凯莱英医药集团
Asymchem Labs.

2021

Environment
Society and Governance Report





www.asymchem.com
Stock Code：002821.SZ / 6821.HK

凯莱英医药集团
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2021 Asymchem Laboratories (Tianjin) Co., Ltd.
Environment, Society and Governance Report



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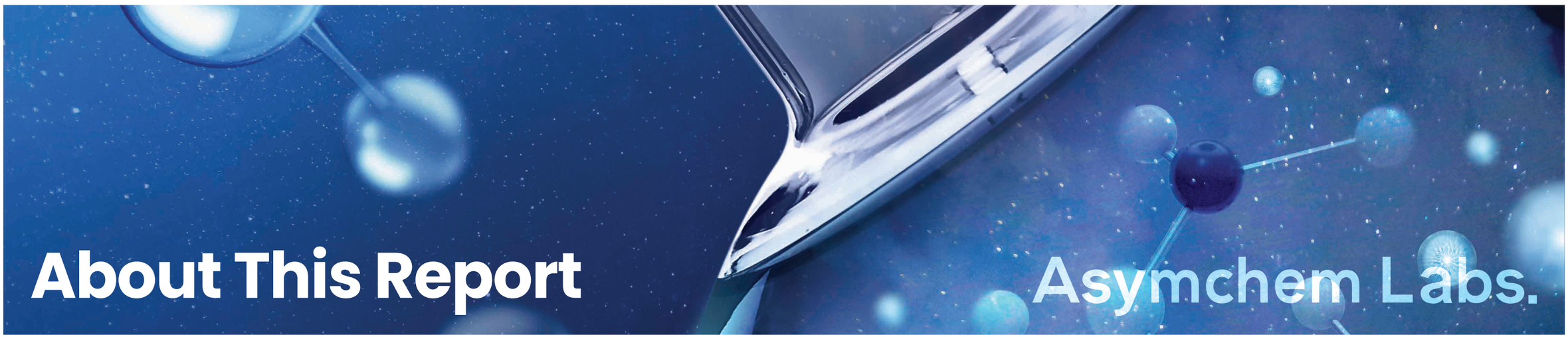
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Report Time

This report is the first enterprise social responsibility report issued by Asymchem Laboratories (Tianjin) Co., Ltd. to interested parties. Text information and performances in the report are mainly about the period from January 1, 2021 to December 31, 2021, while some text information and performances may involve the previous years or embody policies and practices of 2022.

Report Boundary

The report disclosed information of Asymchem Laboratories (Tianjin) Co., Ltd. (hereinafter referred to as "Asymchem" or the "Company" or "We") and its subsidiaries and branches in performing their economic, social and environmental responsibilities, etc., where, relevant typical cases came from the Company's belonging enterprises.

Information Source

The information and data disclosed in this report came from internal formal documents, statistical reports and annual reports of Asymchem Laboratories (Tianjin) Co., Ltd., and the Company's Board of Directors and all directors guaranteed that this report was free of any false contents, misleading statements or major omissions, and assumed severe and joint liability for authenticity, accuracy and integrity of the report. Financial data in this report took RMB as the unit, and in case of any inconsistency with the financial report, the financial report shall prevail.

Criteria for Preparation of Report

China National Standard Guidance on Social Responsibility Reporting (GB/T36001-2015)
Chinese Academy of Social Sciences' Guidelines for the Compilation of China's Corporate Social Responsibility Report (CASS-CSR4.0)
The United Nation's Sustainable Development Goals (SDGs) 2030
International Organization for Standardization's ISO26000: Guidance on Responsibility (2010)
Global Council on Standards for Sustainable Development GRI Standards for Sustainable Development Report (GRI Standards)
Hong Kong Stock Exchange's Guidance on Reporting of Environment, Society and Governance (2020)
No. 1 Self-regulatory Guideline of Shenzhen Stock Exchange for Listed Companies - Standard Operation of Listed Companies on the Main Board

Report Form

This report is provided in electronic form, and you can log in Shenzhen Stock Exchange (http://www.szse.cn/disclosure), HKEX News (https://www.hkexnews.hk) and the Asymchem's website (http://www.asymchem.com.cn/) to read the electronic report.

Chairman's Message



Dr. Hao Hong

Asymchem Labs& CEO

The year 2021 was an extraordinary year. Confronted with the COVID-19 epidemic and severe economic situation, Asymchem has been passionately forging ahead and spares no effort in obtaining a dominant position. Asymchem has successfully achieved IPO on the Hong Kong Stock Exchange ("HKEX"), and realized "listing on A+H stock exchanges", and landed on the international capital market, marking another milestone on the way forward. Over more than twenty years of establishment, being "serious, strict and rigorous", Asymchem has always been devoted to technological innovation and commercialized application of global pharmaceutical preparation technologies, and providing one-stop CMC service of drug research & development and production both domestic and overseas. By the end of 2021, with twenty research & development, analysis, production and sales branches and offices, and more than 7,000 employees all over the globe in total, Asymchem has become a leader in global CDMO (Contract Development and Manufacturing Organization) industry.

Over the past 20 years, Asymchem has been highly praised by customers with competitiveness in small molecule CDMO field, and global innovative drugs. While consolidating the service capabilities for small molecule CDMO solutions, we also have extended service chain and expanded service scope with competitive advantages, and stable layout of emerging business. We provide excellent CDMO services and solutions throughout the full life cycle of drugs from R&D to commercialization, aiming to become the partner of choice for global pharmaceutical R&D and manufacture providing services for companies large and small throughout the full lifecycle of drug development.

In 2022, Asymchem will adhere to the policy of "delivering large orders, expanding business scope, upgrading systems, and advancing technology". While guaranteeing conformance to various standards, Asymchem will actively lay a solid foundation for future development with new markets and new businesses domestic and overseas; continue to realize matched mobilization ability and revenue volume of Asymchem via improved soft power and management system; continue to promote comprehensive application of new technologies, help partners improve efficiency and reduce costs, achieve low-carbon production with new technologies, make practical feedback to the customers, and continue to accelerate the marketing process of new drugs, struggling for human health all over the globe.

Honors in 2021

- In January 2021, Asymchem was awarded "Outstanding Contribution Award" by Tianjin Leading Group Office of Poverty Alleviation and Support Cooperation.
- In January 2021, Asymchem was awarded "Excellent Cooperation Partner" by Hutchison Wahmpoa.
- In March 2021, Asymchem was awarded "Excellent Project Award" by Mersana.
- In March 2021, Asymchem's Board of Directors Office was awarded "The Best Board of Directors for Investor Relations of Listed Companies on China's Mainboard".
- In July 2021, Asymchem was awarded "Member Unit of China Chemical Safety Association" by China Chemical Safety Association.
- In July 2021, Asymchem was awarded "2021 TOP 20 Chinese CRO Enterprises (including CDMO)".
- In August 2021, Asymchem was awarded "Member of China Medical Equipment Engineering Association" by China Medical Equipment Engineering Association.
- In September 2021, Asymchem was awarded "2021 TOP 20 China CDMO Enterprises" by 2021 Big Health Industry High-Quality Development Meeting & the 6th China Medical Research & Development Innovation Summit.
- In September 2021, Asymchem was awarded "TOP 50 Growth Listed Companies in China" in the 15th Valuation of Listed Companies in China by *Securities Times.*
- In October 2021, Asymchem was awarded "Special Social Responsibility Award" for enhancing achievements of poverty alleviation and effective linking with rural vitalization in 2021 by Committee of Tianjin Economic and Technological Development Zone (Management Committee of Tianjin Economic and Technological Development Zone).
- In October 2021, Asymchem was awarded "Excellent Enterprise Brand of APIs Export" by 2021 excellent enterprise and excellent product brands in China chemical and pharmaceutical industry.
- In October 2021, Asymchem was appraised as "TOP 100 Enterprises in China Pharmaceutical Industry" on 2020 China's Most Influential List in Pharmaceutical Industry.
- In October 2021, Asymchem was appraised "TOP 50 China Pharmaceutical Research & Development Companies" by 2020 China's Most Influential List in Pharmaceutical Industry.
- In December 2021, Asymchem was awarded "2021 The Most Beautiful Low-Carbon Factory in Tianjin Economic and Technological Development Zone" by Party Committee Office, and Management Committee Office of Tianjin Economic and Technological Development Zone.
- In 2021, Asymchem was awarded "2021 Social Responsibility Award" by Committee of Tianjin Economic and Technological Development Zone, CPC, and Management Committee of Tianjin Economic and Technological Development Zone.
- In November 2021, Asymchem was included as "2021 Leading and TOP 100 China Digital Service & Service Outsourcing Enterprises" by China Investment Promotion Association.



Asymchem Labs.

Development Course

1998

- Asymchem Laboratories (Tianjin) Co., Ltd. was established

2001

- Asymchem Laboratories (Tianjin) Co., Ltd. (parent company of the group)

US FDA inspected in 2014/2019
High potency R&D and manufacturing

2004

- Asymchem Laboratories (Fuxin) Co., Ltd.

US FDA inspected in 2011/2014/2018
Dedicated carbapenem manufacturing

2008

- Beijing Branch of Asymchem Laboratories (Tianjin) Co., Ltd.

Business development

2012

- Asymchem Life Science (Tianjin) Co., Ltd.

US FDA inspected in 2011/2014/2018
EU QP inspected in 2013
New Technology Development Center, cGMP intermediates, APIs and preparations
Pilot scale production, analysis service and blood sample testing service

- Jilin Asymchem Laboratories Co., Ltd.

EU QP inspected in 2014
Australian TGA inspected in 2015/2017
US FDA inspected in 2017/2019
South Korea MFDS inspected in 2017
APIs starting materials and cGMP intermediates, and APIs large-scale production

2014

- Asymchem Shanghai Office

Business expansion and customer reception

2017

- Asymchem, Ltd.(Europe)

Business development

- Tianjin Asymchem Pharmaceuticals Co., Ltd.

US FDA inspected in 2019
API and drug product manufacturing

- Jilin Asymchem Pharmaceuticals Co., Ltd.

Manufactures bulk intermediate, raw material and API

- Jilin Asymchem Pharmaceuticals Co., Ltd.

Manufactures bulk intermediate, raw material and API

- Liaoning Asymchem Laboratories Co., Ltd.

Bulk integration non-GMP manufacturing

2019

- Shanghai Asymchem Biotechnology Co., Ltd.

Biologics technology platform offering one stop service:
Cell Line Development
DS/DP Process Development
Formulation Development
DS/DP cGMP Pilot cGMP Production
Comprehensive analytical services for new drug development

2020

- Tianjin Clin-nov Medical Technology Co., Ltd.

Full-cycle project management services for preclinical and phase I-IV clinical research
Beijing Branch of Tianjin Clin-nov Medical Technology Co., Ltd.
Clinical research of drugs, consistency evaluation service and domestic drug registration
Asymchem Laboratories (Jilin) Co., Ltd.
API & drug product manufacturing
Asymchem Pharmaceuticals (Jiangsu) Co., Ltd.
Manufacturing and R&D center of small molecules drug

2021

- ASYMCHEM BOSTON CORPORATION

CDMO R&D Center of Innovative Drug
Asymchem Laboratories (Tianjin) Co., Ltd.
2020 Performance Presentation Meeting, appraised as "2020 Excellent Performance Presentation Case" by China Association for Public Companies
100% acquisition of Beijing Improve Quality Technology Co., Ltd.
Listed on mainboard of Hong Kong Stock Exchange, issued total 18,415,400 H stocks all over the globe, with net amount of raised capital up to about HKD 6.85 billion



Get to Know Asymchem

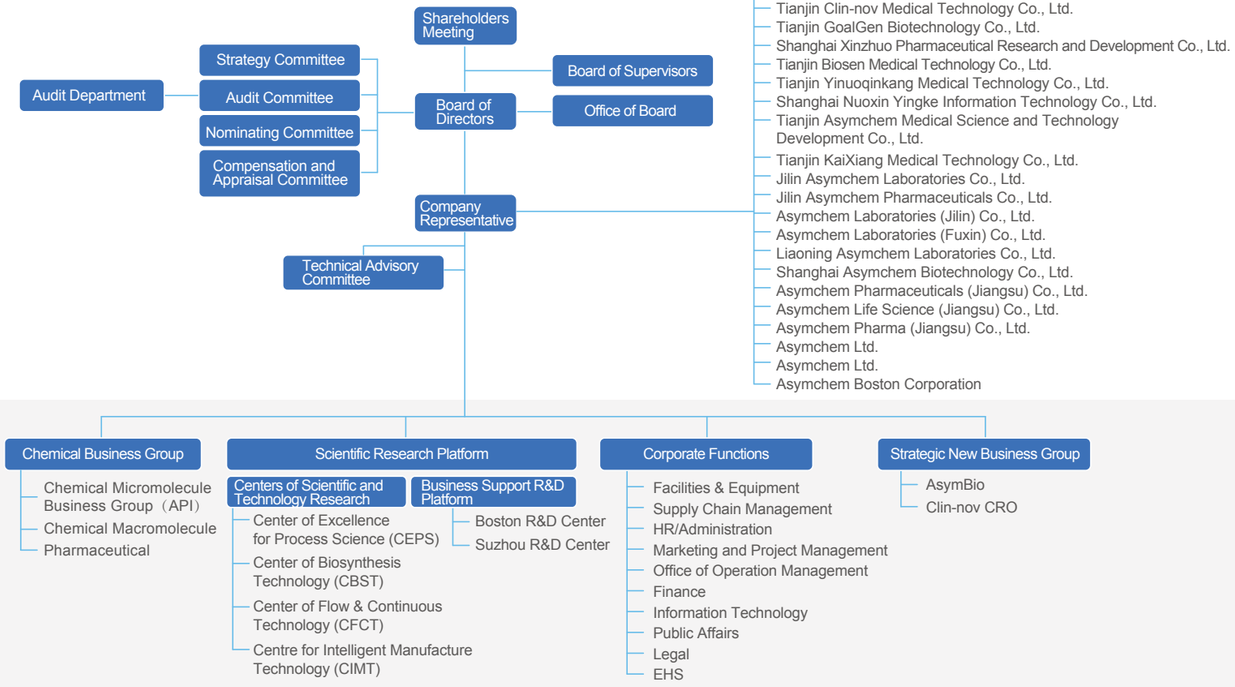
Company Introduction

Devoted to making technological innovation and commercialized application of global pharmaceutical process, Asymchem (stock code: 002821.SZ/06821.HK) is a CDMO one-stop integrated service provider for new drug research & development and production, and it accelerates clinical research and commercialized application of innovative drugs by providing domestic and foreign pharmaceutical companies and biological technology companies with full-life-cycle one-stop CMC services of drugs, as well as efficient and high-quality research & development and production services. Over the years, the Company has always been following the operation and development concept of "International Standards, China Advantages, Technology-driven and Green-oriented", serving the field of innovative drugs and blockbuster drugs, making continuous research & development of multiple internationally leading patent technologies, and enabling the research & development capacity, equipment and facilities, environment protection standards and patent protection to be geared to international standards; its service items involve multiple major disease treatment fields such as tumor, virus, infection, heart and blood vessels, nervous system and diabetes, etc., and some drugs have become or are expected to become break-through blockbuster drugs in the globe.



Company Organizational Structure

With constant development of the Company and constant spreading and expansion of the industrial chains, Asymchem continues to make adjustment of its organizational architecture, establishes a profound internal management and control system, and constantly improves its governance structure, so as to further improve governance level of the Company.



Company Culture

Company mission

Collaboration for Innovation.

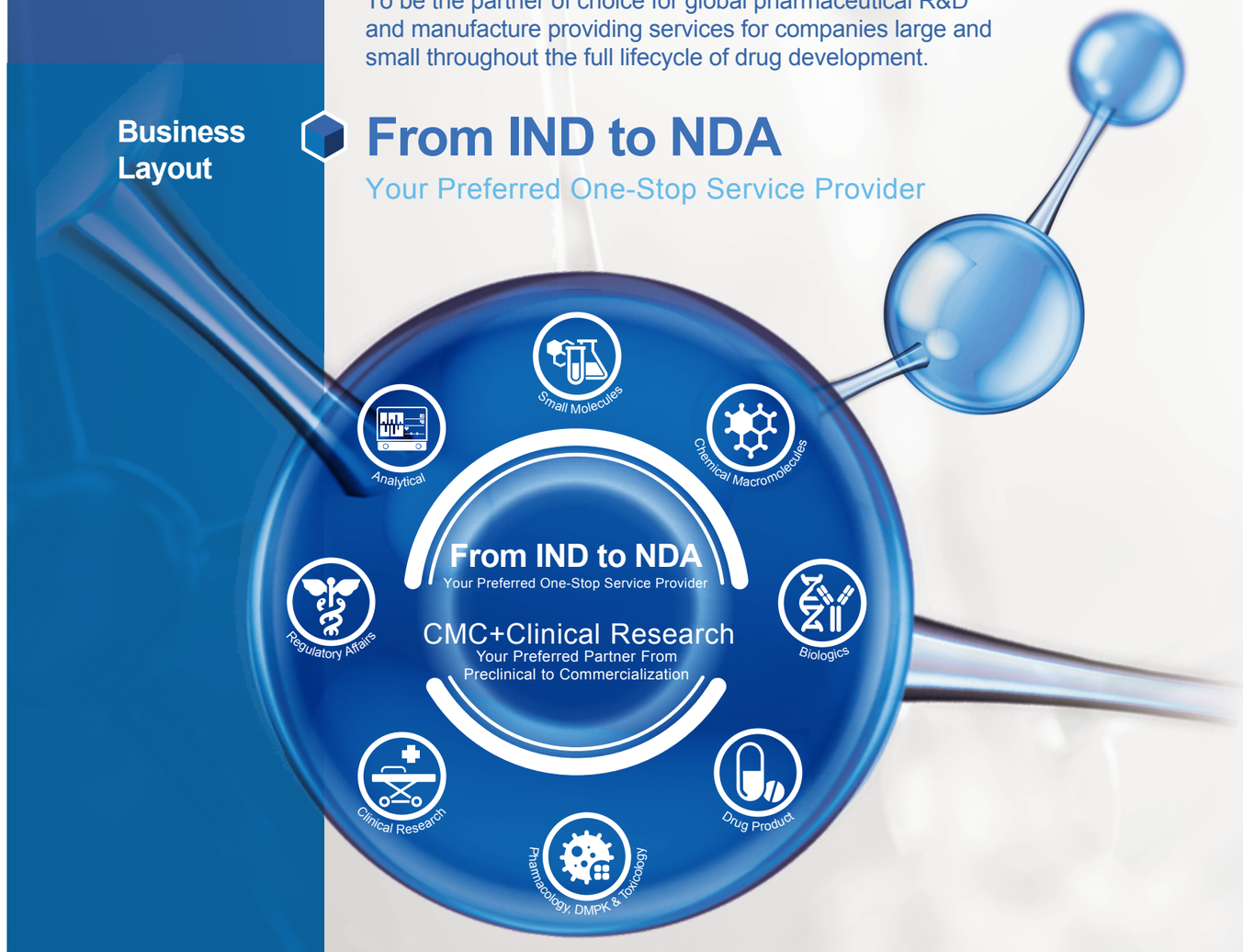
Company vision

To be the partner of choice for global pharmaceutical R&D and manufacture providing services for companies large and small throughout the full lifecycle of drug development.

