



Sany Heavy Equipment International Holdings Company Limited

(Limited company incorporated in the Cayman Islands)

Stock code: 631



2022

Environmental, Social and Governance Report

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About this Report

Sany Heavy Equipment International Holdings Company Limited is pleased to present its Environmental, Social and Governance Report 2022 (the "Report"), which summarizes the Group's policies, measures and performance on key environmental, social and governance ("ESG") issues.

Report Period

This Report sets out the Group's overall performance in environmental, social and governance aspects for the period from 1 January 2022 to 31 December 2022 (the "Report Period"). Some contents date back to previous years or involve 2023.

Reporting Scope

The reporting scope of this Report is mainly based on the importance of business income to the Group. The disclosed information covers the business sectors that are the main sources of revenue of the Group, including the mining equipment sector, logistics equipment sector and robotics sector. There is no material change in the scope of this Report from that of the previous year. The different scope covered by the specific contents hereunder has been especially noted in the relevant parts of this Report, if any.

Appellations

For the convenience of presentation, Sany Heavy Equipment International Holdings Company Limited is hereinafter referred to as "Sany International" or the "Company" in this Report. Sany Heavy Equipment Co., Ltd., the main subsidiary of the Company, is hereinafter referred to as "Sany Heavy Equipment", and Sany Marine Heavy Industry Co., Ltd. is hereinafter referred to as "Sany Marine", Sany Robotics Technology Co., Ltd. is hereinafter referred to as "Sany Robotics". The Company and its subsidiaries are hereinafter referred to as "the Group".



Criteria of Reporting

This Report is prepared in accordance with the *Environmental, Social and Governance Reporting Guide* (the Guide) in Appendix 27 of *Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited* ("Main Board Listing Rules") issued by The Stock Exchange of Hong Kong Ltd. ("SEHK"), and based on four reporting principles, Materiality, Quantitative, Balance and Consistency specified in the Guide. The contents disclosed in this Report comply with the requirements of "comply or explain" in the Guide of SEHK.

The information in this Report comes from the Company's official documents and statistical data, as well as the consolidated summary of monitoring, management and operational data provided by subsidiaries in accordance with the Group's relevant systems. The final chapter of this Report includes a full content index for quick reference. The Company undertakes that this Report does not contain any false records or misleading statements, and the Company is responsible for the authenticity, accuracy and completeness of the content. This Report has been approved by the Board of Directors.

Report Acquisition

This Report is prepared in both Chinese and English. In case of any discrepancy between the Chinese and English versions, the Chinese version shall prevail. The electronic version of this Report can be downloaded from the official website of the Company at www.sanyhe.com and the website of HKEx at www.hkexnews.hk.

Information and Feedback

If you have any questions or suggestions for the Report, please call us or consult us by letter. Our contact information is as follows:

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Tel: +86 24-89318000

Email: tanglin@sany.com.cn

About This Group

Sany Heavy Equipment International Holdings Company Limited (hereinafter referred to as "Sany International" or the Company) was listed on the main board of the Hong Kong Stock Exchange on 25 November 2009. As a leading company in technology innovation and market development, Sany International not only actively promotes the transformation and upgrade of digitalization, internationalization and electrification, but also strengthens its independent R&D ability constantly. The Group also enhances cooperation with excellent global enterprises as well as promotes the high-quality development of the industry, being a top domestic manufacturer in the mining equipment sector, logistics equipment sector and robotics sector. In the meanwhile, the Company gives top priority to environmental protection and social responsibility, and is committed to promoting sustainable development.

Mining Equipment

The mining equipment business sector includes coal machinery, non-coal excavation and mining vehicles, among which coal machinery products contain roadheaders and coal mining equipment. As an enterprise with the widest product coverage and the richest product lines of domestic coal machinery products, the Company is a leading energy equipment supplier in China. The Group is the first company that can provide integrated equipment, transportation equipment and complete solutions in China. The coal and rock boring machines, integrated mining, anchor and protection equipment, combined coal mining units and mining transport vehicles the Company promotes radically change the mode of procuring single-unit manufacturing equipment by Chinese coal companies. With the concept of "digital mining, intelligent mining and green mining", the Company leads the accelerated development of industrial products in the direction of a complete set, unmanned operation, electrification and intelligence.



Logistics Equipment

As a large logistics equipment manufacturer specializing in the R&D, manufacturing and sales of port equipment and heavy marine machinery and one of China's largest suppliers of complete sets of port machinery with the largest production tonnage, the complete series and the most advanced technology, the Company follows the trend of electrification, unmanned operation and smart ports. We have also widely researched the application of 5G communication technology to unmanned devices in smart ports, with actual application in automation projects of multiple wharves. Besides, we have developed products such as automated transtainers, unmanned and electric container trucks and remote monitoring for intelligent driving to meet the demands of seaport automation, remote control, energy conservation and environmental protection.



Corporate Culture



Sany Mission

Quality changes the world



Corporate Culture

Build first-class enterprises Foster first-class talents Make first-class contributions



Sany Spirit

Constantly strive to become stronger, serve the country through industry



Sany Style

Strive for excellence, combat inefficiencies and slow-downs



Operation principles

All for the customer All from innovation



Enterprise ethics

Be just and faithful Be thankful



Sany Motto

Dreams contribute to human advancement Try best to realise Sany's dream; realise self-value relying on Sany.





Chairman's Statement

2022 embraced the convention of the 20th CPC National Congress. General Secretary Xi Jinping put forward the concept of “promoting green development and pursuing the harmony between humans and nature”, emphasizing the building of a beautiful China. During the year, adhering to the national policies, Sany International has maintained the momentum of rapid growth, and achieved improvement in the digitalization, electrification, intelligence and internationalization of products and services. Meanwhile, guided by the “Strategies of Sustainability by 2025” formulated by the Group, Sany International keeps focusing on and investing in the ESG field, and continues to head toward the sustainability transformation.

In terms of governance, the Group has been committed to establishing a more transparent, accountable and efficient governance mechanism. Upholding the philosophy of integrity and honesty in operations, Sany International strictly abides by the laws and regulations as well as the rules and regulations of the Company, and protects the rights and interests of the Company and shareholders. Concerning ESG governance, we carry forward the precedent management structure, where the Board of Directors oversees ESG work and formulates ESG strategies, the management sets up detailed implementation plans and reports to the Board, and

the ESG working groups under the management discharge their duties and promote the implementation of specific ESG-related matters. Meanwhile, the internal control and risk management system are constantly optimised to ensure the stable operation and sustainability of the Company.

In terms of intelligent operation, we continue to adopt digital, electric, intelligent and international processes, industrial software and data application, etc., to empower the whole process of operation management, so as to achieve intelligent operational decision-making. With regard to the intelligent digital innovation of products, we have increased investment in technological innovation and R&D input to constantly enhance product quality and performance, accelerate its digitalization and intelligence, and continue to deliver value to customers. In 2022, we pioneered the SET150S, a large-tonnage mining truck that is fully energy-saving and environmentally friendly with high efficiency, boasting the characteristics of excellent power performance, high production capacity and high fuel efficiency, and having won remarkable recognition in the market. In the meantime, in order to expand our global sales network, the Company strengthened its cooperation with international enterprises to explore emerging markets and overseas business.

In response to the national goal of achieving carbon neutrality by 2060, the Company works with upstream and downstream partners to jointly address climate changes and strives to reduce greenhouse gas emissions. We also take measures such as waste recycling and control the discharge of waste gas and wastewater, sparing no effort to minimize our impacts on the environment. To this end, the Company actively promotes clean energy, as well as the digital and intelligent transformation of our plants in an ongoing manner to improve production efficiency and reduce energy consumption. Simultaneously, Sany International energetically pursues a green office, conveys the concept of conservation, and advocates a paperless office to facilitate the shift of employees toward the green and low-carbon style in all aspects.

Sany International puts a premium on employees' rights and interests, and encourages a corporate culture of equality, respect, collaboration and diversity. Adhering to the principle of “Realise self-value relying on Sany”, the Company provides diversified career development channels and a sound and systematic training system, continuously optimises performance and remuneration incentives, and boosts employee self-worth improvement. Meanwhile, we are committed to creating a health and safe working

environment, and perfecting the occupational healthy and safety management system in an ongoing manner, and striving to achieve the goal of “zero work-related fatality, zero major accidents and zero occupational diseases”. Moreover, the Company takes the initiative to engage in community welfare and charity activities, pays attention to the lives and development of vulnerable groups, and makes utmost efforts to become a responsible enterprise for employees, customers, partners and communities.

