water consumption	tonnes	6,588,021.0	6,416,763.6	6,385,615.3
	Water consumption per RMB0'000 of operating income	tonnes/ RMB0'000	7.7	7.2	6.8
A2.5	Packaging material used				
	Paper packaging materials	tonnes	4,523.3	3,331.3	3,095.7
	Paper packaging materials per RMB0'000 of operating income	kg/ RMB0'000	5.3	3.8	3.3
В.	Social				
B1.	Employment				
B1.1	Total workforce by gender, a	ge group and	l geographical reg	gion	
	Total number of employees	persons	6,963	7,671	9,019
Gender	Male	persons	3,902	4,177	4,796
	Female	persons	3,061	3,494	4,223
Age	30 and below	persons	3,003	3,344	3,780
	31-49	persons	3,521	3,906	4,838
	50 and above	persons	439	421	401
Geographical	Mainland China	persons	6,951	7,654	9,012
region	Hong Kong, Macau and Taiwan	persons	1	2	1
	Overseas	persons	11	15	6
B1.2	Employee turnover rate				
	Overall employee turnover	Percentage	19.00	19.25	16.81
B3.	Development and Training				
B3.2	Training hours of employees				
	Total training hours of all employees	hours	194,605	257,088	586,536
	Total training hours of male employees	hours	106,625	136,257	335,535
	Total training hours of female employees	hours	87,980	120,831	251,002
B3.2	Average training hours per e	mployee			
	Average training hours per employee	hours	27.9	33.5	65.0
	Average training hours per male employee	hours	27.3	32.6	70.0
	Average training hours per female employee	hours	28.7	34.6	59.4

## **APPENDIX 1.2 LIST OF DATA**

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	ESG Indicator	Unit	Data for 2017	Data for 2018	Data for 2019		
B5.	Supply Chain Management						
B5.1	Number of suppliers						
Region	Southern China	percentage	29	28	31		
	Eastern China	percentage	39	43	41		
	Northern China	percentage	9	10	9		
	Central China	percentage	7	7	8		
	Northeastern China	percentage	2	2	1		
	Northwestern China	percentage	10	6	7		
	Southwestern China	percentage	3	3	2		
	Overseas	percentage	1	1	1		
B6.	Product Responsibility						
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	percentage	0	0	0		
B6.2	Number of products and service related complaints received	Times					
	Consultation on medicines	Times	Not disclosed	Not disclosed	8		
	Products related complaints	Times	Not disclosed	Not disclosed	121		
B7.	Anti-corruption						
B7.1	Number of proposed or concluded corruption cases	cases	0	0	0		
B8.	Community Investment						
B8.2	Resources contributed to focu	used areas					
	Funds donation	RMB0'000	1,105.0	335.5	154.2		
	Materials donation value	RMB0'000	153.5	57.1	220.4		

Aspects, General Disclosures and						
Key Performance Indicators (KPIs)	Description	Corresponding section				
Aspect A1: Emissions						
General Disclosure	<ul> <li>Information on:</li> <li>(a) the policies; and</li> <li>(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.</li> </ul>	8.1 Environmental management				
KPI A1.1	The types of emissions and respective emission data.	8.2 Green production Appendix 1.2				
KPI A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity.	8.2 Green production Appendix 1.2				
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity.	8.2 Green production Appendix 1.2				
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity.	8.2 Green production Appendix 1.2				
KPI A1.5	Description of measures to mitigate emissions and results achieved.	8.2 Green production				
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	8.2 Green production				
Aspect A2: Use of Re	sources					
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	8.2 Green production				
KPI A2.1	Direct and/or indirect energy consumption by type in total and intensity.	8.2 Green production Appendix 1.2				
KPI A2.2	Water consumption in total and intensity.	8.2 Green production Appendix 1.2				
KPI A2.3	Description of energy use efficiency initiatives and results achieved.	8.2 Green production				
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	8.2 Green production				
KPI A2.5	Total packaging material used for finished products and, if applicable, with reference to per unit produced.	8.2 Green production Appendix 1.2				