Business Layout

From IND to NDA

Your Preferred One-Stop Service Provider





20+ Years of Careful Cultivation	**7000+** Full-time Employees	**3300+** Scientific Research Personnel	**8** Production Bases
49 Successful Official Audits	**800+** Global Clients	**600+** Clinical Projects in Progress	**30+** Commercialization Projects in Progress

Asymchem Labs.

01 ESG Governance

ESG Governance Architecture

A perfect ESG governance architecture could lay a solid management foundation for sustainable development of the Company. Asymchem attaches importance and makes frank response to concern of interested parties such as shareholders, employees, industries and communities regarding the Company, takes "Collaboration for Innovation" as the mission, and performs brave, persevering and earnest practices, and by virtue of the professional capacity and resource advantages, while making the Company a global partner for production and research & development of drugs, it could also enable the interested parties to have a better growth and make contributions to sustainable development of the society. In 2021, the Company formally established "ESG Management Committee", to be responsible for making integrated coordination and systematic promotion of the Company's ESG management, besides, it also made further specification of the constitution, responsibilities and authorities of ESG Management Committee.



Picture note: Asymchem's ESG Governance Architecture

Asymchem's ESG Governance Architecture

Board of Directors — As the supreme decision-making body of ESG management, it is responsible for the Company's ESG management. Board of Directors is responsible for pinpointing the Company's ESG management policies and strategies, including guiding and supervising the Company's ESG risk management, ESG goal's setting and achieving condition, and ESG information disclosure condition, etc.

ESG Management Committee — Make report to the Board of Directors. With authorization from Board of Directors, it is responsible for implementing various ESG work, and guaranteeing establishment of appropriate and effective ESG risk management and internal supervision system; instructing and supervising development of our company and its subsidiaries, implementing ESG work, and helping the Company achieve sustainable development.

ESG Working Group — ESG Management Committee has a subordinating ESG Working Group, which consists of persons in charges of various departments of the Company. ESG Working Group is responsible for assisting with ESG Management Committee in jointly promoting implementation and execution of various ESG daily work of the Company.

Statement of Asymchem's Board of Directors

Asymchem's Board of Directors authorizes ESG Management Committee to be fully responsible for supervising ESG management work. Board of Directors is responsible for making the Company's ESG strategies and making periodic deliberations on execution condition of such strategies; participating in identification and evaluation of ESG risks, discussing and determining important ESG topics; be responsible for auditing ESG related plan and goal setting, and supervising achievement condition of ESG goals.

ESG Management Activities

In order to promote integration of ESG management concept into operation management of the Company, in 2021, the Company organized and planned the first ESG Management Committee's Meeting, and invited professional institutions to carry out ESG special training, so as to enhance the Company's ESG management level and management capacity.

Management activities carried out by Asymchem centering on ESG in 2021

Organize ESG Management Committee's Meeting — In combination with the Company's critical nodes and process of operation, the Company organized and held ESG Management Committee's Meeting, which specified the constitution, responsibilities and authorities of ESG Management Committee members.

Carry out ESG training — The Company invited third-party professional institutions to organize *Training for Preparation of 2021 ESG Report of Asymchem online*, so as to teach professional management knowledge to the Company's ESG management related personnel; the Company actively participated in ESG theme training organized by Hong Kong Stock Exchange, including *Discussion on ESG Development Opportunities*, *the Latest ESG Regulatory Requirements and Global Climate Actions, ESG Risks and Opportunities, Governance Architecture, Green Finance, MSCI and ESG Rating* and other themes, so as to improve ESG management capacity of the team.

Analysis of Substantial Topics

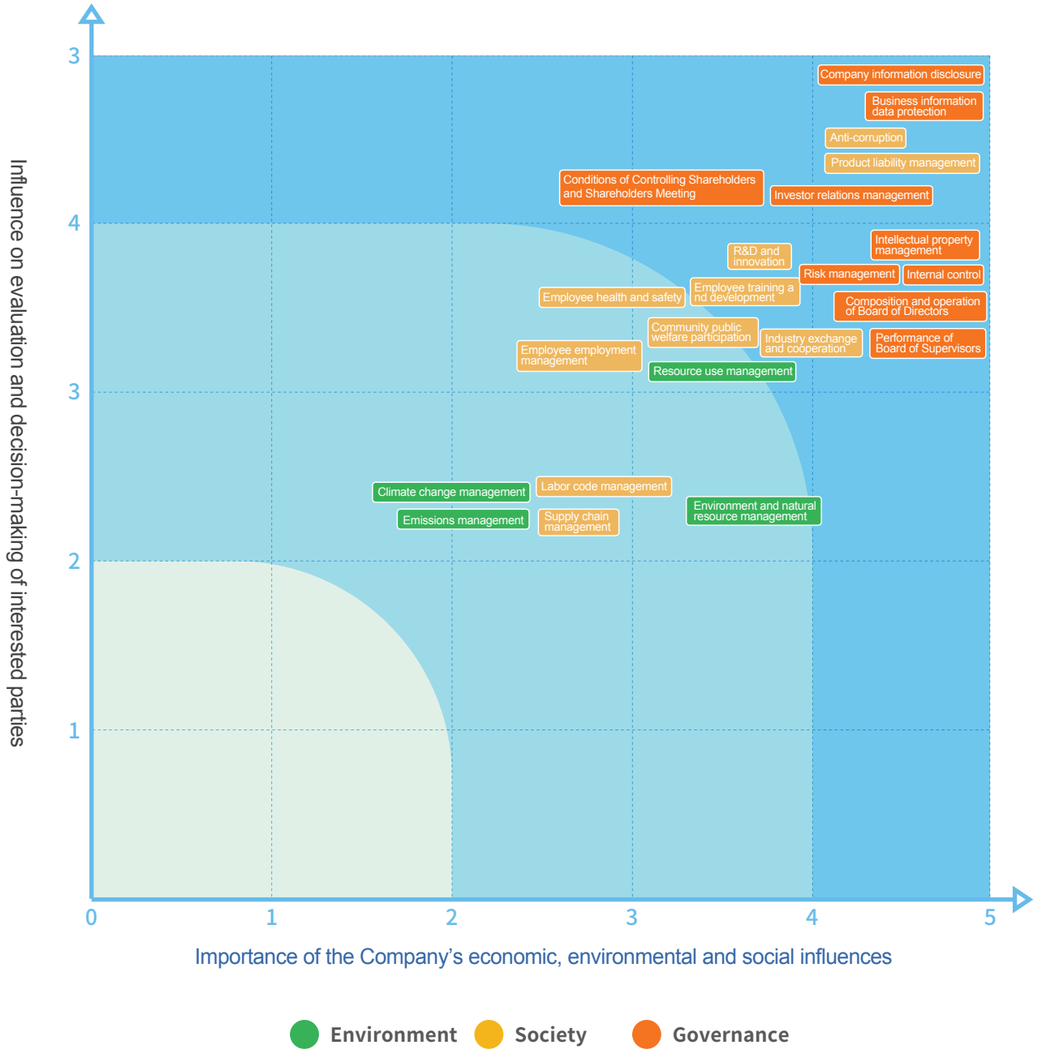
In accordance with five dimensions: national macro-policy guidance, domestic and foreign researches on social responsibility standards, industrial benchmarking, interview and investigation of interested parties, and the Company's development strategy and planning, Asymchem identified the themes and topics having significant impact on both the Company and interested parties, and then formed substantial topic database. In 2021, the Company compiled *Survey Questionnaire for Interested Parties of Asymchem's 2021 Environment, Society and Governance Report* (https://www.wjx.cn/vj/hDnnYlW.aspx), and arranged the substantial topics in the sequence of its significance according to its "importance to the Company" and "influence on interested parties", and then further converted contents of the substantial topics into the contents presented in this report.

Identification and screening of topics — From the perspective of national macro-policy guidance, domestic and foreign researches on social responsibility standards, industrial benchmarking, interview and investigation of interested parties, and the company development strategy and planning, 23 related topics were selected.

Survey of interested parties — Communicate with internal and external interested parties of the company, including the employees, customers, investors, distributors, suppliers (service providers), government and regulatory organs, media, pharmaceutical profession association (organization of the chamber of commerce), and cooperating agencies (public service organization, scientific research institutions, etc.) and so on.

Comprehensive analysis of results — In accordance with survey results of interested parties, and in combination with expert analysis, make adjustment of substantial topics, and determine significance sequence of substantial topics.

Asymchem's Matrix of Substantial Topics



Involvement of Interested Parties

Identification of interested parties	Main interested parties	Topics of concern	Communication channels of the Company
Shareholders and investment institutions	The investors and investing institutions making equity and creditor investment in the company	Condition of controlling shareholders and Shareholders Meeting Investor relation management Constitution and operation of Board of Directors Duty performance of Board of Supervisors Risk management Internal control Information disclosure Research & development innovation Commercial information and data protection Intellectual property right management Emission management Resource utilization management	Shareholders Meeting Information disclosure Road show
Government and regulatory organs	National ministries and commissions, local government, China Securities Regulatory Commission (CSRC), market supervision, emergency management, ecological environment, tax authority, customs, etc.	Environment and natural resources management Climate change management Labor criteria management Product responsibility management Anti-corruption Community public welfare participation Conditions of the company's information disclosure Risk management Internal control	Document exchange Policy execution Information disclosure
Customers	Medical treatment and health enterprises, research institutions, scientists, schools, hospitals and doctors, etc.	Product responsibility management Research & development innovation Industrial exchange and cooperation Anti-corruption Intellectual property right management	Customer survey Technical symposium Customer service hotlines Customer satisfaction survey
Cooperative partners	Pharmaceutical profession association (organization of the chamber of commerce), cooperating agency (public service organization, scientific research institution), distributors, etc.	Supply chain management product responsibility management Research & development innovation Industrial exchange and cooperation Anti-corruption Commercial information and data protection Intellectual property right management	Exchange and reciprocal visits Industrial forum
Suppliers (service providers)	Raw material suppliers, equipment suppliers, service providers	Employees' health and safety Labor criteria management Supply chain management Research & development innovation Industrial exchange and cooperation	Supplier evaluation Supplier exchange and training
Community and public	Community residents surrounding the operation place, non-governmental organizations (NGOs), social groups, public welfare organizations, media, etc.	Emission management Resource utilization management Environment and natural resources management Climate change management Employees' employment management Anti-corruption Community public welfare participation	Volunteer service Community activity Exchange and interview

Suggestions and expectations from interested parties have a significant influence on Asymchem's sustainable development management. In combination with global peers' experience, we identified the company's main interested parties, and established normal communication mechanism with them, so as to enhance understanding and cooperation with various parties, and lay a good foundation for sustainable development of the Company.



Asymchem Labs.

02

Company Governance

Three-Committee Operation and Information Management

Three-committee Operation

In strict accordance with laws or regulations such as The Company Law of the People's Republic of China, Asymchem established a sound governance system of the company, where, the Shareholders Meeting was the supreme authority of the Company, and the Board of Directors set four special committees: Strategy Committee, Compensation and Appraisal Committee, Nominating Committee and Audit Committee.

Shareholders Meeting

In strict compliance with laws and regulations, the company convened and held Shareholders Meeting in a standard way. In 2021, the company held total 7 Shareholders Meetings, whose convening and holding procedures, qualification of the persons present at the Shareholders Meeting and voting procedures all conformed to stipulations of laws and regulations, and could guarantee all shareholders especially medium and small shareholders to enjoy equal status and make full exercise of their rights.

Board of Directors

The Company established Diversity Policy for Board of Directors, expecting to construct a diversified Board of Directors and enhance the concept of Board of Directors' executive power. By the end of 2021, the company's Board of Directors had total 9 members, among whom there were 3 independent non-executive directors (one of which was professional accounting personnel) and 4 female directors. In 2021, the company held a total of 21 Board of Directors' Meetings, whose convening, holding and formation were operated in accordance with the company's *Rules of Procedures for Board of Directors* and other relevant resolutions and procedures, and duties were performed in strict accordance with relevant regulations. The Board of Directors' subordinating committees assumed clearly defined responsibilities, so as to guarantee efficient operation and scientific decision-making of Board of Directors, and the independent non-executive directors issued independent opinions on relevant matters, so as to protect interests of the company and the medium and small shareholders practically.

Board of Supervisors

The Company's Board of Supervisors consisted of 3 supervisors, of which 2 were shareholder representatives and 1 was employee representative, and the Board of Supervisors' member quantity and constitution conformed to requirements of laws and regulations. In 2021, the Company held total 17 Board of Supervisors' Meetings, and the Company's Board of Supervisors performed its responsibilities according to relevant regulations, and made supervision on the company's management and operation, financial status and legality and compliance of the company's directors and senior managers in performing their responsibilities, and has by doing so safeguarded the legitimate rights and interests of the company and shareholders.







Information Disclosure

Asymchem formulated *Measures for Management of Information Disclosure of Asymchem Laboratories (Tianjin) Co., Ltd.,* and performed the obligation of information disclosure in strict accordance with systems and relevant laws and regulations, and it designated Secretary of the Board of Directors to be responsible for information disclosure work, for receiving shareholders' visits and consulting, diligently completing disclosure work of regular reports and temporary reports, making authentic, accurate, complete and timely disclosure of relevant information, handling properly the confidentiality work before information disclosure, and implementing the responsibility for management of information disclosure effectively. The company designated *China Securities Journal, Securities Times,* www.cninfo.com.cn, Stock Exchange News and the company's official website as the company's designated media for information disclosure, so as to guarantee that all shareholders of the company could have access to information equally. During the report period, the company disclosed total 275 announcements.

275
announcements disclosed by the Company within the report period

Investor Relations

Asymchem attached importance to investor relation management, and formulated *Investor Relation Management System,* and by means of investor relation interactive platform of listing companies, reception of investors on the phone, etc., it enhanced communication with the investors, and maintained the investor relation by receiving visits from individual investors and institutional investors, and actively participating in securities company exchange summit, etc. In 2021, the company held 2020 Performance Communication Meeting, and by virtue of the Weijieyao and Healthcare Executive platforms, it has adopted the mode of offline holding and online live broadcasting for the first time, with total views exceeding 9,000 persons, which has directly conveyed the Company's strategic planning objectives and confidence in sustainable development in the future to the investors and interested parties, so as to improve the investors' understanding of the Company, and maintain the relation between the Company and the investors.

9000+
viewers of the Performance Communication Meeting in total

Risk Control

Risk Management

Asymchem formulated *Risk Management System* and *Basic Norms for Internal Enterprise Control,* so as to establish a standard and effective risk control system for the company's risk management, improve the risk prevention capacity, and guarantee safe and stable operation of the Company. In accordance with different objectives of the Company, the Company's risks were divided into: strategy risk, operation risk, financial risk and legal risk, and reasonable and effective internal control measures were formulated.

Risk management objectives

- Control the risks within tolerable range that matches with overall objective;
- Realize authentic and reliable communication of the company's internal and external information;
- Guarantee compliance with laws and regulations;
- Improve the company's operating benefit and efficiency;
- Guarantee that the company establishes crisis handling plan for various major risks, so as to exempt it from heavy losses due to hazardous risks or human errors.

Reasonable and effective internal control measures

- Establish major risk early-warning system and accident emergency handing mechanism;
- Establish a sound legal adviser system of the company;
- Establish power balance system of important posts, and clearly specify separation of incompatible responsibilities.

Legal Risk Management

Asymchem established a sound legal adviser system of the Company, vigorously enhanced construction of the Company's legal risk prevention mechanism, and formed a legal risk responsibility system in which the Company's decision-making level played a dominant role, the Company's legal adviser provided business guarantee, and all employees participated jointly. In addition, the Company established the management mechanism of legal dispute cases, and formed the handling mode of communication before event, coordination during event and mediation after event as well as case summary regarding the litigation, non-litigation and arbitration cases instituted by or against the Company, so as to enhance the Company's management in legal affairs. In addition, the Company established compliance and tracking mechanism of laws and regulations, to make timely acquisition, identification and updating of the laws and regulations applicable to our company, and then conveyed them to relevant persons in charge timely. The Company would arrange different kinds of training on laws and regulations for different persons irregularly, so as to improve risk prevention and compliance consciousness of all employees.

Insurance Risk Management

Asymchem established insurance management mechanism, and transferred transferrable risks by means of insurance. The Company clearly defined the operating procedures for insurance, so as to enable the Company to be timely and maximally compensated for its economic losses from natural disasters or accidents, thus protecting economic benefits of the Company.

Anti-corruption

Asymchem established *Internal Control Management System of Code of Business Ethics,* where, it made management of basic company ethics; basic employee ethics; establishment and use of consultation channels for opinions and suggestions; fair competition, prohibition from taking/offering bribery from/to others; relevant regulations on anti-money laundering; relevant regulations on interest conflicts; relevant regulations on reception etiquette; performing periodic communication and exchange in professional ethics; relevant regulations on labor rights; relevant regulations on information security management; and abiding by relevant requirements for relevant Foreign Corrupt Practices Acts, besides, it also specified working relations of domestic/foreign public officials with government public officials, and relevant stipulations on punishment of the Company's employees for violating code of business ethics, so as to promote honest and moral business acts, and standardize internal and external code of business ethics of the Company.