Bearing responsibility in mind, we actively assume social responsibility and fulfill it in daily operations. Looking ahead, Sany International will further intensify its investment and management in the ESG field, and work with stakeholders and the whole society to pursue common progress and win-win cooperation while delivering comprehensive economic, environmental and social values. We remain steadfast in becoming a leading sustainable enterprise in the world.

Liang Zaizhong
Chairman

01

Environmental, Social and Governance Responsibility Management



Material Issues

20/ Corporate social responsibilities management



ESG Governance Structure

Sany International adheres to integrating environmental, social and governance factors into its operations to create sustainable value for stakeholders. To better manage the Group's ESG matters, the Board of Directors has formed an Environmental, Social and Governance Committee (ESG Committee) and has established a governance structure for "Board of Directors - ESG Committee - Management Layer - Working Group" in February 2023.

As the highest governing body, the Board of Directors of the Group ensures that ESG factors are given sufficient attention at the decision-making level of the Group; ESG Committee is responsible for setting and reviewing the ESG goals, strategies and other matters of the Group, assisting the Board of Directors in monitoring the ESG-related matters and is accountable to the Board of Directors; managers such as the general manager and head of first-level department, as the management coordination layer, are responsible for formulating ESG work plans, tracking work progress and regularly reporting to the ESG Committee; the ESG working group composed of various business departments is responsible for implementing various ESG special tasks and promoting the realization of ESG goals.

Figure: Sany International's ESG Governance Structure

Level	Organisation	Personnel	Management responsibilities
Leadership	Board of Directors	Composed of 8 directors, the highest decision-making body for the EGS management in this Group	<ul style="list-style-type: none"> Assume the ultimate and overall responsibility for the Company's ESG matters and supervise the Company's ESG governance
	ESG Committee	Composed of two executive directors and three independent non-executive directors to assist the Board of Directors in reviewing and overseeing ESG matters	<ul style="list-style-type: none"> Formulate and review the Group's objectives, strategies, risks, opportunities, initiatives, policies and management guidelines in relation to ESG and make recommendations to the Board of Directors
Management layer	Management personnel	Composed of the general manager and head of first-level department, responsible for communicating with the leadership on ESG matters, providing information required for decision-making, and supporting the implementation of ESG strategy	<ul style="list-style-type: none"> Guiding, supervising and monitoring the implementation of ESG strategies in this business module Organizing the preparation of the Group's annual ESG report
Implementation layer	ESG working group	Composed of various operating departments, implementing the Company's instructions on ESG matters, and implementing the ESG theory into specific matters	<ul style="list-style-type: none"> Bearing the responsibility for ESG special work according to the functional positioning of the operating department Participating in the preparation of the Group's annual ESG report



Responsibilities of the Board of Directors

The Board of Directors assumes overall supervision, guidance and review responsibilities for Sany International's ESG-related work. The Company established an ESG Committee composed of two executive directors and three independent non-executive directors in 2023. The ESG Committee is responsible for assisting the Board of Directors in continuously improving and deepening the management of ESG matters, regularly discussing the Group's ESG risks, opportunities and strategies, and summarizing, reviewing and reporting the work progress and target performance.

Supervision of ESG Matters

The Company has formulated a "Sustainable Development Strategy 2025" and five strategic pillars namely quality first, management based on responsibility, human orientation, environmental and social benefits. To implement the "Sustainable Development Strategy 2025", the Company carries out ESG material issues assessment regularly, and presents the assessment results to the Sustainable Development Committee for review and assessment so that the management can be guided to optimise the ESG goals management system. The ESG Committee regularly reviews ESG goals and reports the results to the Board of Directors.

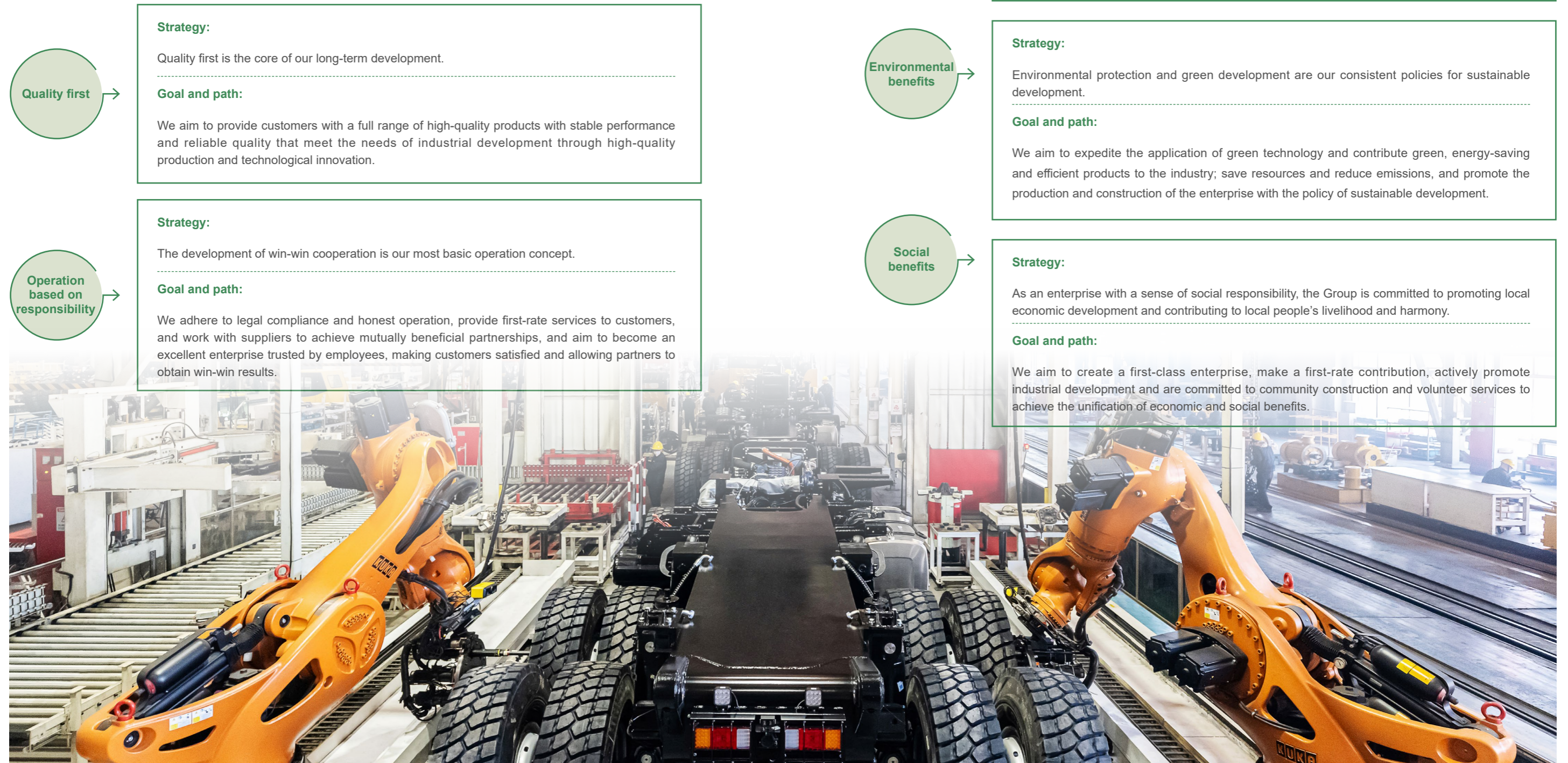
Issues of Materiality

Under the guidance of the Board of Directors and ESG Committee, the ESG Working Group maintains timely, close and transparent communication with stakeholders every year, listens to their opinions and suggestions, and identifies and evaluates stakeholders' concerns on environmental, social and governance issues. The ESG Committee discusses and reviews the assessment results, determines the Group's environmental, social and governance risks and opportunities, and supervises and manages related content.

Sustainable Development Strategy

The Group is committed to development while benefiting the environment and society. We have formulated the “Sustainable Development Strategy 2025”, and have established five strategic pillars: quality first, operation based on responsibility, human orientation, environmental and social benefits and corresponding sustainable development goals.