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Aspects, General Disclosures and Key Performance Indicators (KPIs)	Description	Corresponding section
	onment and Natural Resources	Section
General Disclosure	Policies on minimizing the issuer's significant impact on the environment and natural resources.	8.1 Environmental management
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	8.1 Environmental management
Aspect B1: Employme	ent	
General Disclosure	<ul> <li>Information on:</li> <li>(a) the policies; and</li> <li>(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.</li> </ul>	9.1 Diversity in employment
KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	9.1 Diversity in employment Appendix 1.2
КРІ В1.2	Employee turnover rate by gender, age group and geographical region.	9.1 Diversity in employment Appendix 1.2
Aspect B2: Health an	d Safety	
General Disclosure	<ul> <li>Information on:</li> <li>(a) the policies; and</li> <li>(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.</li> </ul>	9.3 Health and safety
KPI B2.1	Number and rate of work-related fatalities.	Not disclosed
KPI B2.2	Lost days due to work injury.	Not disclosed
KPI B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	9.3 Health and safety
Aspect B3: Developm	nent and Training	
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	9.2 Respect for talents
KPI B3.1	The percentage of employees trained by gender and employee category.	Not disclosed
КРІ ВЗ.2	The average training hours completed per employee by gender and employee category.	9.2 Respect for talents Appendix 1.2