Abide by relevant regulations on anti-money laundering

In strict compliance with Guidelines for the *Self-assessment of Risks of Money Laundering and Finance of Terrorism of Incorporated Financial Institutions, Measures for Administration of Anti-money-Laundry and Anti-terrorism by Payment Institutions and Measures for the Administration of Financial Institutions' Reporting of High-Value Transactions and Suspicious Transactions* of the People's Bank of China, the Company made regular self-inspection and identification of high-value transactions and abnormal transactions, and established strict cash management regulation, with cash deposit and withdrawal separated from each other, and neither offset the income with expenditure, nor receive or pay cash on behalf of other units, not lend deposit account of the Company to others, nor replace the cash on hand with IOU or vouchers not conforming to financial system, nor establish private "petty cash cabinet".

Fair competition, and forbid taking/offering bribes

In daily transactions, the Company prohibited receiving rebates and bribery, or accepting bribery provided by the counterparty in work in any form, and signed *Asymchem Employee Integrity and Self-discipline Agreement* with relevant employees, including but not limited to personnel of procurement, sales and other relevant businesses, relevant personnel from the inspection and supervision department, and other personnel for whom the Company deemed it necessary to sign the *Agreement,* besides, the Company signed *Sunshine Cooperation Agreement* with the cooperating units, and set telephone and email address for anonymous reporting.

Abide by relevant regulations on conflict of interest

At the time of decision-making, the Company must follow the principle of conforming to the best interest of the Company and the shareholders strictly, disclose any potential conflict of interest in written form, and gain approval from senior leaders or legal department.



In addition, the Company would perform training on the whole Group's employees' consciousness of code of business ethics at least once a year, to enhance relevant consciousness of the employees. In 2021, the Company organized multiple training activities, such as training on basic business ethics and anti-corruption, covering 6,856 employees and 9 directors, with the training duration of 1.5h on average, and received 0 lawsuit regarding anti-corruption.

In 2021, the company organized training activities

- **6856** employees received training on anti-corruption
- **9** directors
- **1.5** h of training on average
- **0** lawsuit regarding anti-corruption

Promote identification of internal risks of the Company's business ethics by taking account of characteristics of key posts

Procurement related personnel	Personnel accessing and grasping core technology	Marketing and sales personnel	Management personnel
It mainly involves whether they behave properly or not during the process of dealing with the suppliers.	It mainly involves whether the measures for proper use and protection, etc. of technologies are standard or not.	It mainly involves whether they behave properly or not during the process of dealing with the customers.	It mainly involves whether they behave properly during the process of exercising functions and powers in daily work.

The Company asked personnel at different levels to sign *Integrity and Self-discipline Agreement*, so as to eliminate commercial bribery, establish a healthy and orderly working environment, and create a good atmosphere of fair competition and integrity.

层级	自律协议	签署率
Senior management level	Integrity, Self-discipline, Anti-corruption and Anti-bribery Commitment Letter	100% Signing rate at
Middle level and below	Asymchem Employee Integrity and Self-discipline Agreement	100% Signing rate at

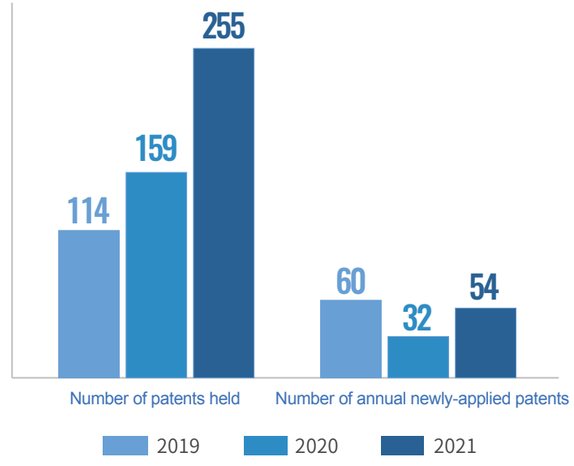
Intellectual Property Right Management

The Company's Intellectual Property Right Management

Asymchem attached importance to management of its own intellectual property rights, and established *Patent, Software Copyright and Article Publishing Management System* to standardize the governance and prevent external infringement risks. The Company constructed a high industrial barrier by continuous technological innovation and independent research & development of core technologies, and has applied its relevant technologies in flow and continuous commercialized production of key intermediates and APIs of multiple innovative drugs such as third-line biapenem antibiotics, second-generation AIDS drugs, anti-cancer drugs and Hepatitis C drugs, etc.

During the reporting period

- **54** annual newly-applied patents
- **17** trademarks held
- **6** obtained software copyrights
- **255** obtained patents in total



Protection of Customers' Intellectual Property Right

Asymchem attached importance to the customers' long-term trust in the Company, and has deeply realized the importance of protecting the customers' intellectual property rights. By signing Confidential Disclosure Agreement (CDA) or Master Service Agreement (MSA) frameworks with the customers, the Company guaranteed security of the customers' intellectual property rights.

Under the agreement framework

- Any intellectual property right developed by the Company during rendering services to the customers shall belong to the customers;
- The employees' confidentiality obligation is not only limited to the Employment Contract;
- The customers' and Asymchem's intellectual property rights are subject to dual protection from national laws and company agreement.

Information and Privacy Protection

Asymchem attached importance to its information security and protection, and established *Information Security Management System, Reiteration of IP Protection System Requirements, Mobile Storage Equipment Use and Control System, Notebook Equipment and Data Management System, and Company Mobile Phone and E-mail Management System*, etc., and its information management system covered the group's production and file management, information security event management, and business continuity management, etc., and it has also obtained ISO27001 information security management system certification.

Information Security

The Company implemented NBU backup system, which could provide guarantee for data security of the Company upon FDA audit and certification, besides, the Company also implemented manual data backup mechanism for mobile hard disks, which could back up the computers not networked.

In addition, in the link of orientation training for new employees, the Company actively organized information security training and security consciousness education, and asked them to sign Confidentiality Agreement. The Company would organize a large-scale training once every year, where, the persons in charge of the departments or relevant responsible persons participate in site training, and then come back to perform training for their own departments, so as to enhance their consciousness of information protection.





Privacy Protection

Asymchem paid attention to protection of customers' privacy, and asked all employees to sign *Confidentiality and Non-competition Agreement*, and the company would make strict investigation of new employees' background of important posts; it would also review off-office audit of core management personnel and signing condition of Non-competition Agreement, so as to guarantee minimum risks of information disclosure.

Measures for privacy protection

- Formulate *Reiteration of IP Protection System Requirements*, requiring that management personnel of various departments should make proper management of various data and file information of their own departments, and forbidding transmitting important data and files without encryption for internal management.
- Make internal test-checking audit of various departments' privacy protection condition by quarter, and in case of discovering any problem, management responsibility will be prosecuted against corresponding management personnel.
- Formulate *Mobile Storage Equipment Use and Control System*, and the computers equipped for all employees shall be used for working and learning only, and can't be accessed to external mobile storage equipment, and in the meantime, it has disabled the forwarding to personal cloud e-mail/network disk and other third-party cloud services.



03

Product Safety and Quality

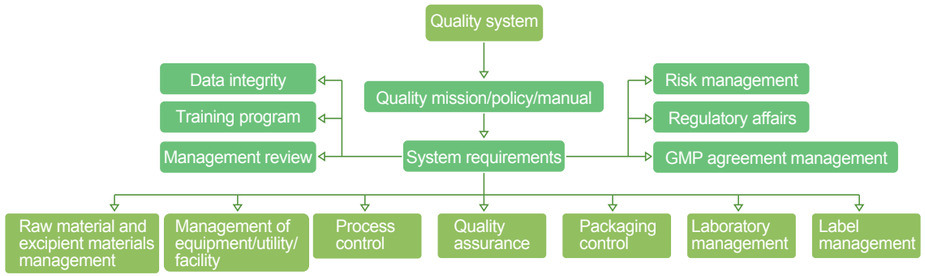
Asymchem Labs.

Full Life Cycle Quality Management

Quality Management System

Asymchem has always been pursuing for high production quality with "serious, strict and rigorous" spirit, and has established a quality management system suitable for Asymchem's management architecture in accordance with *Good Manufacturing Practice (GMP), The International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use (ICH) Guidelines, USA cGMP regulations and EU GMP, and by reference to Professional Guide to* Industrial Associations. This system made all-round life-cycle management of product research & development, technology transfer, and production in clinical stage and commercialization stage. It covered clinical research, APIs production, production of drug products (solid oral dosage and injections), biosynthesis, mRNA research & development and production, etc.

The Company established quality system management model based on GMP guidelines, including data integrity management, risk management, training procedure, and management review, etc., which ran through various GMP aspects from raw material and excipient management, equipment/utility/facility management, process control, quality assurance, package and label management, and laboratory management and so on. It also established an independent Quality Assurance Department, to guarantee that necessary measures have been taken to enable the company's production environment, equipment, procedures and training to meet GMP requirements.



Quality Supervision and Review

The Company and its subsidiaries have passed strict GMP certification by National Medical Products Administration (NMPA), United States Food and Drug Administration (USFDA), Therapeutic Goods Administration (TGA), Ministry of Food and Drug Safety (MFDS), Pharmaceuticals and Medical Devices Agency (PMDA) and other drug regulatory bodies of countries in the world successively for many times. And it has also passed GMP on-site inspection by USFDA, TGA and MFDS for many times smoothly.

Asymchem In 2021

- **530** times of visits from customers
- **258** times of common visits (10 times online)
- **10** times of EHS audit
- **115** times of QA audit (47 times online)
- **147** times of visits by visitors resident in the factory
- **100%** It passed review by official institutions



Product Quality Review

The Company established product quality review policy, to assure the process stay on consistency and control on annual basis.

The product quality review includes

- Review of key process control parameter and key test results of the products;
- Review of all non-conforming product batches;
- Review of all critical deviations and related investigations;
- Review of any changes in process or analysis method;
- Review of stability monitoring results;
- Review of all quality related returns, complaints and recalls;
- Review of effectiveness of corrective action and preventive action, so as to guarantee and constantly improve the product quality.

Product Recall Mechanism

The company shall consider recalling defect products involved in customer complaints, and establish written procedures for product recall, and specify the details of recall notification, recall method, evaluation of recalled products, recall product disposition, implementation of correction, etc., and designate QA to be responsible for specific evaluation and reporting the recall condition to relevant authorities.

In addition, the company would carry out a mock recall once a year, and trace each stage during the whole process from raw material suppliers to the delivered product to customers, so as to guarantee that once products not conforming to quality standards are discovered, they can be recalled from the market rapidly, to reduce influence of the crisis. By the end of 2021, Asymchem was free of product recall event.

Service Guarantee

Asymchem takes "providing escort for research & development and production of global drugs, making continuous technological innovation, and providing the customers with quality and efficient one-stop services" as the mission, starts from "every person, every product and every service", and is devoted to becoming a global partner for research & development and production of drugs. By the end of 2021, the company has served more than 800 customers, and its main service drugs involved treatment fields of multiple critical diseases such as virus, infection, tumor, heart and blood vessels, nervous system, and diabetes, etc. It has also served many break-through blockbuster drugs with annual sales volume or estimated sales peak exceeding USD 1 billion.

By the end of 2021

Having served more than **800** clients worldwide

Having served multiple revolutionary blockbuster drugs with actual or estimated **1** billion annual peak sales of more than USD

Customer Satisfaction Management

Customer satisfaction has always been a link that the company focuses on and struggles to improve. In order to fully and timely understand the customers' requirements, the company optimized its products and improved its service quality, and in the product launching stage, project in-process stage and project completion stage, it set corresponding customer communication management requirements and mechanisms, respectively, in accordance with the *Group Customer Management and Communication Management System Compilation*.

Project early warning/launching phase	It will be enabled within one week upon receipt of project/early warning; and the project leader shall make full communication and exchange regarding the customers' requirements.
Project in-process phase	Enhance communication quality with the customers during the process, and make standard and normative service standards for personnel quality during communication with the customers, and for feedback of the customers' questions, etc.
After project completion	Upon completion of project, send and collect customer satisfaction questionnaire, and make reply and internal rectification regarding the opinions and suggestions put forward by the customers.
Abnormality control	Enable internal delay early warning mechanism according to the requirement for on-time delivery of the project, and make timely response to customer complaints during execution of the project.

In 2021

overall score for feedback from customer satisfaction questionnaire was **90**

(API&preparation-01 production order)

2 customer trophies/certificates

Handling Mechanism of Customer Complaints

After the customer complaints are received at Asymchem, the Company will designate QA Department to be responsible for registration, classification, coordination, investigation and handling measures for customer complaints, and establish proper correction and preventive actions regarding the root causes, so as to improve the product quality continuously. In 2021, regarding the customers' quality-related and non-quality complaints, Asymchem made timely and efficient handling of such complaints at 100% by self-inspection and investigation in accordance with corresponding management mechanism, and reached consensus with the customers upon negotiation, and it took multiple measures to actively reduce and eliminate subsequent influence on the customers.

Regarding the customers' quality related complaints, the Company established internal procedure*QA-011.09<Customer Complaints>* to handle them:

1. QA always receives customer complaints via telephone or in written form, and log into *<Compliant Log>*.
2. QA carries out investigation according to *<Deviation Investigation>* procedure, and responds to the complaining company that investigation has been carried out within two working days upon receipt of the complaints.
3. Upon completion of investigation, QA personnel or person in charge of relevant departments shall provide investigation report.
4. Sign the investigation report after being reviewed for approval, and then QA shall send it to the customers.
5. Product recall/withdrawal/return from customers shall be executed in strict accordance with corresponding procedures.
6. Determine if the complaint is valid or not according to the investigation results.
7. Continue to trace progress of the corrective and prevention actions in accordance with the procedure of *<CAPA Tracking>*.
8. Review the corrective and preventive measures in *Annual Product Review Report*.

Regarding non-quality complaints, the Company formulated *Requirements for Management of Non-quality Complaints* to handle them:

1. Any department receiving customer complaints must report relevant information to the Operation Management Office within 24h.
2. Within 4h upon receipt of the information, the Operation Management Office shall complete validation with corresponding project VP/ED, and make final report of the causes and solutions for customer complaints.
3. Any department and project VP/ED receiving customer complaints must make response to customer complaints as soon as possible, and make feedback of solution or give reply within 24h.

Research & Development Innovation

Excellent Research & Development Team

By the end of 2021

The Company's Research & Development Technical Team consisted of total

3381 members

with investment in research & development being RMB

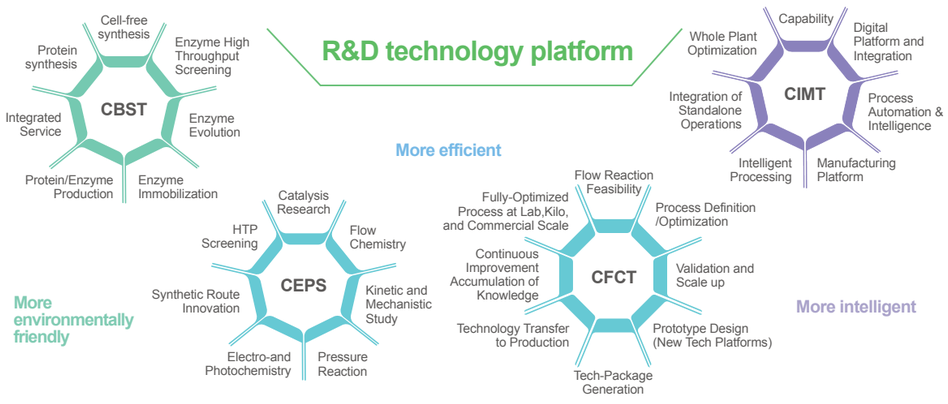
3.87 million

Taking "Independent Innovation" and "Core Technology" as the motive power for its survival and development, Asymchem assembled its core R&D and management team, consisting of high-end talents inside and outside the industry under the leadership of domestic and foreign authoritative experts. Take R&D team of injections for example, above 85% of the team members have a master's degree, and above 50% have R&D experience of injections for more than 10 years. The team has accumulated a great wealth of experience in technology transfer, scale-up production, and sterilization formulation production meeting GMP standards. The integrated management mode from R&D to production, has guaranteed seamless cohesion from laboratory process to production, and the delivered projects have a 100% success rate for scale-up, thus sharply reduced the loss of raw materials, and won appraisal from the customers for many times.

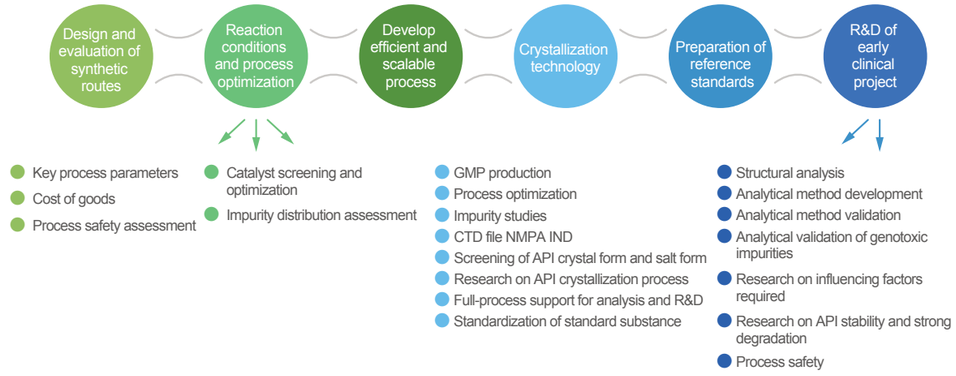
Strong R&D Strength

Asymchem possesses internationally advanced core technologies including the new technology in chiral synthesis, heterocyclic chemistry, transition metal-catalyzed reaction, high pressure & temperature reaction, low-temperature reaction from -78° to -120°, etc., and in the meantime, Asymchem has always been focusing on using enzymatic catalysis, flow and continuous technology, aqueous phase reaction and other green chemical technologies to reduce influence of pharmaceuticals on the environment, of which some relevant technologies are internationally advanced and unique, and the Company is also equipped with proprietary R&D rights to lots of synthesis technologies.