Table: Sustainable Development 2025 Strategy













Stakeholders Engagement

While continuously pursuing sustainable development, the Group fully incorporates the demands of various stakeholders into consideration in the Company's operating decisions. The Group attaches great importance to communication with its stakeholders and is committed to building fair, equitable, open and mutually beneficial relationships with various stakeholders. In order to better identify various ESG risks and opportunities and set reasonable sustainability objectives, the Group has

established various communication channels with stakeholders and actively engaged in different forms of communication on commonly concerned issues, so as to obtain views and feedback from different stakeholders for timely rectification. The Group's significant stakeholder's categories, the concerned issues of shareholders, and the communication channels are set out in the table below:

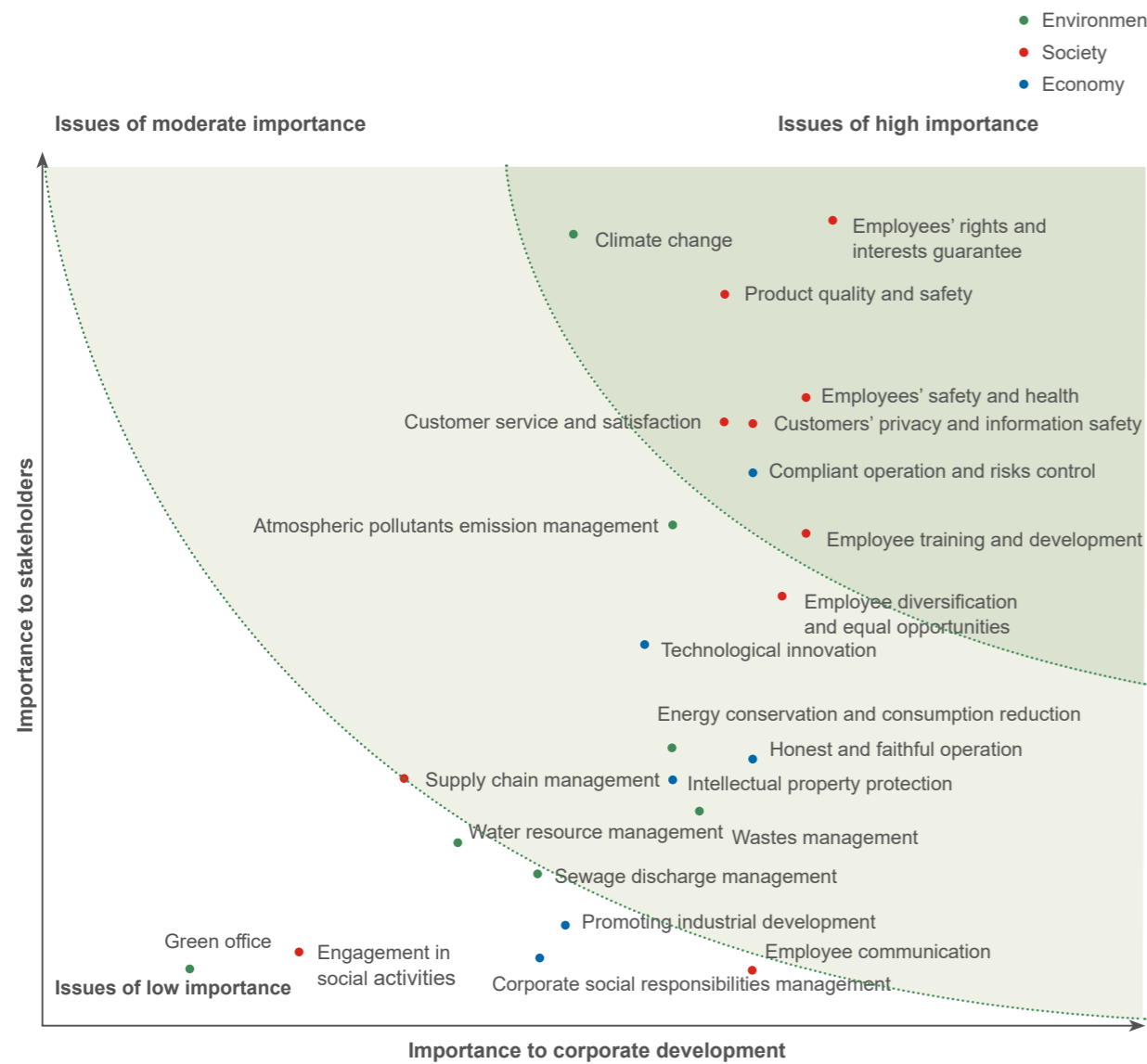
Table: List of Communication between Stakeholders

Stakeholders	Expectations and requirements	Communication and response	Stakeholders	Expectations and requirements	Communication and response
 Customers	<ul style="list-style-type: none"> • Providing cost-effective services and products • Improving product quality and service level • Product after-sales service and guarantee • Environmentally friendly low-carbon products 	<ul style="list-style-type: none"> • Customer satisfaction investigation • Survey questionnaire • New product introduction meeting • Regular visit 	 Academic/Research institutions	<ul style="list-style-type: none"> • Carrying out research collaboration • Providing employment opportunities • Conducting technical exchanges 	<ul style="list-style-type: none"> • Visit • Daily email and telephone communication
 Government and regulatory organisations	<ul style="list-style-type: none"> • Paying taxes according to the law • Compliance operation • Complying with laws and regulations • Supporting local development • Promoting local employment • Protecting the local environment 	<ul style="list-style-type: none"> • Daily email and telephone communication • The working conference, training • Irregular visits, supervision and inspection 	 Industrial association/ Professional organisation	<ul style="list-style-type: none"> • Driving the industrial development • Improving the product quality • Corporate social responsibility 	<ul style="list-style-type: none"> • Visit • Special sessions • Training
 Investment organisations/ Shareholders analysts	<ul style="list-style-type: none"> • Information disclosure and transparency • Corporate operation status • Strengthening risk management and control • Creating economic value 	<ul style="list-style-type: none"> • Annual report and periodic report • Annual general meeting of stakeholders • Performance release conference • Announcement • Investor's hotline and mailbox • Roadshow of investor relations 	 Media	<ul style="list-style-type: none"> • Services and products • Future development trends • Corporate social responsibility • Financial performance 	<ul style="list-style-type: none"> • Public reporting • Interview related personnel
 Suppliers/ Partners	<ul style="list-style-type: none"> • Transparent and honest cooperation • Win-win strategy and mutual benefit • Continuous operation • Fairtrade 	<ul style="list-style-type: none"> • Regular communication • Regular visits • Supplier training • Supplier audit 	 Non-government agency/ Public benefit organisation	<ul style="list-style-type: none"> • Supporting social benefits • Performing social responsibilities 	<ul style="list-style-type: none"> • Holding public benefit activities • Special sessions
 Employees	<ul style="list-style-type: none"> • Protecting the rights and interests of employees • Safe and healthy working environment • Good career development platform • Competitive salary • Internal communication channels 	<ul style="list-style-type: none"> • Direct communication • Employees' mailbox • Employee satisfaction survey • Employee training • Annual meeting/ Team building activities 	 Local communities	<ul style="list-style-type: none"> • Promoting employment • Enhancing community value • Promoting local development 	<ul style="list-style-type: none"> • Holding public benefit activities • Media report • Daily email and telephone communication

Materiality Assessment

With reference to the requirements of *the Environmental, Social and Governance Report Guide* of the Hong Kong Stock Exchange, we continuously improve the process for defining the report contents. Key issues of ESG are selected through main communication channels such as corporate management layer, internal and external expert analysis, multimedia information analysis, benchmarking study on companies in the same industry home and abroad, social responsibility standard guide, supplier feedback and community opinion collection. During the Reporting Period, the Group reviewed the importance of identifying ESG issues from the perspectives of corporate development and stakeholders to ensure the accuracy of each issue's prioritisation. In the meanwhile, the issues are fully elaborated on in this Report to respond to the concerns of stakeholders.