Key Performance Indicators (KPIs)         Corresponding section         Corresponding section           Aspect 84: Labour Standards         Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.         9.1 Diversity in employment           KPI B4.1         Description of measures to review employment practices to avoid child and forced labour.         9.1 Diversity in employment           KPI B4.2         Description of steps taken to eliminate such practices when discovered.         9.1 Diversity in employment (The employment of child or forced labour.           Aspect B5: Supply Chain Management General Disclosure         Policies on managing environmental and social risks of the supply chain.         6.5 Supply chain management Appendix 1.2           KPI B5.1         Number of suppliers by geographical region.         6.5 Supply chain management Appendix 1.2           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.         6.1 Quality management system           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, labeling and privacy matters relating to products and services provided and methods of remedy.         6.1 Quality management system           KPI B6.1         Percentage of total products sold or shipped subject to recall	Aspects, General Disclosures and		
General Disclosure       Information on:       9.1 Diversity in employment         (a)       the policies; and       the compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.       9.1 Diversity in employment         KPI B4.1       Description of measures to review employment practices to avoid employment discovered.       9.1 Diversity in employment (The Group did not experience any employment of child or forced labour.         KPI B4.2       Description of steps taken to eliminate such practices when discovered.       9.1 Diversity in employment of child or forced labour.         KPI B5.2       Description of steps taken to eliminate such practices of the supply chain maagement chain.       6.5 Supply chain management chain.         KPI B5.1       Number of suppliers by geographical region.       6.5 Supply chain management appendix 1.2         KPI B5.2       Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are suppliers where the practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are suppliers where the practices relating to engaging suppliers, and the suppliers where the practices are being implemented, how they are suppliers where the practices are being implemented, how they are suppliers where the practices are being implemented, how they are suppliers where the practices are relating to mobalth and safety, advertising, labeling and privacy matters relating to mobalth and safety, advertising, labeling and privacy matters relating to mobalth and safety, advertising, labeling	Key Performance	Description	
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KPI B4.2         Cescription of steps taken to eliminate such practices when discovered.         9.1 Diversity in employment (The orough did not experience any employment of child or orced labour this year)           Aspect B5: Supply CHTM-argement         Supply Chilana         6.5 Supply Chilana           General Disclosure         Policies on managing environmental and social risks of the supply chain.         6.5 Supply Chain management Appendix 1.2           KPI B5.1         Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.         6.5 Supply chain management Appendix 1.2           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.         6.1 Quality management Appendix 1.2           KPI B5.1         Percerture of total products sold or shipped subject to recalls for sadevertising, labelling and privacy matters relating to health and safety, advertising, labelling and privacy matters relating to recalls for system Appendix 1.2         6.1 Quality management system Appendix 1.2           KPI B6.1         Percerture of total products sold or shipped subject to recalls for system Appendix 1.2         6.1 Quality management system Appendix 1.2           KPI B6.2         Number of products and service related complaints received and the cos safety and health reasons         6.1 Quality management system Appendix 1.2           KPI B6.2         Number of products and service related complaints received a	General Disclosure	<ul> <li>(a) the policies; and</li> <li>(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and</li> </ul>	-
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KPI B5.2Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.6.5 Supply chain managementAspect B6: Product ResponsibilityInformation 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 remedy.6.1 Quality management system 7.2 Responsible marketingKPI B6.1Percentage of total products sold or shipped subject to recalls for safety and health reasons6.1 Quality management system Appendix 1.2KPI B6.2Number of products and service related complaints received and how they are dealt with.6.6 Protecting the responsible management system	General Disclosure		
Suppliers where the practices are being implemented, how they are implemented and monitored.managementAspect B6: Product Responsibility6.1 Quality management (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 remedy.6.1 Quality management systemKPI B6.1Percentage of total products sold or shipped subject to recalls for safety and health reasons6.1 Quality management systemKPI B6.2Number of products and service related complaints received and methods6.1 Quality management systemKPI B6.2Number of products and service related complaints received and health reasons the year6.6 Protecting the recall any products	KPI B5.1	Number of suppliers by geographical region.	management
General DisclosureInformation 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 remedy.6.1 Quality management system 7.2 Responsible marketingKPI B6.1Percentage of total products sold or shipped subject to recalls for safety and health reasons6.1 Quality management system Appendix 1.2 (The Group did not recall any products due to safety and health reasons this year)6.1 Quality management system Appendix 1.2 (The Group did not recall any products due to safety and health reasons this year)KPI B6.2Number of products and service related complaints received and how they are dealt with.6.6 Protecting the rights of customers	KPI B5.2	suppliers where the practices are being implemented, how they are	
<ul> <li>(a) the policies; and</li> <li>(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 remedy.</li> <li>KPI B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons</li> <li>KPI B6.2 Number of products and service related complaints received and health reasons</li> </ul>	Aspect B6: Product R	esponsibility	
safety and health reasonsmanagement system Appendix 1.2 (The Group did not recall any products due to safety and health reasons this year)KPI B6.2Number of products and service related complaints received and how they are dealt with.6.6 Protecting the rights of customers	General Disclosure	<ul> <li>(a) the policies; and</li> <li>(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</li> </ul>	management system 7.2 Responsible
KPI B6.2Number of products and service related complaints received and how they are dealt with.6.6 Protecting the rights of customers	KPI B6.1		management system Appendix 1.2 (The Group did not recall any products due to safety and health reasons this
	KPI B6.2	·	6.6 Protecting the rights of customers

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Aspects, General Disclosures and Key Performance Indicators (KPIs)	Description	Corresponding section
KPI B6.3	Description of practices relating to observing and protecting	7.1 Innovation and
	intellectual property rights.	development
KPI B6.4	Description of quality assurance process and recall procedures.	6.6 Protecting the rights of customers
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	<ul><li>6.6 Protecting the rights of customers</li><li>7.2 Responsible marketing</li></ul>
Aspect B7: Anti-corru	uption	
General Disclosure	<ul> <li>Information on:</li> <li>(a) the policies; and</li> <li>(b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.</li> </ul>	5.1 Operation compliance
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.	5.1 Operation compliance Appendix 1.2 (The Group did not experience any legal cases regarding corrupt practices this year)
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	5.1 Operation compliance
Aspect B8: Communi	ity Investments	
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.	10.1 Access to Health Care 10.2 Public welfare and charity
KPI B8.1	Focused areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sports).	10.1 Access to Health Care 10.2 Public welfare and charity
KPI B8.2	Resources contributed (e.g. money or time) to the focused areas	10.1 Access to Health Care 10.2 Public welfare and charity Appendix 1.2





# Livzon, Evergreen Life, Bright Future & Wisdom

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