The company established four technology platforms: Center of Excellence for Process Science (CEPS), Center of Flow & Continuous Technology (CFCT), Center of Biosynthesis Technology (CBST) and Centre for Intelligent Manufacture Technology (CIMT), and devoted them to R&D work and reserve of various technologies, thus supporting continuous improvement of Asymchem's CDMO+ service capacity.



By using new process technology development platforms of Center of Excellence for Process Science (CEPS) and Center of Flow & Continuous Technology (CFCT), and in combination with enzyme engineering technology, Asymchem's globally leading status in small-molecule CDMO business field will be effectively enhanced. In the meantime, by expanding the Center of Biosynthesis Technology (CBST), the company exerts itself in promoting construction of cell-free synthesis platform, so as to assist with biological synthesis methods of small nucleic acid, mRNA, ADC and other emerging drugs, and improve Asymchem's competitiveness in CDMO field of emerging drugs. In addition, the Centre for Intelligent Manufacture Technology (CIMT) will lead Asymchem's digital strategy, and enable intelligent management and manufacturing via artificial intelligence (AI) and data science.



Legend: Display Diagram of Asymchem's Research & Development Module

Large-scale synthesis of ATR inhibitor Ceralasertib


RETURN TO ARTICLES ASAP ‹ PREV ARTICLE NEXT ›

Development and Scale-Up of an Improved Manufacturing Route to the ATR Inhibitor Ceralasertib

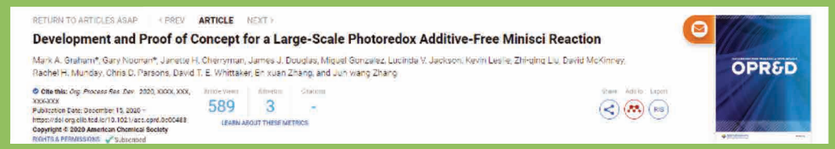
Mark A. Graham*, Hannah Askey, Andrew D. Campbell, Lai Chan, Katie G. Cooper, Zhaoshan Cui, Andrew Dalgleish, David Dave, Gareth Ensor, Maria Rita Galan Espinosa, Peter Hamilton, Claire Heffernan, Lucinda V. Jackson, Dajiang Jing, Martin F. Jones, Pengpeng Liu, Keith R. Mulholland, Mohammed Pervez, Michael Popadynec, Emma Randles, Simone Tomasi , and Shenghua Wang

OPR&D

Asymchem's research & development paper —— *Development and Scale-Up of an Improved Manufacturing Route to the ATR Inhibitor Ceralasertib was published in Org. Process Res. Dev.*, an academic journal under the American Chemical Society. This achievement was jointly researched and acquired by AstraZeneca (a British pharmaceuticals Group) and Asymchem's Project Process Development Center.

Ceralasertib (AZD6738, 1) can inhibit cell DNA damage caused by Rad3-related ataxia telangiectasia mutated (ATR), and shows good anti-tumor activity. It has high potential application value in treatment of colon cancer, leukemia and other diseases, and by the end of 2021, relevant researches on it have come to the clinical Phase I or Phase II. By continuous optimization of ATR inhibitor Ceralasertib's synthetic route, the company's R&D Team has reduced the total steps from 13 to 9, thus made the synthesis more concise and effectively reduced the reaction time. In the meantime, the team reduced the loading of catalysts, and broke through the technical bottleneck of using oxygen as green oxidizing agent, and greatly reduced the reaction cost and amount of "three wastes" in an innovative way, thus enabling large-scale mass production of Ceralasertib compound. The case demonstrated Asymchem's leading capacity in technical R&D and large-scale application in the fields of synthetic design, flow and continuous reaction, enzymatic catalysis technology development, etc.

Development and validation of large-scale additive-free photo-oxidation-reduction Minisci reaction


RETURN TO ARTICLES ASAP ‹ PREV ARTICLE NEXT ›

Development and Proof of Concept for a Large-Scale Photoredox Additive-Free Minisci Reaction

Mark A. Graham*, Gary Noonan*, Jamelor H. Cherryman, James J. Douglas, Miguel Gonzalez, Lucinda V. Jackson, Kevin Leslie, Zhi-qing Liu, David McKinney, Rachel H. Munday, Chris D. Parsons, David T. E. Whittaker, En-xuan Zhang, and Jun-wang Zhang

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Publication Date: December 15, 2020
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OPRD

Asymchem published its R&D paper *Development and Proof of Concept for a Large-Scale Photoredox Additive-Free Minisci Reaction in Org. Process Res. Dev.*. This achievement was co-completed by Asymchem's flow and continuous chemistry team of the Center of Excellence for Process Science (CEPS) and AstraZeneca's process development team, and it was another break-through progress achieved by Asymchem in the field of flow and continuous photochemical production.

In the synthetic route of Ceralasertib drug, this Minisci reaction can shorten the total steps from 4 to 1 directly, which has greatly improved the synthesis efficiency. Calculated by using the flow and continuous photochemical production device independently developed by Asymchem, and based on the reaction conditions by the end of 2021, the production capacity can reach 6.6 kg/day, which can fully meet the large-scale production requirement for clinical trial. The large-scale additive-free photo-oxidation reduction Minisci reaction process developed this time, featuring advantages such as high yield, easy to operate, safe and reliable, etc., greatly promoted the clinical progress of Ceralasertib, shortened listing time of new drugs for the customers, and reduced the R&D and production cost.

Innovation Big Data Platform

Strict management of clinical trial data and development for researches in real world require that the clinical trial data of drugs must be accurate, authentic and comprehensive. Asymchem has realized acceleration and gear-changing in strategic deployment of CRO plate. By the end of 2021, Asymchem's subsidiary Clin-nov Medical's data management and statistical programming team (equipped with rich project experience and extremely strong professional capacity), has currently possessed significant advantages in electronic system and big data platform of clinical researches.

Clin-nov Medical – eliminate information barrier and realize seamless cohesion

凯诺医药 Clin-nov Medical

Clin-nov Medical – Technology Leading One-Stop **CRO** Company

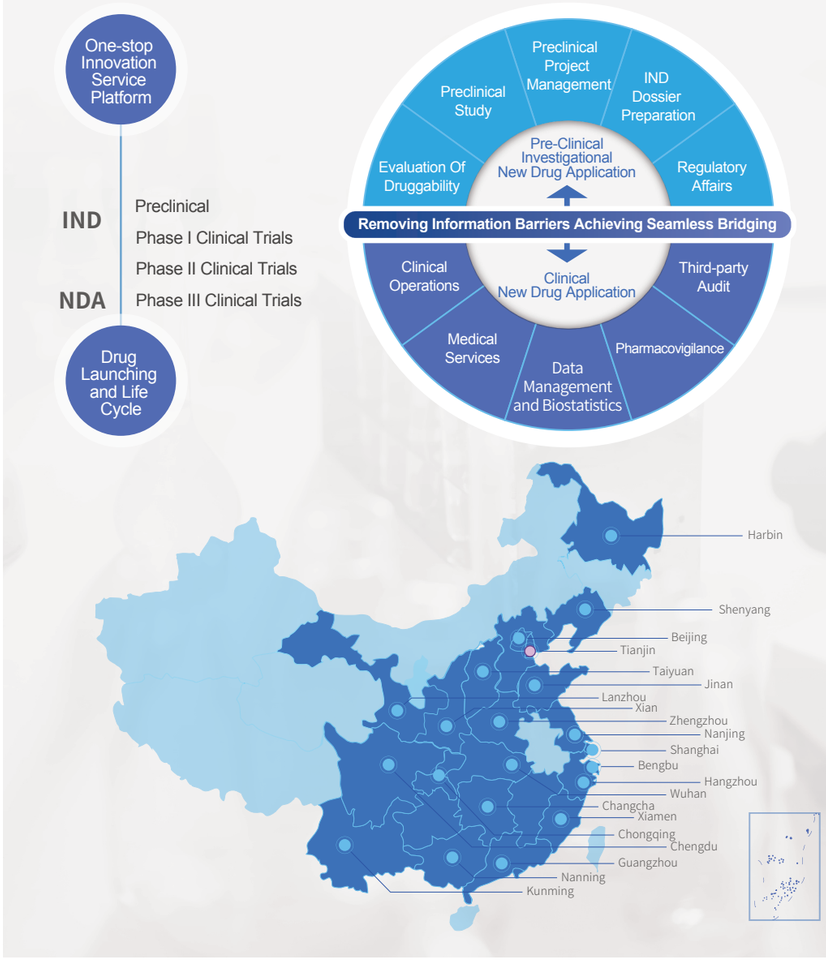
2007-2022
10+
Deep ploughing and meticulous cultivation

Staff size
500+
All employees hold GCP certificate

Comprehensive
Fully integrated
Standardized
Quality Management System

Technology Leading + Model Innovation

Customized services to create a sustainably optimized drug clinical trial ecosystem
Provide clinical trial of innovative drugs in line with international standards
The professional organization with best academic service and data management



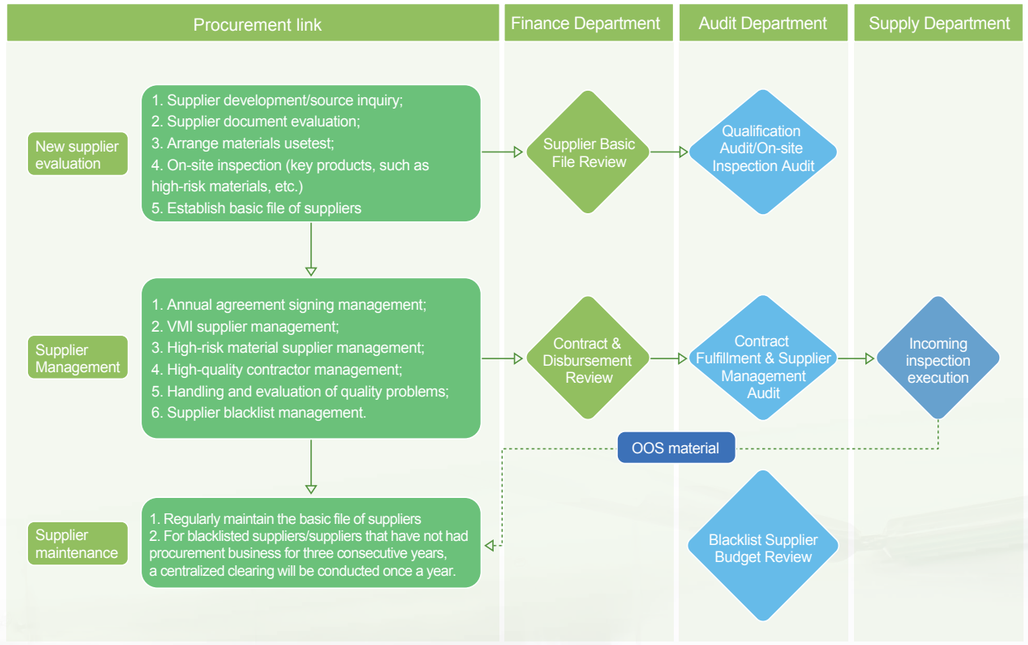
Supply Chain Management

Asymchem paid attention to maintaining good interaction with the suppliers especially long-term cooperating suppliers, strived to realize all-win, formulated the internal procedure of <*Supplier Management*>, in which it specified the introduction, evaluation and withdrawal mechanisms, etc. of suppliers, so as to form full-life cycle management of the suppliers, effectively identify the risks, reduce potential environment, society and safety hazards, improve product quality of both the Company and the suppliers, and form a standard, fair and uniform supplier management system. To tighten the supplier access process, the Company made classified and graded management of the suppliers, and paid attention to qualification certification of the suppliers in environmental protection and quality, etc., so as to guarantee only approved suppliers were employed. The Company formulated *Internal Control Management System on Business Ethics and Business Continuity Plan*, requiring that all suppliers should stick to business ethics and standards, impose strict control on the quality during delivery process of products and services, respect the employees' rights and interests and equal employment right, promote occupational safety, health and welfare of the employees, and insist on sustainable and green business pattern conforming to ethics.

The Company made full use of ERP system to build information platform, and coordinated the main operation modules such as internal production & manufacturing, supply, finance and human resources, etc. With "multi-factory collaboration and resource sharing" as the core, it realized the goals of complex application of multi-factory collaboration among subsidiaries, such as multi-production organization mode collaboration, production plan collaboration, resource sharing, supply chain collaboration, material substitution, batch management, quality management and cost management and so on, thus improving the supply chain management efficiency, and it also continued to exert efforts and make gradual expansion and perfection, so as to create leading advantage in the industry with a more perfect supply chain management system.

Indicator			Unit	2019	2020	2021
Supplier chain management	Total number of suppliers		Company	2749	3324	3981
	Total number of new suppliers		Company	391	419	797
	By region	Suppliers from Chinese mainland	Company	2601	3143	3769
		Suppliers from Hong Kong, Macau and Taiwan and overseas suppliers	Company	148	181	212
	Percentage of suppliers who sign the code of conduct for suppliers (some suppliers, such as Shenzhen Stock Exchange, CSDC, Tax Bureau and other regulatory authorities, do not sign the Sunshine Purchase Agreement)		%	100	100	100
	Percentage of purchasers passing internal sustainable purchase training of the company		%	100	100	100

Supplier Management and Evaluation Process





04

Focus on Talents

Employees

By the end of 2021

7000

there were more than 7,000 employees all over the globe in the Company

With talent as one of the most important resources, Asymchem paid attention to training internal staff and introducing external high-end talents during overall operation management of the company. Following the principle of "make the best of one's talents, and employ those with great talents", the Company tried its best to create a harmonious working environment and suitable growth environment for the employees. By the end of 2021, there were more than 7,000 employees all over the globe in the Company, with lots of high-end talents both at home and abroad.

By education

Postgraduate (master & doctor)	754	1,063	1,325
Bachelor degree	1,063	2,791	3,751
Below bachelor degree	1,145	1,623	2,050

By gender

Male	2,739	3,861	5,037
Female	1,101	1,616	2,089

By age

51 years old and above	76	101	87
41-50 years old	317	357	418
31-40 years old	1,481	1,906	2,307
30 years old and below	1,966	3,113	4,314

By employee type

Total number of grass-roots employees	3,537	5,107	6,740
Total number of middle management employees	229	283	301
Number of female employees in middle management	60	90	95
Total number of senior management employees	74	87	85
Number of female employees in senior management	15	19	18

2019 2020 2021 单位：人

Equal Employment

In Asymchem, the employees are free to choose work since the Company is people-oriented, allowing no guaranteed employment. The company tries its best to provide all employees with a healthy, safe and efficient working environment, abide by all applicable laws and regulations and cause the Company's directors, managers, employees and related parties (including suppliers) to behave in accordance with relevant laws, so as to avoid all illegal, dishonest and immoral conduct, and once there is non-compliance, the Company will handle seriously and deliver to relevant judicial organ, thus maintaining the Company's reputation practically with good faith.

Free choice of career

- The Company guarantees the employees to choose work freely, without forced or guaranteed employment.
- The Company offers employment without asking the employees to mortgage identity certificate, passport or make guarantee deposit.
- The employees are free to leave office with reasonable notice.

Prohibition of child labor

- The Company is prohibited from employing employees under 18 years old.

Working hours and remuneration and welfare

- The Company guarantees that working hours and salary and benefit of the employees are in accordance with local laws and regulations.

Humane treatment

- The Company supports and respects human rights, and insists on being people-oriented.
- The Company shall not implement any cruel or inhuman treatment toward the employees, including any harassment, abuse, corporal punishment, mental or physical coercion, verbal abuse or threat.

Non-discrimination

- The company tries its best to provide all employees with a healthy, safe and efficient working environment.
- The employees would not be discriminated employment and work such as promotion, reward and training rights, etc. for their ethnic group, skin color, belief, gender, age, nationality, disability, sexual orientation, race, political faction, society membership or marital status, etc.
- The Company will not make medical examination/pregnancy examination of the employees or potential employees for discrimination purpose.
- The Company respects and supports protection of women's rights and interests.

In 2021

In 2021, the Company has employed total 16 disabled persons who were mainly with hearing and physical disabilities, to be engaged in relatively low labor intensity work such as cleaning, file consolidation, etc.

Democratic Management

To realize democratic management, Asymchem gives full play to its culture's penetration, molding and leading role. Asymchem uses "Three Ones" working method preliminarily, focuses on three aspects i.e. employee health service, employee dormitory environment improvement and employee comprehensive services, collects and listens to opinions from the employees via DingTalk, Email and forum, etc., and coordinates the Company's resources for centralized solutions of the employees' appeals.

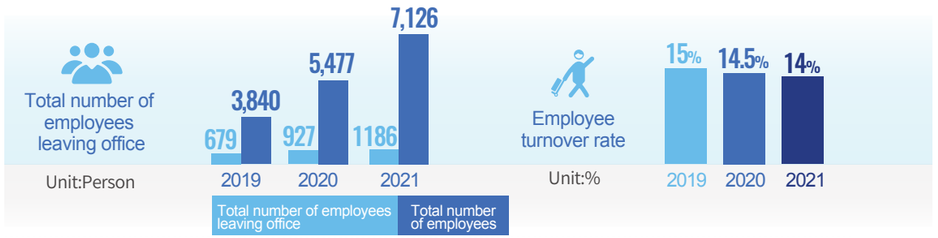
Statement mechanism for employees' opinions and suggestions:

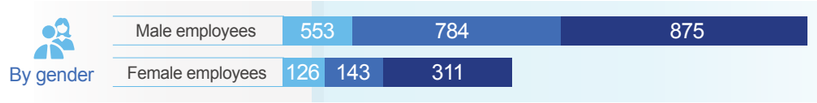
Employee symposium	The company will organize new and old employees to hold symposiums from time to time to solicit employees' opinions and suggestions on work and life, and the relevant opinions and suggestions will be sent to the Audit Department for follow-up.
Opinion mailbox	The company has set up a special mailbox for employee complaints. Employees can send their opinions and suggestions anonymously through their personal mailboxes. Specially assigned persons in the Audit Department will be responsible for checking the emails and giving feedback on the implementation.
Opinion Collection Platform	The company's OA platform has specially set up a workflow for "employee opinion and suggestion collection". Employees can write their opinions and suggestions into the work flow and inquire the progress of the solution on the disclosure page (the information of the opinion provider is kept confidential).