Material Issues Matrix for Sany International's Sustainable Development in 2022



List of Sany International's material issues in 2022

● Environment ● Society ● Economy

Issues of high importance	Issues of moderate importance	Issues of low importance
1 Employees' rights and interests guarantee	9 Atmospheric pollutants emission management	16 Supply chain management
2 Product quality and safety	10 Employee diversification and equal opportunities	17 Sewage discharge management
3 Climate change	11 Technological innovation	18 Water resource management
4 Employees' safety and health	12 Honest and faithful operation	19 Promoting industrial development
5 Customers' privacy and information safety	13 Energy conservation and consumption reduction	20 Corporate social responsibilities management
6 Customer service and satisfaction	14 Intellectual property protection	21 Green office
7 Compliant operation and risks control	15 Wastes management	22 Employee communication
8 Employee training and development		23 Engagement in social activities



02

Compliant Operation



Material Issues

- 05/ Customers' privacy and information safety
- 07/ Compliant operation and risks control
- 12/ Honest and faithful operation
- 14/ Intellectual property protection
- 16/ Supply chain management



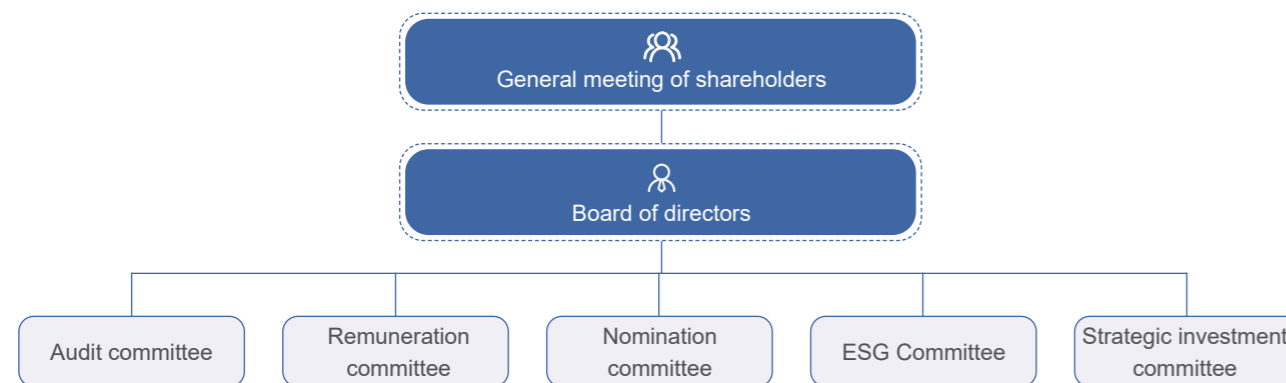
Corporate Governance

Governance Structure


In order to better realise the long-term steady development of the Company, Sany International strictly complies with laws and regulations such as the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, the *Criminal Law of the People's Republic of China*, the *Anti-Unfair Competition Law of the People's Republic of China* and the *Interim Provisions on Prohibition of Commercial Bribery*, strictly abides by requirements of the *Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited* and *Securities and Futures Ordinance*, and carries out the standard operation according to the governance structure of the general meeting of shareholders and the Board of Directors. By establishing and improving the Company's internal management system and process, we have detailed the *Articles of Association* and strengthened compliant operation to address the various risks and challenges faced by the Company in the process of operation and business development and provide a solid guarantee for the healthy and stable development of the Company.




Corporate Governance Structure



As the core component of the corporate governance structure, Sany International has established the Company's Board of directors based on corporate governance principles, which is responsible for the Company's strategic decision-making and supervision and management. The Board of Directors of the Company has 8 members with different professional backgrounds and industry experience, and can provide a wide range of ideas and diversified suggestions for the Company's strategic planning and business development. We plan to hire an additional female independent director in 2024.



The Board of Directors of the Company has **8** members



We plan to hire **1** additional female independent director in 2024

Board of Directors' Responsibilities

In order to better implement and allocate the work responsibilities of the Board of Directors, Sany International's Board of Directors has set up an audit committee, a remuneration committee, a nomination committee and a strategic investment committee, and formulated terms of reference and work procedures specifications for each committee at the company level. Each committee is composed of different directors, responsible for discussing and making decisions on specific matters of the Company, and regularly reporting to the Board of Directors. The composition and operation mode of the Board of Directors has been strictly regulated and supervised to ensure the scientific and reasonable decision-making of the Company. In 2022, we actively carried out relevant decisions of the Board of directors and committee meetings, with a total of 2 general meetings of shareholders and 21 Board meetings.



with a total of **2** general meetings of shareholders



21 Board meetings

Stakeholder Communication

Sany International has long attached great importance to investor relations management. According to the needs of different types of investors, we organise regular investor communication meetings, telephone conferences, website announcements, social media and other forms to realise the positive interaction between the Company and investors, and give timely feedback on their suggestions and opinions. To make shareholders and investors know more about the Group's business, we launched the "Online Investor Promotion Conference of Annual Performance" in March 2022 to keep close contact with investors and share the Company's business philosophy, development strategy and business achievements.

Risk Management

To effectively manage corporate risks, Sany International has established a perfect risk management system, which integrates risk management into all aspects of corporate management. We have established a risk management structure led by the Board of Directors and the audit committee, assisted by the risk management and internal audit committee, and implemented corporate risk management in all aspects of corporate operation, to reduce operational risks and ensure sustainable development of the Company.

In terms of risk identification, we use various means to conduct risk warnings and risk assessment, including internal monitoring and risk analysis, to comprehensively identify and assess corporate risks. In terms of risk response, the Company has established corresponding risk prevention and control measures to ensure timely treatment and control of risks. At the same time, we grasp all kinds of risk information in time through the risk communication and coordination mechanism, and take effective measures to address them, so as to reduce the negative impact of risks.



Business Ethics Management

Ethical Management System

Sany International, as always, strengthens the management of business ethics, constantly improves the management mechanism and process, and clarifies the code of conduct and professional ethics requirements of employees, so as to create an honest, fair, transparent and harmonious corporate culture.

In terms of management mechanism, we have established a business ethics management procedure under the guidance of the Company's Board of directors and audit committee, with the cooperation of the board of supervisors, the finance department and the human resources department, formulated the *Accountability Management System*, and conducted regular ethics audits every year. We jointly promote the Company's anti-fraud work and investigate suspicious or illegal behaviours related to bribery, extortion, fraud and money laundering to ensuring the integrity and legality of our operations.

In terms of institutional regulation, we have formulated a series of policies such as the *Conflict of Interests and Integrity Management System* to regulate the business ethics of all employees and suppliers, and actively create a clean and efficient working atmosphere. In 2022, we updated the *Commercial Personnel Behaviour Management Regulations* to ensure that commercial personnel is honest

and self-disciplined, and improve their business operation level and image. We require all employees to accept and pass the *Negative List of Fraudulent Behaviours in Coping with Assessment and Accountability Examination* to eliminate the occurrence of forgery, fabrication, tampering with records or vouchers, distorting administrative policies and systems, and concealing or covering up facts. Employees who violate the rules, according to the seriousness of specific events and their roles, will be subject to classified punishments such as fines, salary reduction, dismissal and investigation by relevant judicial institutions.

Anti-Corruption Training

Sany International attaches importance to the construction and management of business ethics as one of the important contents of corporate governance. We strictly abide by the requirements of various laws and regulations, adhere to the operation in compliance with the law, hold regular anti-corruption training for all employees and contractors, and constantly improve the awareness of anti-corruption based on integrity. During the reporting period, we organised integrity education and training for all employees in the business system and required the trainees to complete the relevant tests of training content.

Whistleblowing Management

Sany International pays attention to the voices from all walks of life, attaches importance to and supports supervision from all walks of life, establishes a standardized supervision mechanism, and joins the Chinese Enterprise Anti-fraud Alliance. We have formulated a comprehensive *Whistleblowing Management System*, standardized the processes of investigation and feedback, defined the authority of relevant departments, guided, protected and rewarded whistleblowers, and effectively investigated and dealt with violations of laws and disciplines. We have set up a smooth reporting channel, a suggestion box and a reporting hotline, providing both oral and written reporting forms, and keeping the personal information of the whistleblower and the reporting information provided by the whistleblower strictly confidential, promising that the whistleblower will not be treated unfairly, retaliated or hurt because of reporting.

Consulting and reporting channels

- ✉ Email: jiancha@sany.com.cn
- 🗨 WeChat: Sany Official Account
- 🗨 QQ: 2592689550
- ☎ Tel: +86 024 89318111
- 📍 Reception office: 073, 4th Floor, R&D Building, Shenyang Park



In addition, we actively promote digital management, systematically manage the report and complaint account through the "Sany Smart Supervision and Audit Platform", clearly identify the units involved and regulatory authorities, determine the secondary and tertiary treatment processes according to regulations, implement feedback and follow up on the work progress, and improve the efficiency of report supervision and management.