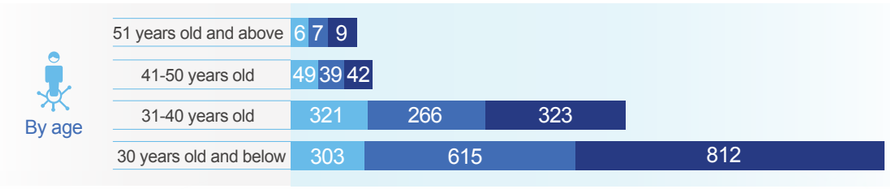
- The company will impose relevant punishments to the departments or the employees who do not cooperate on the problem rectification;
- The company will give corresponding rewards to employees who provide reasonable suggestions adopted by the company.

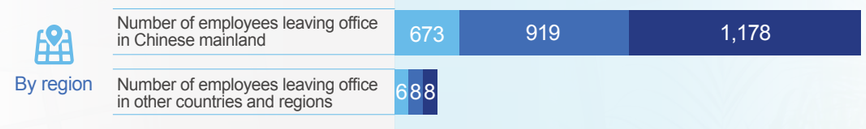
Employee Turnover

Asymchem formulated *Separation Management System* to maintain normal turnover order of the employees, and standardize various links e.g. separation application, separation examination and approval, separation handover, final salary settlement, separation analysis, etc., so as to guarantee proper handover of work when an employee leaves the office. To maintain stable development of the Company, annual, quarterly and monthly statistics of the employee turnover rate would be performed.









2019 2020 2021 Unit:Person

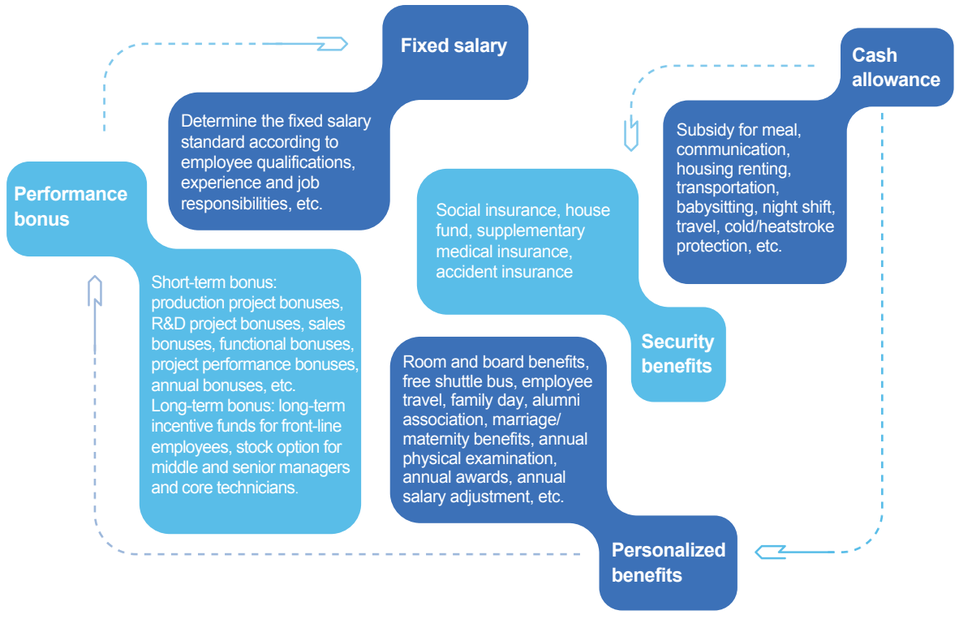
Salary and Benefit

Salary System

Asymchem's salary management system is under the charge of the Human Resources Department, where, the Human Resources Department shall research on a human resources system suitable for the Company's development requirements according to the Company's strategic development requirements, make the Group's mid-and-long-term talent strategy planning and organize its implementation, and establish the Group's recruitment system, training system, and salary & benefit system, etc.

New employees must receive pre-post training; the company executes labor insurance, house fund and medical insurance system for the employees; regarding selection and use of the company's talents, the company acts in an open, fair and transparent way, which has laid a foundation for the company's stable and continuous development.

The Company guaranteed linkage between the employees' labor rights and interests and their salaries, and made flexible and different working hours systems (irregular working hours system, comprehensive working hours system, and standard working hours system, etc.) for different employee groups according to work place and nature of various regions and departments, and provided subsidy compensation for night shifts or swing shifts. In addition, the Company established diversified vacation systems in strict accordance with national regulations, and established clear regulations on application for marriage leave, prenatal examination leave, maternity leave, paternity leave, childcare leave, nursing leave, lactation leave, funeral leave, work-related injury leave, etc.



Employee Benefit

Employees are the most valuable assets of a company. A company can't grow and develop without brilliant leadership and efforts of the employees. In order to build a good social image and improve the brand image, the Company attracts, motivates and retains the employees. To show proper daily care for the employees, Asymchem carried out special campaigns toward female employees, single employees, and seriously-ill employees, etc.

Case: Care for female employees

["Asymchem" for You — International Women's Day, I Have a Date with Beauty]





To carry forward the enterprise' culture, enhance belonging sense of female employees, enable female employees to show their workplace literacy with the best posture, improve personal charm and establish good interpersonal relationships, on International Women's Day, the Company prepared triple surprises for the female employees: ①Special training on image building, ②half a day's leave, ③a delicate gift, to send warmth and care for the female employees.

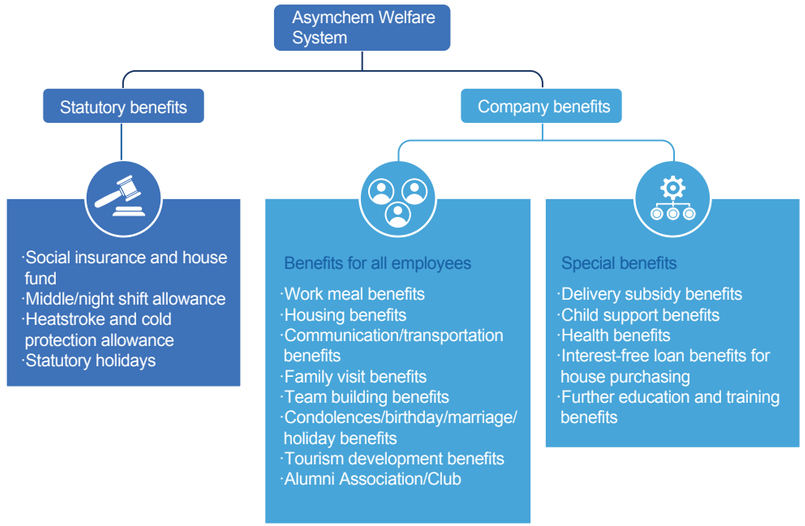
The Company also provided Mother-and-Child Room and equipped Tianjin Plant with refrigerator, lockers, sofas, screens and other facilities and daily supplies, to help the female employees in solving practical difficulties during the lactation period.

Employee benefit system:

For the sake of the Company's benign development, and enhancing the employees' sense of belonging, the Company formulated *Employee Benefit Policy*, involving housing, house-purchase support, communication, transportation, business trips, etc.

Optimization in 2021:

- In combination with cost investment, match the official rank system, make layered refinement, cover high-end and core talents, improve applicability and incentive effect of benefit system, improve the employee satisfaction, and improve the employees' sense of belonging to the Company;
- Improve benefits in combination with employee requirements; guarantee effectiveness of benefit incentives; make different subsidy standards by region; make different subsidy standards by level; offer incentives favorable to core talents.



Case: Care for employees in difficulty

Corresponding care measures for employees in difficulty:





- The Company shall make response as soon as possible, coordinate hospitals and raise money for sick employees;
- Raise donations to help the families get rid of difficulty;
- Apply to trade unions, government and other relevant institutions for help and assistance;
- Show condolences to employees in difficulty on festivals, and provide one-to-one assistance to them practically, to help them get rid of difficulties as soon as possible.

Case: Festival benefits

To show the Company's care for the employees, the Company will give gifts to the employees on festivals (Spring Festival, Women's Day, Dragon Boat Festival, Mid-Autumn Festival, etc.).



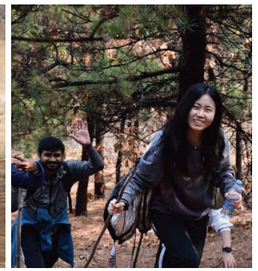
Cultural Activities

The Company hopes that every employee can work in an open and relaxed atmosphere, and maintain enthusiasm to work, besides, it has also set flexible and rich employee activities, department group construction, festival benefit and other policies, thus having enhanced cohesion of the employees, and promoted effective implementation of enterprise cultural construction.

Case: Club activities

["Asymchem" Provides All for You]

To enrich the employees' cultural life, cultivate the employees' interest, and build a united, harmonious, healthy and positive working and living environment, Asymchem has set up total 10 interest clubs for the employees (basketball, football, badminton, table tennis, swimming, literature and art, recreation and sports and outdoor activities, riders, martial arts, and photography clubs), to enable the employees to relax themselves by carrying out rich and interesting recreation and sports activities regularly.



Case: Skills competition

[Adhere to Safety Ingenuity to Build Dreams]



Employees of Asymchem come from different cities and countries, and own different backgrounds and cultures. In addition to daily work, the employees are longing for more opportunities to diversified cultures for edification, so the Company holds many skill activities to diversify their work and life as well as development and improve their knowledge and skills in the Company.





Talent Cultivation

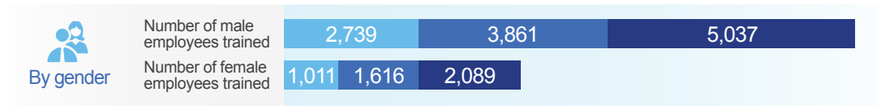
The Company forms a closed differential management loop of different talent groups starting from strategy layout and organization development requirements, and centering closely on the talent team construction that can support the company's business development. The Company constantly optimizes person-post matching, person-team matching, and person-organization matching, improves the structure and level of its talent team, and is dedicated to stimulating the enthusiasm and vitality of the organization effectively.

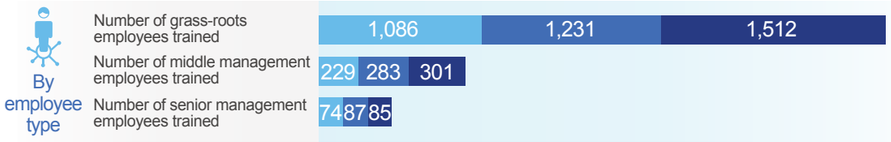
Training System

The Company formulated Training Management System to guarantee creative and harmonious working environment and suitable growth environment for the employees: provide various targeted management training and skills training, guide the employees to improve their shortcomings by training, and inspire their personal potentials, so as to help the employees grow rapidly; constantly optimize the employee career development platform, open dual channels of management and technical career development, and respect the employees' personal development will, so as to provide the employees with a channel of continuous growth and development.

Following the principles of being "economic, practical and efficient", the Company adopted training of personnel stratification, method diversification and content enrichment, and performed the employees' professional training and off-job training following the principles of "equal opportunity and fair competition", and the employees could obtain incentive training and development opportunity through making outstanding performance and work performance.







2019 2020 2021 Unit:Person

The training system was carried out in the layered and classified mode, and different types of training would be carried out orderly by different leading departments according to annual plan, including management training, special training, skills training, new employee literacy training, and basic post skill training, etc.



Picture note: Training Design Model





Picture note: *Sunshine Mentality and Emotional Stress Management* Training

Implementation condition of training in 2021

189 **100%**

189 new employee orientation trainings were planned, and 189 trainings were completed in fact, with implementation rate of 100%;

44 **100%**

44 management & occupational quality trainings were planned, and 44 trainings were completed in fact, with implementation rate of 100%;

7588

Total 7,588 trainings were planned for various departments of the Group

25783

trainings were completed in fact

7471

including 7,471 planned trainings

18312

unplanned trainings

with implementation rate of

99.55%

The planned trainings were not completely completed due to cancellation of corresponding SOP documents, and the unplanned trainings were performed for pre-SOP training, and skills improvement training, etc.

Attract and Retain Core Talents

Devoted to providing all employees with broad development and flexible promoting space, the Company formulated *Career Development System*, executed dual career development path of management and technology, and opened career development promotion channel, so as to enable all employees to find the development path suitable for them.

The Company provided the employees with management development channels and technical development channels according to their quality and personal will, with the management level enjoying equal benefit policy with personnel of corresponding technical level. For management improvement channel, evaluation was made upon comprehensive consideration of the employees' work performance, work experience, historical nomination, participation and completion of trainings, violation of rules and regulations and work report results, etc. monthly according to department demand and recommendation. For technical improvement channel, the Company encouraged the employees to select their own development path according to practical conditions, and granted technical-level promotion of the employees with excellent work performance and strong business capacity monthly. In accordance with technical promotion conditions such as work performance, education background, working age in the Company, number of years at current level, work experience, participation and completion of trainings, violation of rules and regulations, etc., the conforming recommended employees should participate in technical promotion exam, and could then obtain technical-level promotion only after passing the exam.

To fully motivate work enthusiasm of the Company's management personnel and core backbones at different levels, attract and retain excellent talents, the Company has accumulatively implemented 5 Restricted Stock Incentive Plans since the Company entered the capital market in 2016, covering nearly 700 core management (technical) personnel. The Company's *Restricted Stock Incentive Plan 2021* had been registered in September 2021. During the reporting period, the Company has granted 2,224,200 restricted shares to 298 incentive employees including the senior management personnel, management personnel and core technical (business) personnel.

The Company has accumulatively implemented 5 Restricted Stock Incentive Plans since the Company entered the capital market in 2016

5

The Company has accumulatively implemented 5 Restricted Stock Incentive

700

Covering nearly 700 core management (technical) personnel

During the reporting period

298

Incentive objects including the senior management personnel

222.42

The Company has granted 2,224,200 restricted shares

management personnel and core technical (business) personne

Occupational Health and Safety

Safety Management

Asymchem always puts the employees' safety and health in the first place. The Company formulated *Occupational Health Management, Process Safety Management, Special Operation Management, Safety Risk Hazard Troubleshooting and Prevention and Rectification Management* and other management systems, to realize the safety management idea of "graded management, and separated-line responsibility", and it constantly improved management system construction and operating procedure construction of the production equipment and process, implemented safety production responsibility system of all employees, and implemented safety prevention and control measures, so as to guarantee realization of the safety production objective. By the end of 2021, Asymchem, Jilin Asymchem, Liaoning Asymchem and Asymchem Pharmaceuticals have obtained *Safety Production Standardization Certificate* issued by the State Administration of Work Safety, with zero work-related death in the past three years.


Environmental, Health and Safety Policy
EHS管理方针

<POLICY STATEMENT 管理方针总述:

Asymchem Group is committed to ensuring the health, safety and welfare of all employees and visitors and minimizing impact in the environment by managing risk and integrating Health, Safety and Environment into strategies that enhance our reputation and bring value to Asymchem.

<POLICY IMPLEMENTATION 方针的贯彻执行:

We aim ZERO for continuous improvement in our OHS performance.

ASYMCHEM董事长兼首席执行官
Chairman & CEO
September, 2018


安全生产标准化三级企业
（工贸其他）
证书
CERTIFICATE

0
with zero work-related death in the past three years

Picture note: The Company's *Safety Production Standardization Certificate*

Safety Training

The Company attached great importance to establishment and improvement of the employees' safety consciousness, and has pasted safety risk notification card in the workplace to prompt safety risks and operating specification to the employees; in addition, the Company has organized and planned "three-level safety education", "Occupational Hazard Notification", "wearing of personal protective articles" and many other safety and occupational health training, so as to enable the employees to work contentedly and live healthily.

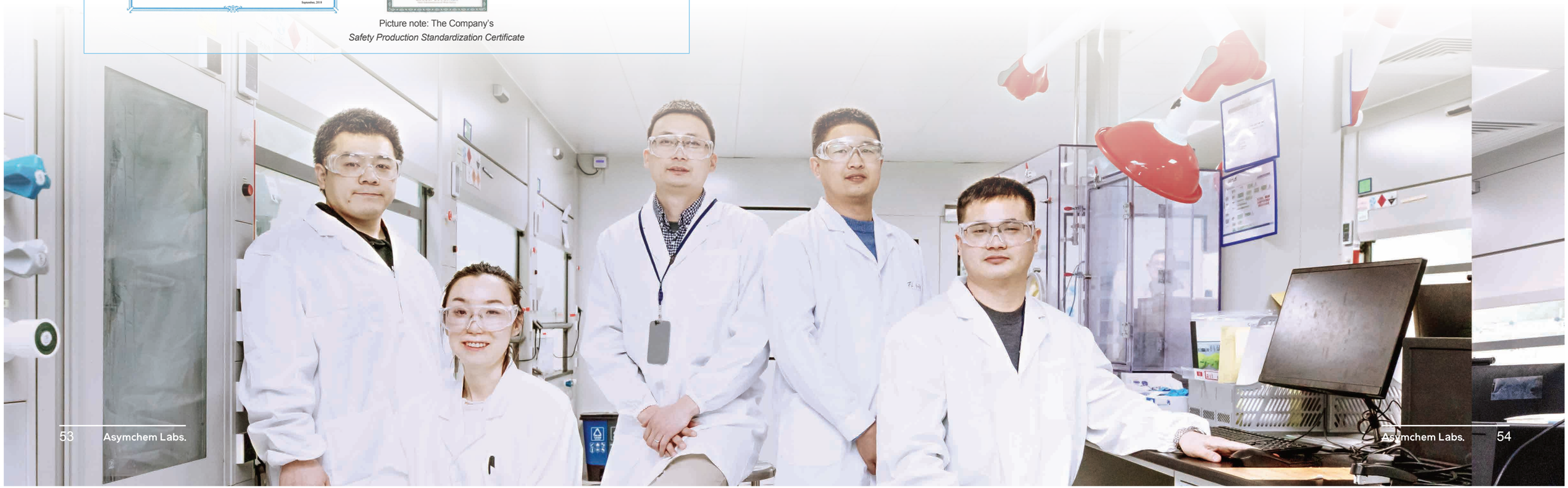
In 2021

The Company has performed safety and occupational training to plants for **13** times

With **13** training topics

Covering **100%** employees

Trainees of plant-level training were persons in charge of various departments and above level, and they were evaluated upon completion of on-site training, and then they would go to their own department to perform secondary training to the members.