Anti-Corruption in the Supply Chain

We strictly implement anti-corruption work in the supply chain, require suppliers to abide by national laws and regulations and business ethics, and strictly prohibit the use of illegal means to seek illegitimate interests. We strengthen the management and supervision of suppliers by regularly conducting quarterly integrity meetings covering all suppliers, signing integrity agreements with suppliers, conducting regular supplier inspections, requiring suppliers to sign the *Statement of Requirements for Fairness and Integrity in Business Procurement Activities*, and including integrity clauses in annual contracts for supplier access to regulate and clarify the code of conduct and division of responsibilities for cooperation between the two parties. Suppliers who violate the law and the integrity clauses will be punished by 100 times the amount of the bribe and will be blacklisted from cooperation.

During the reporting period, there was

1 litigation case

arose from embezzlement of duty in the Group.

The case is now closed, and inform the whole company of the results with cautionary education.





Protection of Intellectual Property Rights

Sany International attaches great importance to the protection of intellectual property rights, actively builds an intellectual property model enterprise, and actively creates a good corporate innovation culture. We strictly abide by the laws and regulations such as the *Patent Law of the People's Republic of China*, the *Tort Liability Law of the People's Republic of China* and the *Enterprise Intellectual Property Management Regulations*, systematically manage different forms of intellectual property rights such as patents and trademarks, and build a "Three-in-one" intellectual property protection strategy system of enterprise business strategy, research and development strategy, and intellectual property strategy.

In accordance with the intellectual property management policy "Incentive Creation, Effective Application, Legal Protection and Scientific Management", Sany International has formulated the *R&D Patent Work and Management Regulations* and the *Foreign Patent Application Operation Guide* and other intellectual property systems to standardize the product patent management, protect the invention and creation results, and proactively avoid the risk of patent infringement. During the reporting period, the Group did not have any intellectual property infringement lawsuits.

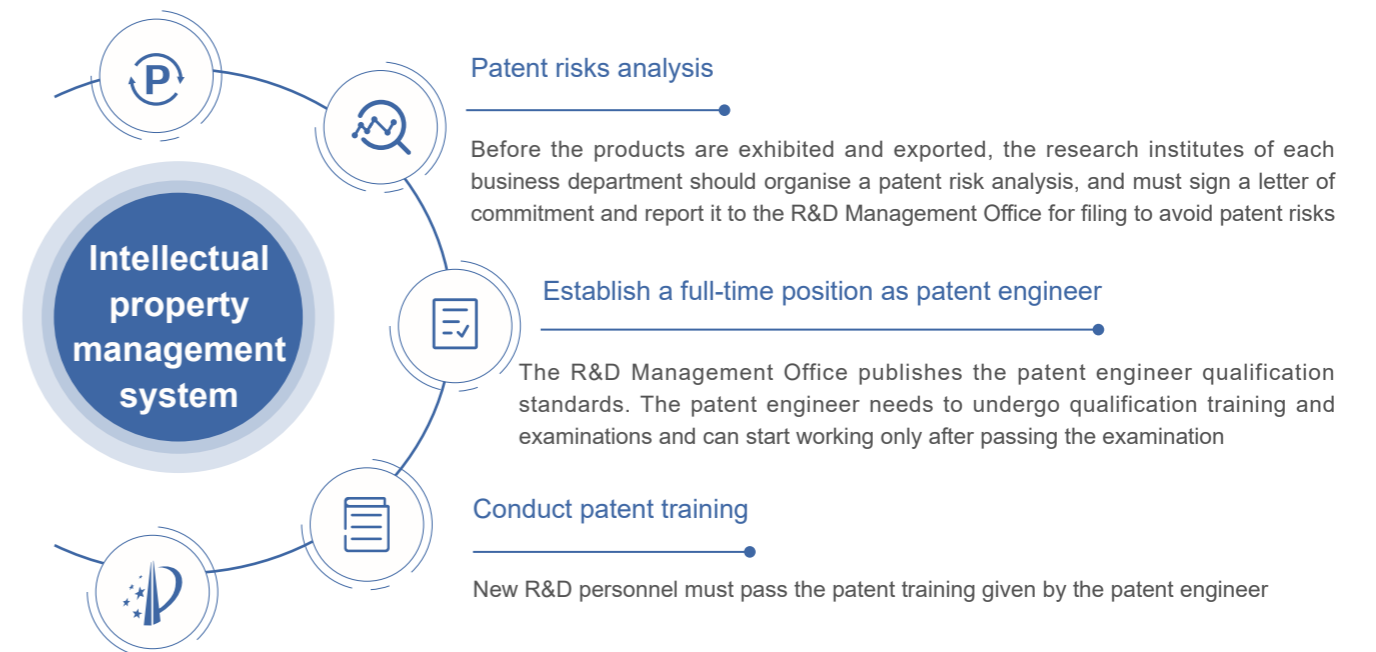
Development Strategy and Goals



Intellectual property management system

Established the R&D Management Leading Group Office

Responsible for a patent application, patent risk analysis and coordination, patent information sharing, key patent risk processing support and supervision



Apply for an international patent

International patent applications are submitted through the *Patent Cooperation Treaty (PCT)* route, and the overseas patent layout covers countries and regions such as Australia and South Africa

Information Security and Privacy Protection

Information security and privacy protection are important responsibilities and obligations of enterprises, and important means for enterprises to protect the rights and interests of customers and employees. Sany International strictly abides by laws and regulations such as the *Law of the People's Republic of China on the Protection of Consumer Rights and Interests*, the *Personal Data (Privacy) Ordinance* and the *Consumer Council Ordinance* of the Hong Kong Special Administrative Region, and comprehensively protect the rights and privacy of customers. All customer information is strictly kept confidential by the Group, and unauthorized persons cannot obtain any information.



Sany International has established an information security management system consisting of an information security management department, process and structure management department, platform management department, process informatisation department and IT operation and maintenance department, and established a perfect information security management system by classifying information assets and assessing risks. The system consists of several sets of subdivided management systems, including the *Sany International Industrial Control Information Security Management System*, the *Sany International Third-Party Personnel Information Security Management Regulations*, the *Sany Group Employee Information Security Management System* and the *Sany Group R&D Information Security Management System*. At the same time, we continue to provide confidentiality training for employees, requiring all employees to take information security training and examinations to ensure that the responsibility of keeping business secrets is implemented by all relevant staff. If documents are found to be leaked or information security incidents occur, the Group will notify the relevant personnel and punish them accordingly. If any illegal acts are involved, we will investigate their legal responsibilities. During the reporting period, we did not have any information security or privacy leakage incidents.

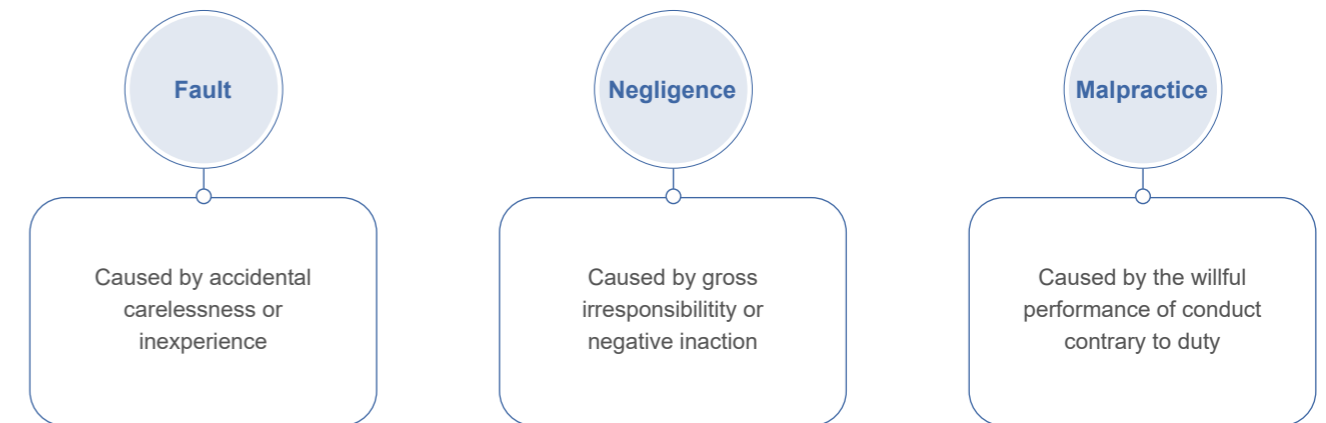
Red line of information security behaviours

We define the "Ten Prohibitions" red line behaviours of information security to deal with and mitigate the hidden dangers and risks of information security, including prohibiting any form of confidential information of the Company from being transferred to the outside of the group through USB copy, email and WeChat without approval; it is strictly forbidden to use confidential information such as internal documents, drawings, processes, marketing and financial reports for personal business activities; it is strictly forbidden to lend or share other people's domain accounts and information system accounts. Violation of the red line of information security will be punished with reference to the *Accountability Management System*.

Information security behaviour rewards and punishments

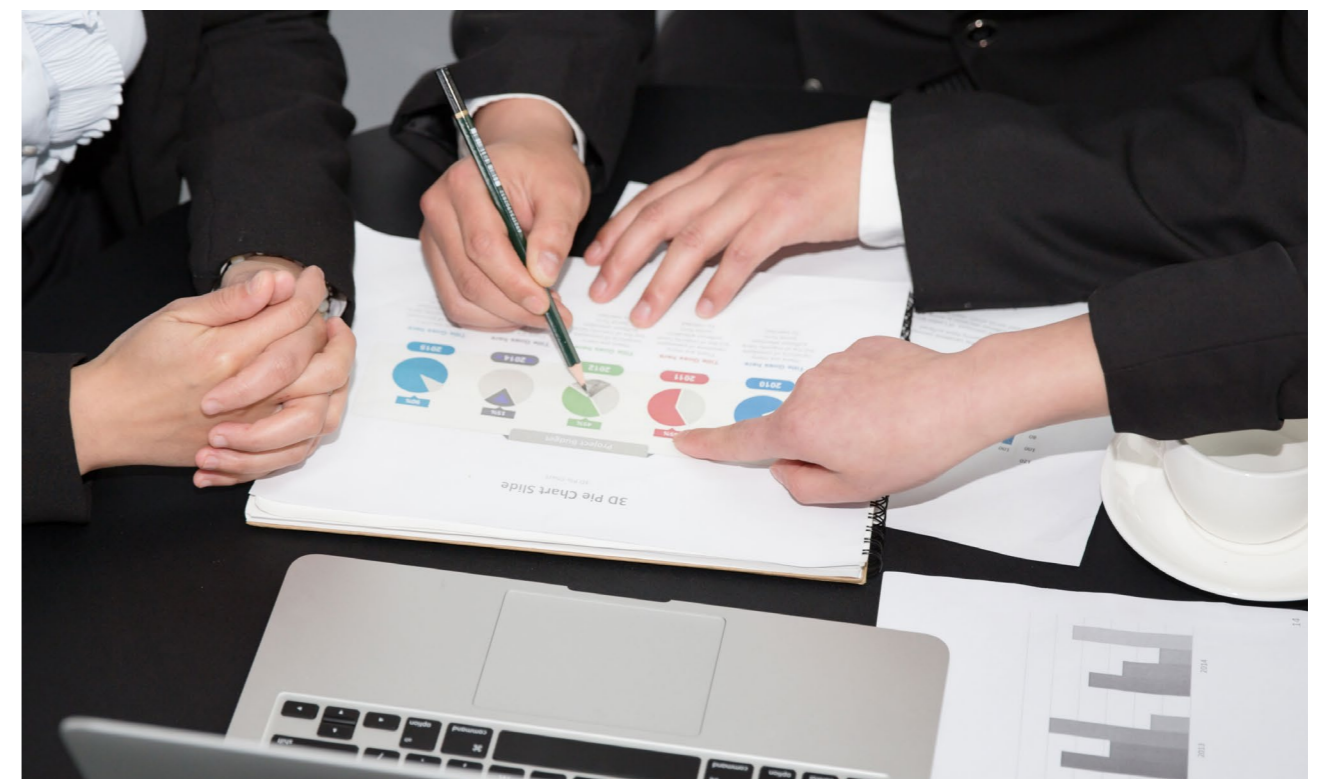
In the *Accountability Management System*, according to the severity of the information security negligence and the causes of the negligence, and considering the specific circumstances of the incident, the directly responsible personnel and those in charge will be punished with different degrees such as informed criticism, warning, demerit recording, demotion and salary reduction, and dismissal.

Information security accountability type judgment



Information Security Training for Employees

The information security training is carried out for employees covering multiple course modules of password security, email security, terminal security, data security and smartphone security, and suggestions are put forward for the safe use or protection against potential information security issues to improve employees' information security awareness in multiple dimensions and standardize the employees' information security behaviour.



03

Digital and Intelligent Innovation

Material Issues

02/ Product quality and safety

06/ Customer service and satisfaction

11/ Technological innovation



Green R&D

R&D innovative ability is always the first driving force for the development of Sany International. The Group regards technological innovation as the foundation for corporate development, takes "Actively Creating Clean Technology Products and Solutions" as the development direction of corporate research and development strategy, and constantly applies clean technology. In addition, we integrate the concepts of intelligent, electrified and clean products throughout the whole industry chain, building the Company into a leader in smart clean technology industry in the future.



In 2025, the annual investment in clean technology research and development will be no less than

RMB **290** million



Development Strategy of Electrification

Sany International firmly promotes the research and development strategy of electrification and continuously increases investment in scientific and technological research and development and technological innovation. Several technological breakthroughs have been made in the direction of intelligence, cleanness and unmanned operation relying on advanced research and development platforms such as symbolic test benches and the intelligent product design platform. And a number of electrical products such as the wide-body electric loader, intelligent roadheader, electric reach stacker, electric forklift truck, and electric truck were launched.

R&D of Wide-Body Loaders

The Group grasps the trend of large scale and electrification, initiates the R&D of pure electric products, hybrid products and electric wheel product projects and continues to improve the power, energy efficiency and reliability by the power system and drive system innovations. Under the guidance of this R&D strategy, the Group focuses on wide-body loaders. We also plan to develop a generation of wide-body loaders to achieve the upgrading from "low quality and short lifetime" to "excellence and durability", expansion from "high fuel consumption" to "electro motive and energy saving"; research and develop a generation of wide-body loaders to achieve the expansion from "middle tonnage" to "complete series", from "manned drive" to "unmanned drive".

In terms of electrical wide-body loader products, the Company creates a brand new generation of wheel-driven mine truck platforms through measures such as independent software development and calibration, full coverage of piloting and testing capabilities, aiming to make product technologies and properties absolutely leading. Sany International plans to become the first domestic brand of mine trucks by 2025.

Case

SKT105EC Battery-Swapping- Wide-Body Loader Provides an Integrated Solution Percentage for Battery Swapping of Mines

Sany International (Sany Heavy Equipment) persists in promoting the construction of intelligent mines. In 2022, Sany Heavy Equipment cooperated with Sany Lithium Energy to develop SKT105E(C) pure electric wide-body loaders with integrated electricity charging and battery swapping and a side-access quick battery swapping station, which were successful upon verification.

Among them, the SKT105E loader has two kinds of operation modes, namely electricity charging and battery swapping. Its power battery specially designed for the mine areas is high-density lithium iron phosphate battery. The battery not only has high safety and long cycle life, but also has a high energy density, being able to realize the quick charging and discharging of electricity. At the same time, the recycled energy of this type of battery is increased by **50%** compared with that of the same type of product. The product can achieve a single battery swapping of **3** minutes, with a success rate of nearly **100%**.

Compared with fuel-powered wide-body loaders, a single pure electric wide-body loader costs less than **50%** of the operational expenses and saves **40%** of the repairing expenses. **200L** oil resources can be saved in one day, effectively decreasing carbon emissions.

Sany International has become a unique manufacturer that can provide an integrated solution for battery swapping of mines in the industry. As of the end of 2022, the solution had been implemented in sample mines in Yunnan Gold & Mining Group Co., Ltd.



Figure: SKT105E wide-body dump truck

Case

The Biggest China Brand of Mine Trucks in Middle Asia Obtains Positive Comment "One Set Worths Two Sets" by Customers

In 2022, Sany Heavy Equipment independently developed an energy-saving, environmentally friendly and efficient large-tonnage mine truck SET150S to make contributions to the green development of mines. The mine truck is a two-engine hybrid off-highway mining dump truck initiated in the industry. With the industry's first multi-engine oil-electric hybrid technology, the whole vehicle is equipped with CAN bus design + GPS system and Sany International's original energy management system, which has a satisfying power property, a high production capacity and a high fuel saving feature. Compared with the traditional electric wheels, the average oil saving rate of SET150S can reach **12 to 25%**.



Figure: Large tonnage mine truck SET150S

Intelligent Development Strategy

Empowering intelligent underground mining with less manpower is always a goal that Sany Heavy Equipment strives for. The Group attaches great importance to the intelligent construction and intelligent excavation production of coal mines. With a focus on intelligent key excavation technology, we continue to promote the product competition of the intelligent roadheaders, to win the trust of customers with the technological power, aiming to provide continuous motivation for the intelligent construction of mines.