Asymchem Labs.

05

Environmental Protection

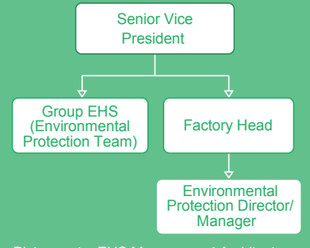
Environmental Management

Asymchem strictly observed and always paid attention to the *Environmental Protection Law of the People's Republic of China, Law of the People's Republic of China on Environmental Impact Assessment* and other national laws and regulations and local standards, and implemented environmental management referring to ISO14001:2015 *Environmental Management Systems – Requirements with Guidance for Use*, covering the Company and main branches and subsidiaries. In 2021, the Company was free of behaviors violating environmental protection laws and regulations and disputes of pollution accidents, and hadn't received administrative punishment due to violation of relevant environmental protection laws and regulations.

Following the development strategy of "International Standards, China Advantages, Technology-driven, and Green-oriented", the Company has been making in-depth implementation of the concept of green manufacturing, controlling environmental impact, investing capital and resources from the production source, and using green, environment-protecting and low-carbon production process to substitute for those that could easily cause serious pollution to the environment, so as to realize the environmental harmony concept of friendly co-existence between chemical production and the environment.

The Company has established EHS Department led by the Group's Senior Vice President, responsible for coordinating and guiding the company's EHS working policy, planning formulation, management implementation and performance improvement, and has allocated sufficient resources to ensure the health, safety and welfare of all employees, visitors and communities, and be committed to sustainable environmental development. The Company has integrated the concepts of health, safety and environmental protection into the corporate strategy to create value for the enterprise, realize risk management, and enhance the reputation of Asymchem. When carrying out all business decisions and activities, the Company will consider EHS factors and place them on an equal footing with other business objectives.

The Company's EHS Senior Vice President is responsible for making overall coordination of the whole Group's environmental protection management work, and it sets Group EHS (Environmental Protection Team) led by the senior director to be responsible for management of the Group's specific environmental protection business on the whole, and the senior director of the Environmental Protection Team makes report to the Group's Senior Vice President directly;
The subsidiaries set EHS Management positions to be responsible for management and execution of the subsidiaries' environmental protection business, and the subsidiaries' Environmental Protection Director/ Manager makes report to the factory head, as well as to the senior director of the Group EHS.



Picture note: EHS Management Architecture



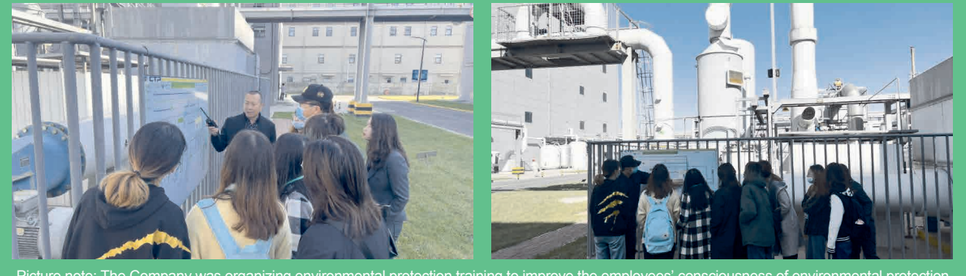
Picture note: Asymchem was awarded the title "The Most Beautiful Low-carbon Factory" in Tianjin Economic-Technological Development Area

In 2021, Asymchem was awarded the title of "The Most Beautiful Low-Carbon Factory" in Tianjin Economic-Technological Development Area; Asymchem Life Sciences became one of the first batch of enterprises selected into the nation-level "Green Factory" announced by the Ministry of Industry and Information Technology, and was the only enterprise selected into the first batch of "Green Factory" in Tianjin.

Regarding potential environmental risks, the Company has formulated Emergency Plan for Environmental Emergency Events, and constantly enhanced construction of trouble-shooting and governance system of potential environmental risks, so as to reduce occurrence probability of environmental emergency events. It would carry out emergency responses training and drilling of environmental emergency events every year, formulate drilling report, summarize the drilling situations, and continuously enhance the company's responding capabilities to environmental emergency events. In 2021, the Company has cumulatively organized 7 emergency responses drilling and training on environmental emergency events, covering all personnel.


Picture note: TJ2 emergency responses drilling site
(high-definition original pictures are to be supplemented)

In order to popularize environmental protection knowledge, and enhance the employees' environmental protection consciousness and skills, the Company also actively developed environmental protection training courseware, and carried out training on the theme of environmental protection. During the report period, the Company has organized more than 100 times of environmental protection related training such as *Three-Simultaneous Compliance Management*, impact assessment of API on aquatic environment, covering all personnel.


Picture note: The Company was organizing environmental protection training to improve the employees' consciousness of environmental protection

Green Chemistry



Picture note: International Green Chemistry Collaboration Laboratory

International Green Chemistry Collaboration Laboratory is an international collaboration laboratory co-established by Asymchem and American professors. This laboratory arranges various research & development, production and analysis and detection related equipment in accordance with standards for international mainstream pharmaceutical enterprises, and provides strong support in hardware for the expansion of various businesses of the laboratory. The international collaboration laboratory mainly centers on green pharmaceutical technology, formulates research projects with commercial application value, jointly devotes to using the international cutting-edge green pharmaceutical technology to substitute or renovate the existing obsolete production processes and production technology by making further cooperation and development, process optimization and extension to scaling-up research, so as to reduce the production cost greatly.

By the end of 2021, the Collaboration Laboratory has published total 18 papers and 3 patents.

18 papers **3** patents

Case: "The 13th Five-year Plan" "Outstanding Green Development Enterprise" Award in the Pharmaceutical Industry



Picture note: Awarding Ceremony of Outstanding Green Development Enterprise Award

Asymchem won "The 13th Five-year Plan" "Outstanding Green Development Enterprise" Award. This special award has fully demonstrated Asymchem's leading industrial competitiveness and profound brand influence in the field of green pharmaceuticals, and is also the industry's recognition of Asymchem's outstanding contributions to continuously pursuing for improvement of green pharmaceutical technology, and promoting innovation and sustainable development of the pharmaceutical industry.

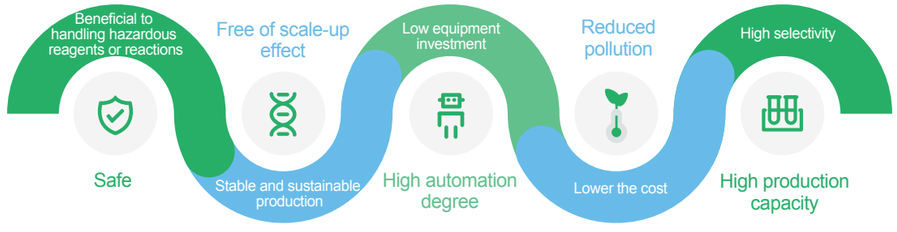
Flow and Continuous Technology

Asymchem is concentrated in exploring the global field of innovative drugs, and since 2009, the Company has independently developed flow and continuous reaction of green pharmaceuticals. By the end of 2021, it has realized mobile and automatic flow and continuous reaction and online-tracking flow and continuous post-processing technology, and has solved the difficulty that it is difficult for traditional batches to realize industrial scale-up. Having independently designed and developed a series of flow and continuous reaction devices, the Company has successfully realized large-scale application of such devices in the field of medical fine chemistry. Such technologies have been widely used in anti-virus, anti-cancer and other major disease areas, realized domestic large-scaled production at tonnage level, realized great decrease in cost, energy consumption and three wastes, and improved the cost efficiency and process stability, thus making the pharmaceutical process greener, safer and more reliable

Flow and continuous technology

- Flow and continuous technology converts the traditional batch manufacturing process into an automatic continuous process.
- Continuous manufacturing is considered by the USFDA as "one of today's most important tools for modernizing the pharmaceutical industry".
- USFDA recommends pharmaceutical companies to use this technology in manufacturing and issued a draft guidance "Quality Considerations for Continuous Manufacturing: Guidance for Industry" in 2019.

Advantages of flow and continuous technology



In addition, Asymchem's CFCT (Center of Flow & Continuous Technology) worked with CIMT (Center for Intelligent Manufacturing Technology) to make modularized production of all flow and continuous reaction equipment, to integrate the master reaction equipment, accessories, instrument and controller into the module in advance. During production, it could make rapid combination according to process requirements, and could be debugged and used merely by connecting the inter-module pipeline and utility pipeline, which has saved transformation time by 50% compared with traditional equipment installation. Upon completion of the project, the reaction equipment module can be exchanged rapidly, thus having met use requirements for different projects, avoided plant transformation time and cost required for batch reaction, and effectively improved utilization rate of the equipment. As displayed by practical production data: in large-scale production, applying flow and continuous reaction could reduce the production cost, reduce the energy consumption by 50%, reduce the floor area by 70% on average, reduce three wastes by 30-60%, improve the yield rate by 0%-30%, and reduce labor cost by 50%-70%.

Continuous reaction could reduce the production cost

- **50%** reduce the energy consumption by
- **70%** reduce the floor area by
- **30-60%** reduce three wastes by
- **0-30%** improve the yield rate by
- **50-70%** reduce labor cost by

Case: Application of flow and continuous reaction in R&D and production of innovative anti-viral drugs

During the COVID-19 epidemic, Asymchem has actively applied the flow and continuous technology in the R&D and production of two innovative micro-molecule anti-viral drugs.
Project I: It reduced the key steps from 4 to 1 via application of flow and continuous reaction, and realized expanded production of molecules from g-level to tonnage-level in 6 months, having reduced the production cost greatly while shortening the clinical R&D time significantly.
Project II: The Company substituted traditional liquid-nitrogen batch low-temperature reaction with flow and continuous low-temperature reaction technique in a critical process, having solved many technological problems rapidly, and completed the customers' RSM process optimization requirements to tonnage-level API verification & production in merely 8 months, and assisted with the customers in completing development to approval for marketing of drugs within 18 months. This project has highlighted the Company's leading global competitive advantages in flow and continuous technology, and was a heavyweight event in the history of CDMO industry, as well as an important contribution of the Company to the global public health via its technical capacities and platform systems.




Production scale expanded from g-level to tonnage level in 6 months

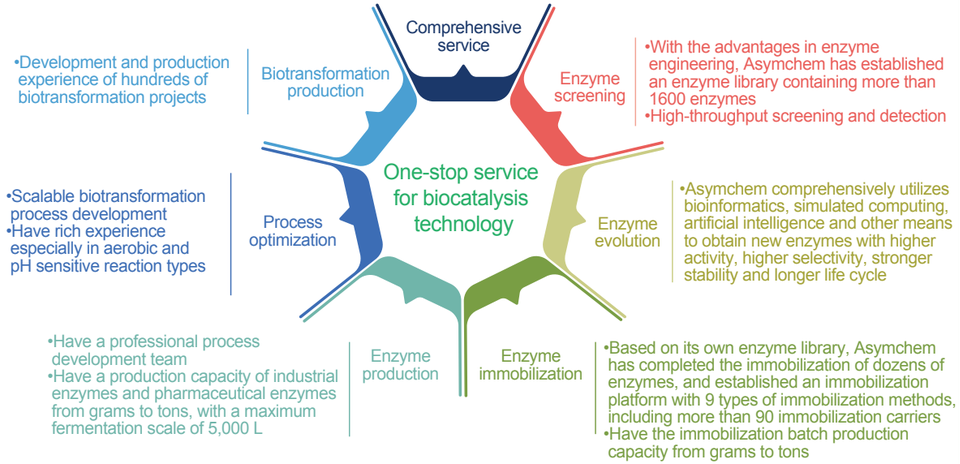

Production steps reduced from 4 to 1

Production time
Cost of raw materials



Bio-enzyme Catalysis Technology

Asymchem makes constant exploration in bio-enzyme transformation field, and increases input and research & development strength in the field year by year. It has successfully used its independently developed enzyme for customized production, established six technology platforms, and substituted traditional chemical transformation with enzyme catalysis technology by combining the biotechnology, fermentation technology and process development technology, thus lowering the cost and reducing negative impact on the environment.



Picture note: Six technology platforms for realizing one-stop service for biocatalysis technology

Electrochemical Synthesis Technology

Organic electrochemical synthesis technology has greatly improved environmental friendliness of the synthesis reaction by virtue of its characteristics such as less pollution (even no pollution), high product yield and purity, short process and mild reaction conditions, etc. With electrons as oxidation reductants, it produced no wastes, and also played a very positive significance in saving energy and reducing use of auxiliary materials, etc.
Asymchem has been long devoted to development and commercial application of core technology and process of green pharmaceuticals in electrochemistry filed. In 2021, Asymchem published paper in JACS together with PhilS. Baran Research Group of the Scripps Research Institute and Minteer Professor's Research Group of University of Utah, and has developed electrochemistry-driven reduction coupling reaction method for inactive ketones and olefin for the first time. This process had a wide application scope of substrate, was easy to scale-up, merely used simple undivided cell, had a strong tolerance to air and water content, and could solve a series of bottlenecks encountered in classical reaction successfully, besides, it was easy to operate, and had a very broad application prospect and value, thus becoming another important break-through progress in the field of electrochemical synthesis.

Green Production

In accordance with file requirements of environmental management system, Asymchem has formulated *Sewage Station Operation Management, Operating and Management of Online Monitoring System for Water Pollution Sources, Environmental Protection Monitoring Management* and other procedures, has been fully implementing the requirements of "three-simultaneous", and has been ensuring the normal operation of the environmental protection facilities and up-to-standard emission of various pollutants. By means of monitoring and audit, etc., it has been keeping on improving the environmental management level, and ensuring that the company's construction, production and operation processes conform to the requirements of relevant environmental regulations, and trying to reduce environmental pollution as much as possible.

Energy Management and Response to Climate Change

Energies consumed by Asymchem included raw coal, diesel, natural gas, steam gas, electricity, hot water heating and so on, where, electricity was the main energy of consumption, and by means of replacing old equipment with new ones, improving process and making scientific use of energies, the Company continued to reduce energy consumption and improve the energy efficiency. In order to reduce energy consumption, Tianjin Asymchem Pharmaceuticals Co., Ltd. replaced all street lamps in the plant with solar ones. In addition, Jilin Asymchem Laboratories Co., Ltd. transformed the equipment in the plant, and replaced some conventional reaction equipment with flow and continuous reaction equipment, which has reduced the energy consumption, improved the reaction transformation rate, and reduced production of three wastes as well.

Table note: Main energy consumption

No.	Indicator	Unit	2021年
1	Natural gas	m^3	4,199,118
2	Steam	ton	70,711
3	Purchased heat	GJ	30,431
4	Raw coal	ton	12,784
5	Diesel	L	145,668
6	Purchased electricity	kWh	135,437,210

Note: (1) The data of "raw coal" and "diesel" in 2019 and 2020 cannot be counted.

During the production and operation process, the Company's main gas emissions included volatile organic compounds (VOCs), nitrogen oxides, sulfur oxides, etc. By establishing *Tail Gas Equipment (Environmental Protection) Operation Management procedures and Operation and Management of Online Monitoring System of Air Pollution Sources* procedures, the company guaranteed effective operation management of environmental protection tail gas facilities, and made regular testing of the exhaust emission condition, so as to guarantee that the exhaust emission conformed to standards, besides, it made the monitoring information to the public regularly, to accept supervision by the regulatory authority and the public; it input capital and resources, and introduced clean production technology and efficient exhaust governance technology, to further reduce exhaust emission and decrease impact on the atmospheric environment.

Table Note: Emissions of main gas pollutants

No.	Indicator	Unit	2021年
1	Nitrogen oxide	kg	26,198.50
2	Nitrogen oxide emission intensity	kg/10,000 yuan	0.057
3	Sulfur oxide	kg	1,1002.30
4	Sulfur oxide emission intensity	kg/10,000 yuan	0.024
5	VOC emissions	kg	39,020.37
6	VOC emission intensity	kg/10,000 yuan	0.084

Note: (1) The emission intensity reflects the emission of gas pollutants per 10,000 yuan of output value, and a smaller emission of gas pollutants per unit of output value represents a lower emission of gas pollutants. (2) Asymchem's annual revenue data (in 10,000 yuan) come from the H-share Annual Performance Announcement 2021 and the disclosed global offering prospectus. (3) The data only includes the factories of Asymchem and its main domestic branches and subsidiaries, and the nitrogen oxides and sulfur oxides mainly came from the self-built incinerator and RTO treatment device in the factory.

Table note: Greenhouse gas emissions

No.	Indicator	Unit	2021年
1	Direct emissions (category 1)	Tons of carbon dioxide equivalent	9,104.36
2	Indirect emissions (category 2)		101,572.18
3	Total greenhouse gas emissions		110,676.54
4	Greenhouse gas emission intensity	Tons of carbon dioxide equivalent / 10,000 yuan of revenue	0.24

Note: (1) Direct emissions (category 1) refer to the greenhouse gas emissions generated by the combustion of fossil energy (e.g. coal, natural gas, and oil), and industrial production processes, etc.; (2) Indirect energy emissions (category 2) refer to the greenhouse gas emissions caused by outsourced electricity and heat; (3) The calculation is checked according to the Environmental, Social, Governance Reporting Guidelines of Hong Kong Stock Exchange and the Guidelines for Accounting Method and Reporting of Greenhouse Gas Emission from Enterprises of Other Industrial Sectors issued by the National Development and Reform Commission. (4) Asymchem's annual revenue data (in 10,000 yuan) come from the H-share Annual Performance Announcement 2021 and the disclosed global offering prospectus.