Case	Apply the Smart Management System of Mine Trucks to Optimise the Energy Consumption of the Electric Trucks and Promote the Safety
	To better understand the operational situation of the equipment on site and analyses the information, and make it convenient for customers to collect the equipment operation information, Sany Heavy Equipment collaborated with ROOTCLOUD to develop an intelligent management system for mine trucks.
Intelligent slowing system	The whole vehicle is physically equipped with a slope sensor and a weight sensor to build a model for intelligent coasting and slowing control strategies.
Intelligent electric braking system	Develop an intelligent electric braking program for the braking pedal and build an intelligent electric braking control strategy model to collect real-time slope and load conditions and achieve self-adaptive braking.
Intelligent dynamic electric balance system	Dynamically adjust energy recovery efficiency according to different working conditions, and construct an intelligent electric balance control strategy model to achieve a dynamic electric balance of the vehicle.






Figure: Intelligent mine truck system and application to open-pit mine

R&D of intelligent roadheaders

Sany intelligent roadheader has a reliable intelligent device and a friendly human-machine interaction system.

Intelligent remote control operation system

The cutting parameters of the “intelligent remote operation system of roadheaders” can be freely set by customers, making the automatic cutting satisfy the personalized requirements of various customers.

Intelligent terminal data cloud management

Sany’s intelligent roadheader is equipped with an intelligent mobile control terminal IMC and data cloud management system, facilitating the operators and management to flexibly control the roadheader by the smart cloud manager APP on the phone, view the operation status in real-time and realize the data cloud management of the roadheader.

Intelligent digital twin platform for digging operations

Sany Heavy Equipment has developed an intelligent digital twin platform for digging operations and built two large scenes namely the coal mine scene and excavation working face scene, and 4 monitoring systems including a roadheader system, belt system, electricity supply system, safety monitoring system. All of these mobilize intelligent construction of the whole fully mechanized excavation face.

As of April 2022, the market share of Sany intelligent roadheaders exceeded 80%, making Sany become a leader in the industry. Intelligent demonstration “sample mines” were built in Shanxi, Guizhou, Xinjiang, Henan, Heilongjiang and other areas successively. Among them, the automation rate of Guizhou Nuodong mine, Shanxi Chengzhuang mine, Guizhou Shanjiaoshu mine and Xinjiang Yushuling mine all reached above 80%.

Case	EBZ280D Intelligent Roadheader Can Reduce the Labour and Improve the Efficiency of Underground Excavation
	EBZ280D intelligent roadheader has a remote operation, information status monitoring and visualization functions and is equipped with two systems namely a remote intelligent control and remote video monitoring system.
	Among the systems, the remote intelligent control system can set the parameters through the ground control centre or underground remote control console, thereby realizing the automatic cutting with one button; the remote video monitoring system can present the excavation working face in all aspects, and monitor the operation status of the roadheader in real-time. With the powerful support of the two systems, EBZ280D completely reduces labour and improves the efficiency of underground excavation.
	Sany Heavy Equipment’s intelligent roadheaders obtain the consistent recognition of industrial customers by virtue of technological advantages such as remote control, accurate localization, health diagnosis, and automatic cutting. As of 2022, intelligent roadheaders have already been successfully applied in over 100 coal mines throughout the country, radically changing the traditional digging operation mode.




Figure: EBZ280D intelligent roadheader

Clean Development Strategy


“Adhering to Clean Development” and “Expediting the Application of Green Technology” is one of the Group’s five core sustainable development strategies. The Group promotes the production and construction of the enterprise with sustainable development policies, so as to produce green, energy saving and efficient products for the industry.

Case SKT90E, the First Pure Electric Wide-Body Loader - Assists the Mine Industry in Transforming to Green Transportation


SKT90E, the pure electric wide-body loader has three merits, which are reliability and durability, efficiency and energy conservation, safety and comfort.

- It is equipped with the dual-motor parallel to dual three-gear drive system initiated in the industry, with the highest speed of **45km/h** and the biggest gradient climbing capacity of **35%**;
- It can shift gears steadily and smoothly without power interruption, radically solving the technological obstacle, which is the ramp shifting difficulties for heavy-duty trucks in the industry;
- It has an adaptive regenerative braking technology with **11%** higher energy recovery than that of comparable products;
- It utilizes a dual-gun fast charging technology with a large current. The charging efficiency is **25%** higher than that of the industry, and the charging time requires only **1** hour.

Upon the testing and calculation, SKT90E consumes only 2.2kWh of electricity per hour when it is downhill with a heavy load in Talosin Mine. The electricity fee per truck per day is only RMB28.6 based on the electric charge of RMB0.65/kWh and the working time of 20 hours per truck per day. SKT90E can save the cost of about RMB460,000 compared with fuel trucks in the whole year, significantly decreasing the operational costs of the trucks in the mining areas.



SKT90E consumes only **2.2 kWh** of electricity per hour when it is downhill with a heavy load



The electricity fee per truck per day is only RMB **28.6**



Figure: SKT90E, the first pure electric wide-body loader

Case Add a New Welding Fume and Dust Removal System to Achieve Clean Production

In March 2022, the Group finished transforming and adding the welding fume and dust removal system for the No.8 wide-body loader lighthouse factory and No.3 bracket lighthouse factory plant of Shenyang Heavy Mining Machinery Co., Ltd. The Company added a dust removal system for the No.5 centralized blanking lighthouse factory plant, and rectified the existent plasma cutting machine and dust removal equipment, improving the operating environment of the employees. The governance areas of the project were 5,184 square meters in total and the technology has been accepted now.

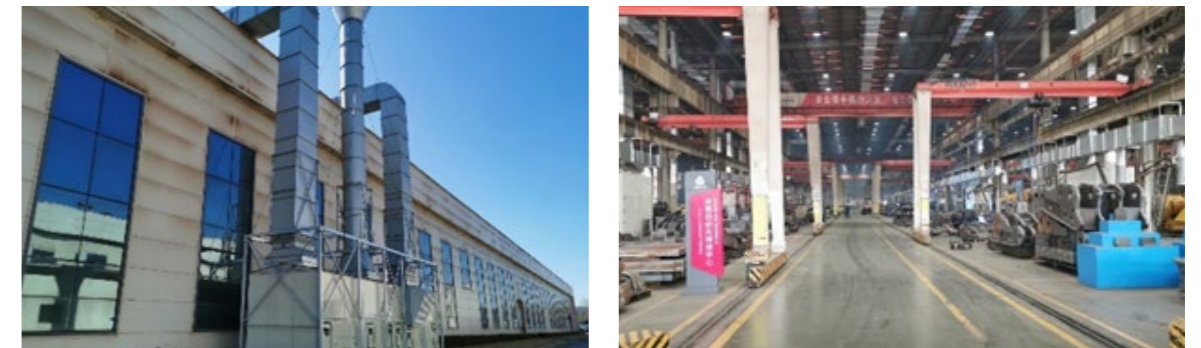


Figure: Newly added or transformed welding fume and dust removal system

Intelligent Manufacturing

Sany International deeply implements the digitalization strategy and explores the deep integration of digitalized technology and industrial area. The Company makes use of big data, industrial internet and robot technologies to promote the automation rate of production and realize the intelligence of the manufacturing process, striving to create a “Lighthouse Factory” representing the highest level of intelligent manufacturing and digitalization.

Case Introduce an Intelligent Groove Cutting Workstation to Promote the Automatic Equipment

The Company’s blanking workshop introduces an intelligent groove cutting workstation. The equipment can scan the steel plate directly through 3D vision so that the cutting trajectory of the robots can be generated and the corresponding process parameters can be properly matched. Except for that, the equipment can match multiple types and various shapes of steel plates. And the robot can cut the groove of the steel plates without programming or trial teaching. The equipment is also capable of reducing 35 minutes of changeover time, saving 16 seconds of machine positioning time, which obviously promotes the equipment utilizing rate and production efficiency.