Case: New exhaust gas treatment facilities in Plant No. 6 of Jilin Asymchem

Jilin Asymchem built a new Plant No. 6 to be used for research, development and production of medical intermediates and new-drug APIs, and it was put into production in July 2021. The project had an investment of RMB 5.30 million to construct two sets of pretreatment + activated-carbon adsorption-desorption facilities in order to treat the VOCs waste gas generated in the processes. The recycling of activated carbon materials greatly reduces the amount of hazardous waste generated. The installation and operation of the two sets of waste gas treatment devices can ensure that the factors including inter alia VOCs and non-methane hydrocarbon (NMHC) meet the requirements of GB37823-2019 *Emission Standard of Air Pollutants for Pharmaceutical Industry*.



Picture note: Panorama of activated-carbon adsorption device

Climate change caused by greenhouse gas emissions has posed a threat and challenge to the survival of mankind, and it is important to tackle climate change by taking measures to reduce greenhouse gas emissions. Greenhouse gases emitted from Asymchem's production and operation mainly came from burning of raw coal, natural gas, and gasoline and diesel oil directly, and from outsourced electricity, hot water heating, etc. indirectly, therefore, reducing energy consumption was the main method to reduce its greenhouse gas emissions. For this purpose, the company set its goals, and carried out actions by improving energy efficiency and reducing energy consumption, expecting to realize "carbon neutralization and carbon peak", so as to make contributions to tackling global climate change.

Commitment to tackling climate change 》

- Asymchem will constantly improve energy efficiency, reduce energy consumption intensity, and actively carry out climate actions, and be devoted to realizing "carbon peak" of the enterprise before 2030, and realizing "carbon neutralization" before 2060.

In order to achieve climate change goals, we will take the following measures actively 》

- Improve utilization efficiency of existing energies by means of technical improvement, process innovation, equipment updating and upgrading, etc.
- Increase utilization proportion of clean energies, and optimize the company's energy structure to be clean and green-oriented.

Use of Water Resource

The water resources used by the Company for production and operation mainly come from municipal tap water. A cost accounting mechanism is established for water consumption, the consumption is recorded and analyzed on a monthly basis, and water-saving control measures are taken. In addition, by means of advising the employees and posting water-saving slogan, etc., the company tries to enhance the employees' consciousness of water-saving, and assist construction of a resource-conserving society.

Objectives of water intake and use and wastewater discharge 》

- Asymchem will make upgrading and transformation of the existing sewage disposal facilities, increase investment in upgrading, update the sewage disposal facilities, and realize cyclic utilization of water resources, so as to continuously reduce the consumption intensity of water resources and wastewater discharge intensity.

Table Note: Water Consumption

No.	Indicator	Unit	2021年
1	Water resource consumption	ton	1,219,691
2	Water resource consumption intensity	tons/10,000 yuan of revenue	2.63
3	Water resource efficiency	10,000 yuan of revenue /ton	0.38

Note: (1) The water resource consumption intensity reflects the water resource consumed per 10,000 yuan of output value, and a lower water resource consumption per unit of output value represents a lower water resource consumption intensity. (2) The water resource efficiency reflects the revenue generated per ton of water resource, and a larger output value per unit of water resource represents a higher water resource efficiency. (3) Asymchem's annual revenue data (in 10,000 yuan) come from the H-share Annual Performance Announcement 2021 and the disclosed global offering prospectus. (4) The data only includes the factories of Asymchem and its main domestic branches and subsidiaries.

Wastewater Discharge Management

Asymchem's wastewater discharge management mainly includes domestic wastewater, R&D and production wastewater, and circulating cooling water. In order to ensure the discharged wastewater meets the standard, the Company has formulated the wastewater management-relevant procedures for the whole company, which specifies the requirements for the classified collection and disposal of wastewater. Asymchem's production bases with a daily wastewater discharge of more than 100 tons have installed wastewater online monitoring systems, and the discharge data is shared with the local environmental protection management department. In addition, in order to reduce the pressure of terminal disposal, the Company collects high-concentration wastewater generated during production and R&D processes separately and dispose it as hazardous waste. For the wastewater entering the wastewater treatment plant, we have entrusted a professional agency to formulate appropriate treatment processes and corresponding operating procedures. At present, we have achieved the daily monitoring of wastewater treatment operation data indicators, and we can adjust the operating parameters timely according to the monitoring data to maintain the stable operation of the wastewater treatment plant; the equipment and facilities of the wastewater treatment plant are regularly maintained by professional departments to ensure the normal operation of the wastewater treatment facilities.

Table note: Main wastewater discharge

No.	Indicator	Unit	2021年
1	Total wastewater discharge	m^3	679,636.16
2	Wastewater discharge intensity	m^3/10,000 yuan of revenue	1.467
3	Chemical oxygen demand (COD)	kg	62,237.20
4	Chemical oxygen demand (COD) emission intensity	kg/10,000 yuan of revenue	0.134
5	Ammonia nitrogen	kg	3,690.68
6	Ammonia nitrogen emission intensity	kg/10,000 yuan of revenue	0.008
7	pH value	-	6-9

Note: (1) The emission intensity reflects the emission of pollutants generated per 10,000 yuan of output value, and a smaller emission of pollutants per unit of output value represents a lower consumption intensity. (2) Asymchem's annual revenue data (in 10,000 yuan) come from the H-share Annual Performance Announcement 2021 and the disclosed global offering prospectus. (3) The data only includes the factories of Asymchem and its main domestic branches and subsidiaries.

Case: Jilin Asymchem wastewater treatment project

Jilin Asymchem built a new wastewater treatment project in June 2021, with an investment of 9.78 million yuan, which can effectively meet the needs of wastewater treatment brought by the newly-increased production capacity. After the wastewater is treated, the effluent quality meets the requirements in the *Enterprise Wastewater Discharge Access Agreement* of the Dunhua City. The daily wastewater treatment capacity is 600m^3/d.



Legend: panorama of wastewater treatment equipment

Waste Management

Asymchem's solid waste is divided into domestic waste, general industrial solid wastes, hazardous wastes (including solid hazardous waste and liquid hazardous waste) and construction waste, which are under classified management. By establishing the responsibility system for the prevention and control of environmental pollution by industrial solid wastes, and formulating the *Solid Waste Management Procedures and the Hazardous Waste Management* and other Procedures, which specify the operating procedures for the production, collection, storage, disposal and other processes of solid wastes, and by making supervision and control of the whole process, the Company tried to avoid the pollution of solid wastes to the environment. In 2021, Asymchem built two waste liquid incinerators in the factory area to convert hazardous substances into harmless substances through high temperature, which not only reduced the impact on the environment, but also realized the recycling and utilization of solid wastes and improved the resources utilization rate.

Waste discharge objectives 》

Asymchem will make additional investment to standardize the collection, storage and disposal of various types of wastes, add incinerators and other treatment devices, maximize the recycling rate of wastes, and reduce the waste emission intensity.

Measures for Management of Wastes

- The domestic wastes will be cleaned up by the sanitation department on a regular basis after collection.
- Hazardous wastes will be collected and transported to the temporary storage site of hazardous wastes by special personnel, and then handed over to the organization qualified for hazardous waste disposal for compliant disposal.
- General industrial solid wastes are stored in the designated location of the factory area, and are disposed by local qualified organization.

Table note: Waste discharge

No.	Indicator	Unit	2021年
1	Total amount of general solid wastes	ton	4,694.27
2	Total amount of general solid wastes recycled	ton	41.01
3	Total amount of hazardous wastes	ton	46,748.14
4	Total amount of hazardous waste recycled	ton	2,326.63

Note: (1) The data only includes the factories of Asymchem and its main domestic branches and subsidiaries.

Case: Asymchem's Waste Liquid Incinerator

Asymchem built two parallel waste liquid incinerators in the factory area with total investment of 79.576 million yuan, which can destroy the molecular structure of various hazardous substances through controllable high-temperature chemical reactions, and oxidize the waste liquid into harmless small molecular gaseous substances and water, thus achieving the purpose of environmental discharge, and greatly reducing the treatment cost of hazardous wastes. In addition, the high-temperature flue gas from the waste liquid incinerator outlet enters the waste heat boiler which is used to recover the heat in the high-temperature flue gas, and produce saturated steam, which was then reused in the production, thus having greatly reduced consumption of fossil energy resources while making harmless disposal of hazardous wastes; the flue gas from the waste heat boiler outlet enters the quenching tower, and is sprayed by process water, so that the flue gas temperature drops sharply from 500℃ to below 200℃ within 1 second, thus preventing the production of dioxins and reducing environmental pollution.



Picture note: panorama of waste liquid incinerator

Green Packaging Materials

In the product research and development, manufacturing, and transportation processes, the packaging materials used directly or indirectly by Asymchem can be divided into glass, paper, rubber, plastic, and metal categories. Asymchem tries its best to use the packaging with minimal resource consumption on the premise of meeting the requirements, so as to reduce the use of packaging materials and prevent excessive packaging. In addition, the Company mainly uses degradable materials in packaging materials, and encourages lower-carbon and more sustainable raw materials and production methods to jointly practice sustainable development.

Green Operation

Asymchem's realization of "green operation" is an inevitable requirement for implementing the green development concept and a vivid practice of socialist ecological civilization construction. The Company vigorously advocates green office, and strengthens energy conservation and environmental protection publicity and training, so as to manage, guide and encourage the employees to actively carry out environmental protection actions.

Green office measures

- Use lamps with high energy efficiency, such as LED lamp
- Post water and electricity conservation slogans on areas with switches, faucets, etc.
- Timely turn off air conditioners, computers, printers and other equipment to reduce power consumption
- Provide complete garbage sorting facilities and equipment, and strengthen publicity and guidance
- Run the online OA paperless office process to reduce the use of paper
- Encourage the use of video conferencing, develop online training system for use by various departments, and reduce the travel frequency



06 Social Cooperation

Industrial Exchange

Cooperation within the industry



Picture note: Project Excellence Award

Asymchem actively built a platform for common development with companies in the industry, and hosted a green chemistry symposium to promote the green and sustainable development of the global pharmaceutical industry. During the meeting, special academic discussions were conducted on green pharmaceutical technology, cooperation opportunities and approaches for Chinese innovative drugs, and other hot issues, which brought the latest concepts from the international frontier of academia. In addition, Asymchem is also a member of China Medical Equipment Engineering Association and China Chemical Safety Association, enhancing the Company's cohesion and core competitiveness can also promote win-win cooperation among members.

Case: We are awarded the honor of "Outstanding Partner"



Picture note: Honor of "Outstanding Partner"

Asymchem has been always adhering to the customer-centric concept, and helping customers to improve R&D efficiency, reduce production costs, and continuously create long-term value. Since 2012, the Company has cooperated with Hutchison Pharmaceuticals for nearly ten years. By the end of 2021, the Company has provided comprehensive services for seven Class 1 new drugs of Hutchison Pharmaceuticals with its leading technical advantages and excellent team management. This time, the Company provided services from clinical research to commercialization for multiple projects such as Sulanda® (Surufatinib), worked closely to complete the NMPA dynamic verification, and supported the obtaining of marketing approval. Asymchem and Hutchison Pharmaceuticals work hand in hand to jointly achieve significant results of new drug development.

Case: The symposium on the innovative development of nucleic acid drugs and the localization of core technologies was successfully held



Picture note: The symposium on the innovative development of nucleic acid drugs and the localization of core technologies

On December 4, 2021, the "Symposium on the Innovative Development of Nucleic Acid Drugs and the Localization of Core Technologies" sponsored by the China Society for Drug Regulation and undertaken by Asymchem was successfully held in Beijing. The meeting was held both online and offline to jointly discuss the innovative development trend of nucleic acid drugs, as well as the localization of core technologies including key equipment. The outbreak and repeated ravages of COVID-19 have stimulated the innovation enthusiasm of the industry. Among them, the development of nucleic acid drugs and the industrial chain is crucial and has attracted continuous attention. As a world's leading CDMO company, Asymchem has prospectively made arrangements in the service fields of peptides, oligonucleotides and peptide-drug conjugates, continuously built and improved the small nucleic acid business platform, and learnt from the "BOT" model to realize the "warm start" of small nucleic acid CDMO business. Relying on the technical advantages and rich experience accumulated in the early stage, the Company made great effort on the design and manufacture of oligonucleotide synthesizer, and independently developed oligonucleotide synthesizer that meet the needs of the industry chain. At the meeting, Asymchem mainly introduced the self-made oligonucleotide synthesizer that meets the needs of the industrial chain, which could help the relevant domestic enterprises to break through the production bottleneck of oligonucleotide drugs, CpG vaccine adjuvants and other related products with high efficiency and low cost, get rid of the predicament of long equipment supply cycle, high price and difficult maintenance, and realize the overall cost reduction and efficiency increase of the domestic oligonucleotide drug industry, so as to accelerate the commercial application process of synthesizers, promote the production of nucleic acid drugs and CpG vaccine adjuvants, drive new economic growth points of the medical equipment manufacturing, and achieve good economic and social benefits.

University-enterprise cooperation

Asymchem has always paid attention to industry-university-research cooperation, actively established various forms of cooperative relations with colleges and universities and scientific research institutes, and carried out multi-level academic exchange and talent exchange activities. By the end of 2021, the Company has established a close cooperation mechanism with the Chinese Academy of Sciences, West China School of Pharmacy of Sichuan University, Nankai University, and Tianjin International Joint Academy of Biomedicine, which has profound significance in strengthening industry-university-research cooperation and promoting innovation and development.

Case: cooperate with university to train elite talents



Picture note: Proposal report meeting on the joint training of postdoctoral fellows between Asymchem and Nankai University

In July 2021, the opening ceremony of the postdoctoral workstation and the proposal report meeting on the joint training of postdoctoral fellows between Asymchem and Nankai University were successfully held. The three outstanding doctoral talents of the Company made reports on the research results of electrochemistry and photochemistry respectively, and received detailed comments from the doctoral advisors of Nankai University and the Company and the experts of the review group, who also put forward higher requirements for innovation and optimization for each research topic, resulting in discussions on more efficient and more advantageous R&D directions. This meeting established an industry-university-research cooperation model through topics, built a bridge for communication and discussion, and further promoted the integration of academic circles and industrial circles.

Gratitude to Society

Asymchem has always believed that social welfare undertakings are not only the Company's obligatory social responsibility, but also the need for the long-term development of the Company. The Company insists on the continuous development of public welfare undertakings, strives to fulfill social responsibilities, and opens the "door" for social welfare undertakings. The Company has established the "Teda-Asymchem Scholarship" in colleges and universities to enthusiastically support the study and research of college students, and express the concern, encouragement, and stimulation of the enterprise for the growth of young students.

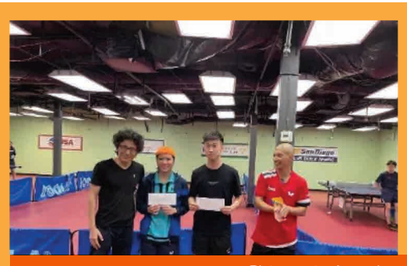
Case: Assist in the construction of youth activity positions



Picture note: Community donation activities

Asymchem donated goods and materials worth 100,000 yuan to Shiyou Xincun Community, Dagu Subdistrict, Binhai New Area, Tianjin for the construction of youth activity positions, including woodcraft utensils, technological utensils, handicraft utensils, and handicraft products. The Company uses practical actions to light up the hope of love, help young people to thrive, convey love with warmth, and let love accompany people all the way.

Case: Asymchem Cup Table Tennis Open was held in San Diego





Picture note: Asymchem Cup Table Tennis Open

On August 13-15, 2021, the Asymchem Cup (AfterSchoolLearningTree) Table Tennis Open was held in San Diego. Although the competition is an amateur competition mainly held by overseas Chinese associations, there are many table tennis enthusiasts and high-level players participating in the competition, which can be described as a gathering of masters. This table tennis open not only provides table tennis enthusiasts with the opportunity to learn from each other, but also strengthens the domestic and overseas cultural exchanges.

In 2021, Asymchem fully demonstrated its role in the process of rural revitalization, gave full play to its own advantages, took the initiative to undertake social responsibilities, and made own contributions to poverty alleviation and rural revitalization. The Company won the "Special Social Responsibility Award" and "Outstanding Contribution Award" in 2021.



Picture note: Special Social Responsibility Award



Outstanding Contribution Award

2021 Public Welfare Assistance

yuan
290,000

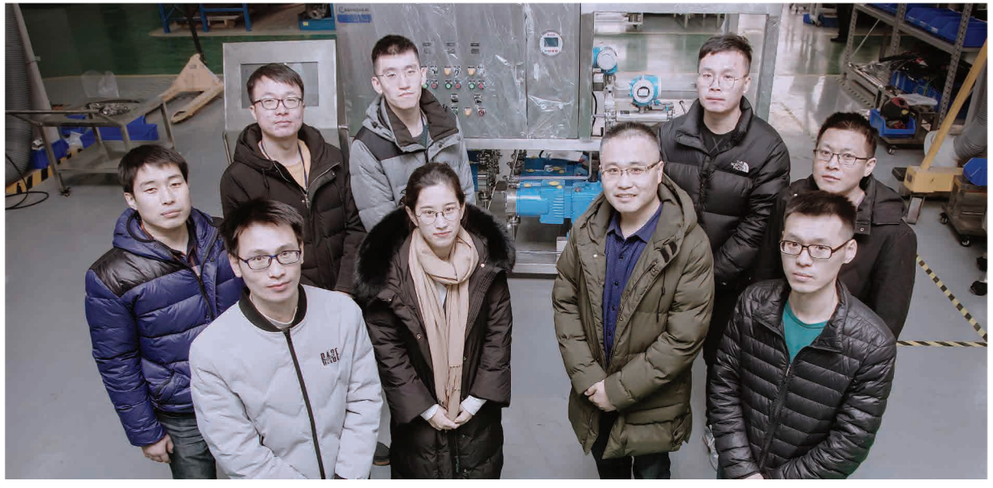
Asymchem donated a total of 290,000 yuan to the Red Cross Society of Tianjin Binhai New Area

yuan
350,000

Asymchem donated 350,000 yuan to the Red Cross Society of Linquan County for the construction of the party-masses service center and the village clinic

yuan
100,000

Asymchem donated 100,000 yuan to the Red Cross Society of Linquan County for the decoration of the Hope Building of Hope School



Appendix I: Key Performance Table

Economic performance

No.	Indicator	Unit	2019	2020	2021
1	Operating revenue	1,000 yuan	2,445,849	3,136,724	4,632,121
2	Net profit	1,000 yuan	551,589	719,703	1,069,256
3	Total assets	1,000 yuan	3,788,053	7,182,650	15,156,297
4	Number of R&D technical personnel	Person	1,838	2,607	3,381
5	Proportion of R&D technical personnel	%	47.86%	47.60%	47.45%
6	Total R&D investment	1,000 yuan	192,522	258,934	387,478

Social performance

Indicator			Unit	2019	2020	2021
Employee employment	Total number of employees		Person	3,840	5,477	7,126
	By gender	Male employees	Person	2,739	3,861	5,037
		Female employees	Person	1,101	1,616	2,089
	By age	51 years old and above	Person	76	101	87
		41-50 years old	Person	317	357	418
		31-40 years old	Person	1,481	1,906	2,307
		30 years old and below	Person	1,966	3,113	4,314
	By education	Postgraduate (master & doctor)	Person	754	1,063	1,325
		Bachelor degree	Person	1,941	2,791	3,751
		Below bachelor degree	Person	1,145	1,623	2,050
	By employee type	Total number of grass-roots management and employees	Person	3,537	5,107	6,740
		Total number of middle management employees	Person	229	283	301
		Number of female employees in middle management	Person	60	90	95
		Total number of senior management employees	Person	74	87	85
		Number of female employees in senior management	Person	15	19	18
	Social insurance coverage		%	100	100	100
	Number and rate of work-related deaths		%	0	0	0
	Number of workdays lost due to work-related injury		Day	-	-	605

Indicator			Unit	2019	2020	2021
Employee turnover	Total number of employees leaving office		Person	679	927	1186
	Employee turnover rate		%	15	14.5	14
	By gender	Male employees	Person	553	784	875
		Female employees	Person	126	143	311
	By age	51 years old and above	Person	6	7	9
		41-50 years old	Person	49	39	42
		31-40 years old	Person	321	266	323
		30 years old and below	Person	303	615	812
	By region	Number of employees leaving office in Chinese mainland	Person	673	919	1,178
		Number of employees leaving office in other countries and regions	Person	6	8	8
Employee training	Total number of employees trained		Person	3,840	5,477	7,126
	Total training hours of employees		Hour	252,288	453,222	620,432
	Average training hours of employees		Hour	66	83	87
	By gender	Total training hours of male employees	Hour	179,952	319,498	438,551
		Total training hours of female employees	Hour	72,336	133,724	181,881
	By employee type	Total training hours of grass-roots employees	Hour	71,350	101,865	145,667
		Total training hours of middle management employees	Hour	15,045	23,418	26,207
		Total training hours of senior management employees	Hour	4,862	7,199	7,401
Supply chain management	Total number of suppliers		Supplier	2749	3324	3981
	Total number of new suppliers		Supplier	391	419	797
	By region	Suppliers from Chinese mainland	Supplier	2601	3143	3769
		Suppliers from Hong Kong, Macau and Taiwan and overseas suppliers	Supplier	148	181	212
	Percentage of suppliers who sign the code of conduct for suppliers (some suppliers, such as Shenzhen Stock Exchange, CSDC, Tax Bureau and other regulatory authorities, do not sign the Sunshine Purchase Agreement)		%	100	100	100
	Percentage of purchasers passing internal sustainable purchase training of the Company		%	100	100	100
Product quality and service	Number of complaints regarding product and service		Case	—	—	0
	Number of product recalls		Case	—	—	0
	Handling rate of customer complaints		%	—	—	100
	Customer satisfaction		Score	—	—	90
Anti-corruption	Number of anti-corruption lawsuits		Case	—	—	0
	Average anti-corruption training hours		Case	1	1	1.5
	Signing rate of Integrity, Self-discipline, Anti-corruption and Anti-bribery Commitment Letter		%	100	100	100
	Signing rate of Asymchem Employee Integrity and Self-discipline Agreement		%	100	100	100
Social welfare	Number of persons participating in voluntary activities		Person	76 person-time	143 person-time	217 person-time
	Expenditure for public welfare		10,000 yuan	5.84	220.90	79.7

Environmental performance

Table note: Main energy consumption

No.	Indicator	Unit	2021
1	Natural gas	m^3	4,199,118
2	Steam	ton	70,711
3	Purchased heat	GJ	30,431
4	Raw coal	ton	12,784
5	Diesel	L	145,668
6	Purchased electricity	kWh	135,437,210

Note: (1) The data only includes the factories of Asymchem and its main domestic branches and subsidiaries.

Table Note: Emissions of main gas pollutants

No.	Indicator	Unit	2021
1	Nitrogen oxide	kg	26,198.50
2	Nitrogen oxide emission intensity	kg/10,000 yuan	0.057
3	Sulfur oxide	kg	1,1002.30
4	Sulfur oxide emission intensity	kg/10,000 yuan	0.024
5	VOC emissions	kg	39,020.37
6	VOC emission intensity	kg/10,000 yuan	0.084

Note: (1) The emission intensity reflects the emission of gas pollutants per 10,000 yuan of output value, and a smaller emission of gas pollutants per unit of output value represents a lower emission of gas pollutants. (2) Asymchem's annual revenue data (in 10,000 yuan) come from the H-share Annual Performance Announcement 2021 and the disclosed global offering prospectus. (3) The data only includes the factories of Asymchem and its main domestic branches and subsidiaries, and the nitrogen oxides and sulfur oxides mainly came from the self-built incinerator and RTO treatment device in the factory.

Table note: Greenhouse gas emissions

No.	Indicator	Unit	2021
1	Direct emissions (category 1)	Tons of carbon dioxide equivalent	9,104.36
2	Indirect emissions (category 2)		101,572.18
3	Total greenhouse gas emissions		110,676.54
4	Greenhouse gas emission intensity	Tons of carbon dioxide equivalent / 10,000 yuan of revenue	0.24

Note: (1) Direct emissions (category 1) refer to the greenhouse gas emissions generated by the combustion of fossil energy (e.g. coal, natural gas, and oil), and industrial production processes, etc.; (2) Indirect energy emissions (category 2) refer to the greenhouse gas emissions caused by outsourced electricity and heat; (3) The calculation is checked according to the Environmental, Social, Governance Reporting Guidelines of Hong Kong Stock Exchange and the Guidelines for Accounting Method and Reporting of Greenhouse Gas Emission from Enterprises of Other Industrial Sectors issued by the National Development and Reform Commission. (4) Asymchem's annual revenue data (in 10,000 yuan) come from the H-share Annual Performance Announcement 2021 and the disclosed global offering prospectus.

Water resources

Table Note: Water Consumption

No.	Indicator	Unit	2021
1	Water resource consumption	ton	1,219,691
2	Water resource consumption intensity	tons/10,000 yuan of revenue	2.63
3	Water resource efficiency	10,000 yuan of revenue /ton	0.38

Note: (1) The water resource consumption intensity reflects the water resource consumed per 10,000 yuan of output value, and a lower water resource consumption per unit of output value represents a lower water resource consumption intensity. (2) The water resource efficiency reflects the revenue generated per ton of water resource, and a larger output value per unit of water resource represents a higher water resource efficiency. (3) Asymchem's annual revenue data (in 10,000 yuan) come from the H-share Annual Performance Announcement 2021 and the disclosed global offering prospectus. (4) The data only includes the factories of Asymchem and its main domestic branches and subsidiaries.

Table note: Main wastewater discharge

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1	Total wastewater discharge	m^3	679,636.16
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5	Ammonia nitrogen	kg	3,690.68
6	Ammonia nitrogen emission intensity	kg/10,000 yuan of revenue	0.008
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Table note: Waste discharge

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2	Total amount of general solid wastes recycled	ton	41.01
3	Total amount of hazardous wastes	ton	46,748.14
4	Total amount of hazardous waste recycled	ton	2,326.63

Note: (1) The data only includes the factories of Asymchem and its main domestic branches and subsidiaries.

Appendix II: Index of HKEx Indicators

Indicator content			Relevant sections
A. Environmental category			
A1: Emissions			
General disclosure		(a) Policies regarding waste gas and greenhouse gas emissions, pollution discharge to water and land, generation of hazardous and non-hazardous wastes; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer	5.1 Environmental protection
A1.1		Types of emissions and related data.	5.3.1 Green production Appendix I: Gas pollutant emissions protection
A1.2		Total greenhouse gas emissions and intensity.	5.3.1 Green production Appendix I: Greenhouse gas emissions
A1.3		Total amount and density of hazardous wastes generated.	5.3.1 Green production Appendix I: Waste discharge
A1.4		Total amount and density of non-hazardous wastes generated.	5.3.1 Green production Appendix I: Waste discharge
A1.5		Describe the measures taken to reduce emissions and the results achieved.	5.3.1 Green production
A1.6		Describe the methods to treat hazardous and non-hazardous wastes, the measures to reduce the production and the results achieved.	5.3.1 Green production
A2: Resource Use	General disclosure	Policies regarding the effective use of resources (including energy, water, and other raw materials).	5.3 Green production
	A2.1	Total consumption and density of direct and/or indirect energy (e.g. electricity, gas or oil) by type.	5.2 Green production Appendix I: Energy
	A2.2	Total water consumption and density.	5.2 Green production Appendix I: Water resource
	A2.3	Describe the energy use efficiency plan and the results achieved.	5.2 Green production
	A2.4	Describe any problem that may arise in obtaining suitable water sources, as well as plans to improve water use efficiency and the results achieved.	5.2 Green production
	A2.5	The total volume of packaging materials used in the finished product and the volume per production unit.	5.4 Green packaging material
A3: Environment and natural resources	General disclosure	Policies to reduce the significant impact of the issuer on the environment and natural resources.natural resources.	5.1 Environmental management
	A3.1	Describe the significant impacts of business activities on the environment and natural resources and the actions taken to manage the relevant impacts.	5.1 Environmental management 5.4 Green operation
B. Social category			
B1: Employment	General disclosure	(a) Policy regarding salary and dismissal, recruitment and promotion, working hours, vacation, equal opportunity, diversity, anti-discrimination and other treatment and benefits; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer.	4.1 Employee employment
	B1.1	Total number of employees by gender, employment type, age group and region.	4.1 Employee employment Appendix I: Employee employment
	B1.2	Employee turnover rate by gender, age group and region.	4.1.3 Employee turnover Appendix I: Employee turnover
B2: Health and safety	General disclosure	(a) Policy regarding providing a safe working environment and protecting employees from occupational hazards; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer.	4.4 Health and safety
	B2.1	Number and rate of work-related deaths.	4.4 Health and safety Appendix I: Employee employment
	B2.2	Number of workdays lost due to work-related injury.	4.4 Health and safety Appendix I: Employee employment
	B2.3	Describe the occupational health and safety measures adopted, and the relevant execution and monitoring methods.	4.4 Health and safety
B3: Development and training	General disclosure	Policies regarding improving employees' knowledge and skills to perform their job responsibilities. Describe the training activities.	4.3 Talent cultivation
	B3.1	Percentage of employees trained by gender and employee category (e.g. senior management, middle management).	4.3.2 Training system Appendix I: Employee training
	B3.2	Average number of training hours completed by each employee by gender and employee category.	4.3.2 Training system
B4: Labor Code	General disclosure	(a) Policy regarding prevention of child labor or forced labor; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer.	4.1 Employee employment
	B4.1	Describe measures to review recruitment practices to avoid child labor and forced labor.	4.1.1 Equal employment
	B4.2	Describe the steps taken to eliminate a violation when it is found.	4.1.1 Equal employment 4.1.2 Democratic management
B5: Supply chain management	General disclosure	Policy regarding the management of environmental and social risks in the supply chain.	3.4 Supply chain management
	B5.1	Number of suppliers by region.	3.4 Supply chain management Appendix I: Supply chain management
	B5.2	Describe the practices regarding the employment of suppliers, the number of suppliers to whom the practices are implemented, and the methods to execute and monitor the practices.	3.4 Supply chain management Appendix I: Supply chain management
B6: Product responsibility	General disclosure	(a) Policy regarding health and safety, advertisement, label and privacy matters and remedies for products and services provided; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer.	3. Product safety and quality
	B6.1	The percentage of products to be recalled for safety and health reasons in all products sold or shipped.	3.1. Full life cycle quality management Appendix I: Product quality and safety
	B6.2	Number of complaints received about products and services and the countermeasures.	3.2.2 Customer complaints handling mechanism Appendix I: Product quality and safety
	B6.3	Describe practices related to protection of intellectual property right.	2.4 Intellectual property right protection Appendix I: Product quality and safety
	B6.4	Describe the quality verification process and product recall procedures.	3.1. Full life cycle quality management
	B6.5	Describe consumer data protection and privacy policies, and the relevant execution and monitoring methods.	2.5 Information protection and privacy
B7: Anti-corruption	General disclosure	(a) Policy regarding prevention of bribery, extortion, fraud and money laundering; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer.	2.3 Anti-corruption Appendix I: Anti-corruption
	B7.1	The number of corruption lawsuits brought against the issuer or its employees and concluded during the reporting period, and the lawsuit outcomes.	2.3 Anti-corruption
	B7.2	Describe preventive measures and whistle-blowing procedures, and the relevant execution and monitoring methods.	2.3.2 Signing of Integrity Agreement
B8: Community investment	General disclosure	Policies regarding understanding the needs of the communities where we operate by community participation and ensuring that our business activities will consider the community interests.	6 Social cooperation
	B8.1	Main contribution category (e.g. education, environmental matters, labor needs, health, culture, sports).	6.2 Gratitude to society Appendix I: Community welfare 6.3 Medical assistance
	B8.2	The resources used in the main contribution category.	6.2 Gratitude to society

Appendix III: Index of GRI and CASS Indicators

Contents		GRI Standards	CASS-4.0
About This Report		GRI101	P1
Chairman's Message		GRI102	P2
Honors in 2021		GRI203	P2
Development Course		GRI102	G2
Get to Know Asymchem	Company Introduction	GRI102	P4.3
	Company Organizational Structure	GRI102	P4.2
	Company Culture	GRI102	P4.1
	Business Layout	GRI102	P4.2/P4.3
ESG Governance	ESG Management Architecture	GRI102	G4.1
	ESG Management Activities	GRI102	G4.2
	Analysis of Substantial Topics	GRI102	G2.1
	Involvement of Interested Parties	GRI102	G6.1/G6.2
Company Governance	Three-committee Operation and Information Management	GRI102/GRI103	M1.1/M1.2/M1.4
	Risk Control	GRI102	M1.1/M1.8
	Anti-corruption	GRI103/GRI205	M1.3
	Intellectual Property Right Management	GRI102	
	Information Protection and Privacy Security	GRI103/GRI418	M2.13
Product Safety and Quality	Full Life Cycle Quality Management	GRI416	M2.1/M2.2/M2.3
	Service Guarantee	GRI103/	M2.14/M2.15/M2.18
	Research & development innovation		M2.4
	Supply chain management	GRI308/GRI414	M3.10/M3.11/M3.14
Focus on Talents	Employees	GRI405/GRI407	S2.1/S2.2/S2.7/S2.8
	Salary and Benefit	GRI201/GRI401	S2.10
	Talent Cultivation	GRI103/GRI404	S2.14/S2.15
	Occupational Health and Safety	GRI403	S2.11/S2.12/S3.1/S3.3
Environmental Protection	Environment Management	GRI103	E1.1/E1.5
	Green Pharmaceutical	GRI302/GRI305	E2.1/E1.1/E2.3/E2.4
	Green Production	GRI303/GRI306	E2.11/E2.12/E2.13/E2.14/ E2.15/E2.16
	Green Packaging Materials		E2.19
	Green Operation		E3.1
Social Cooperation	Industrial Exchange	GRI413	S4.1
	Gratitude to Society	GRI201	S4.8/S4.10

Reader Feedback Form

Dear readers:

Hello!

Thank you very much for reading the Asymchem Laboratories (Tianjin) Co., Ltd. Environment, Society and Governance Report 2021 despite busy schedule. In order to provide you and other interested parties with more valuable information, and effectively promote the Company enhancing its corporate social responsibility performance ability and level, we sincerely look forward to your opinions and suggestions.

Multiple-choice questions (please check √ in the corresponding position)

1.Your overall assessment on this report is:

☐Very Good☐ Good☐Ordinary☐ Substandard☐Poor

2.The report's response and disclosure to the issues with which the interested parties are concerned?

☐Very Good☐ Good☐Ordinary☐ Substandard☐Poor

3.What do you think of Asymchem's performance in economic responsibility?

☐Very Good☐ Good☐Ordinary☐ Substandard☐Poor

4.What do you think of Asymchem's performance in environmental responsibility?

☐Very Good☐ Good☐Ordinary☐ Substandard☐Poor

5.What do you think of Asymchem's performance in safety management?

☐Very Good☐ Good☐Ordinary☐ Substandard☐Poor

6.What do you think of Asymchem's performance in employee responsibility?

☐Very Good☐ Good☐Ordinary☐ Substandard☐Poor

7.What do you think of Asymchem's performance in community responsibility?

☐Very Good☐ Good☐Ordinary☐ Substandard☐Poor

8.Are the information, indicators and data disclosed in the report clear, accurate and complete?

☐Very Good☐ Good☐Ordinary☐ Substandard☐Poor

9.Do you think the content arrangement and layout design of this report are easy to read?

☐Yes☐No

10.Open-ended question

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凯莱英医药集团
Asymchem Labs.

2021

Environment
Society and Governance Report

Official WeChat account of the Group

WeChat account of the HR

Asymchem PharmNews

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