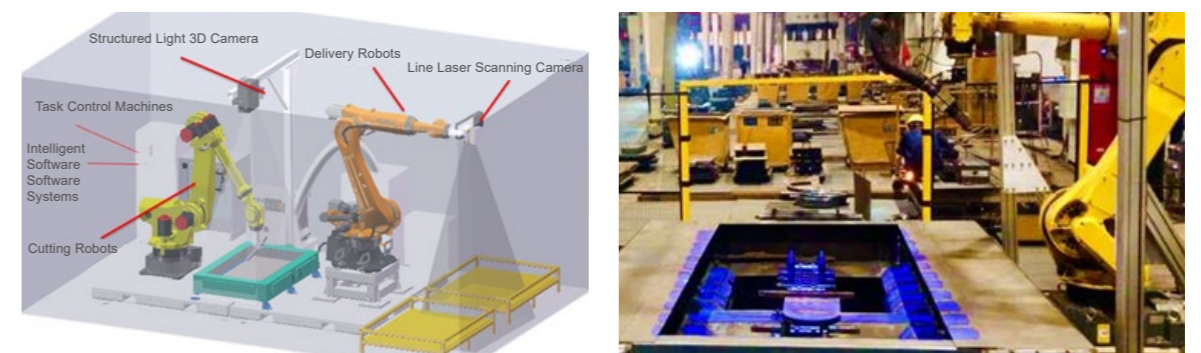


Figure: Intelligent groove cutting workstation

Case Sany Robotics Helps No.18 Plant to be Assessed as a Global Lighthouse Factory

Sany Robotics is committed to becoming a vanguard of exploring digital and intelligent development. Sany Robotics provides an intelligent manufacturing solution for the No.18 plant with the assistance of its intelligent warehousing and logistics solution, intelligent factory and production line planning. In the pile driver lighthouse factory honored as “the Smartest Factory in China”, every kind of automated guided vehicles (hereinafter referred to as AGV) can be seen everywhere in Sany Robotics Technology Co., Ltd.

Intelligent warehousing and logistics solution



As a comprehensive system platform with information technology covering AGV and stereoscopic warehouse, the intelligent warehousing and logistics system is able to coordinate the operation of each link to ensure the timely and accurate warehouse-in and warehouse-out operation, as well as real-time and transparent inventory control operation. Therefore, not only the labour and inventory space can be saved, but also the operational costs can be reduced so that the enterprise’s market competition can be strengthened.

Intelligent factory and intelligent production line planning



Focus on eight processes including unloading, molding, welding, heat treatment, machining, spraying, assembling and commissioning, and apply the welding, handling, assembling and other intelligent manufacturing applications of robots, aiming to promote the automation of the factory, improve the quality and increase the efficiency for the enterprise.



Figure: Intelligent Production Line of Sany Robotics

Case Serve New Energy Industries to Create an Intelligent Production Line Solution

Sany Robotics provides design and manufacturing solutions for automatic production lines for the upstream, midstream and downstream customers of the new energy industry. It also provides an intelligent logistics solution and completes the disassembly of the battery pack to solve the transportation difficulties such as loading and pallet recycling of each production line.

To complete the intelligent and intact disassembly of the battery, Sany Robotics provides automatic equipment of a complete set and introduces AGV into logistics transferring. The 24-hour uninterrupted production of robots and the one-touch call function significantly increase the production capacity and safety efficiency and improve the overall automation of the production line.

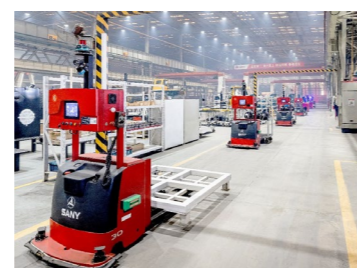


Figure: AGV delivery of Sany Robotics

Intelligent Park Construction

Sany International upholds the construction concept of “digitalization and intelligence”, and regards “Safety, Experience, Efficiency” as the construction goal. To create the efficient “production + life collaborative intelligent park” featuring production energy conservation, consumption reduction and intelligent and efficient service, the Group applies 5G network, Internet of Things, artificial intelligence and other information technology methods in combination with high-grade, precision and advanced technologies such as intelligent equipment, buildings and traffic.

Intelligent Office



- With 2.5D visualization of working station resources in the park, employees can make reservations in various ways according to their demands, which greatly improves the utilization rate of resources in the office area.
- The online service platforms of Sany+ and Feishu are adopted to realize the automatic dispatch of orders and closed loop management for office demands such as maintenance applications.
- The intelligent energy-saving monitoring system for water consumption in the park is adopted to monitor the water use in time, to collect, summarize and analyse the operational data, comprehensively promoting the utilization efficiency of water resources.

Intelligent Dormitory



- The dormitory is equipped with electronic door locks and smart water and electricity meters, which can automatically analyse abnormal data and facilitate timely rectification to reduce energy consumption.
- An electronic contract is signed for dormitory check-in, and the check-in is handled online in the whole process to improve the check-in experience.

Intelligent Cafeteria



- The whitelist management is carried out for suppliers. The suppliers are required to upload qualifications and health certificates. Meanwhile, the food retention samples and pesticide residue testing are monitored and managed online.
- The system of personnel management is used to synchronize employee dining data to achieve barrier-free dining across parks.
- The OA online approval process is established to have a real-time push of visitor dining consumption records to improve dining service quality for customers.


Intelligent Passage



- In accordance with the “Red, Yellow and Green Zones and Strategies”, the park management regulations such as the *Security and Passage Strategy Manual* and the *Camera Location Map* have been formulated.
- The self-service visitor system is adopted to simplify the visitor reservation and verification process and greatly reduce visitor passage time.
- The employee information is identified intelligently and employee access right management is optimized to achieve non-sensing access across parks.
- The automated and intelligent patrol and near field communication (NFC) technology is provided for clocking in to guarantee the smooth proceeding of security work.

Intelligent Port Construction

Sany International is devoted to building a world-first-rate green and intelligent port. Sany International conducts independent development of core key technologies for smart ports and focuses on launching multiple new energy and new intelligent products such as electric reach stackers, unmanned pure electric tractors and automated container transport vehicles, which can also relate to the dock operation system. Thus, the seamless connection between the business process and the control process is realized, and the automatic capture and release of containers improves efficiency and helps the green and intelligent development of port logistics.

Case	Four-rope Anti-shaking and Anti-twisting Technology - the Domestic Initiative Technology
<p>For a long time, the four-rope tire crane's automatic transformation has been difficult, containing issues such as a long transforming cycle, low automation extent, low systematic efficiency, anti-shaking and anti-twisting issues. In 2022, Sany first overcame the four-rope RTG difficulty - anti-shaking and anti-twisting technology. And it had no competitor. The technology enhanced the overall efficiency by 2 containers per hour, being used in the smart dock solution provided by Sany. In combination with the electric anti-shaking and anti-twisting system, highly reliable crane deviation correction control technology and efficient automatic drop-off technology of external container trucks, the operation efficiency of Tianjin, Ningbo, CM Port and other ports are promoted, thereby injecting Sany's strength into the construction of national green ports.</p>	
 <p>Figure: Application of four-rope anti-shaking and anti-twisting technology</p>	

Case	Create Unmanned Pure Electric Tractors to Promote the R&D and Manufacturing of Intelligent Port Logistics
<p>SM4254TOBEV has inherited the accumulated and reserved quality and technologies of Sany Port Machinery for many years and is a new product developed for the unmanned operation of closed areas like ports. It is also a new breakthrough of "remote control+L4 level automatic driving control". It not only has a brand-new appearance design of no-driving cabs, but also has multiple features such as a small turning radius, strong power, high safety, accurate positioning and smart control.</p>	
<p>Small turning radius: The smallest turning radius is 7m, ensuring a higher passing rate and steering flexibility of trucks;</p> <p>Strong power: The single-motor direct drive power form has strong power, and the gradient climbing ability is $\geq 7\%$ under the condition of a full load of 70t.</p> <p>Accurate positioning: Laser navigation + integrated Beidou satellite navigation + visual navigation technologies intelligently correct the alignment errors to realize the accurate positioning of the vehicle.</p> <p>High safety: With millimeter wave detection + ultrasonic detection and passive collision detection, it has a higher safety property.</p> <p>Intelligent control: The function of artificial vehicle control is reserved. Through a remote control system, the artificial remote control of the vehicle can be achieved. Accordingly, SM4254TOBEV has greater flexibility in use; it has remote power-on and power-off functions. The operation efficiency can be increased and the labour intensity can be lowered by starting or shutting down the vehicle via APP; the vehicle head is designed with 3 LED display screens. The screens show the real-time operation information of the vehicle, facilitating vehicle management.</p>	
 <p>Figure: Unmanned pure electric tractor</p>	

Quality Control

The Group always adheres to the principle of product safety and reliability, and regards product quality control as the top priority of sustainable operation. The Group complies with the laws and regulations related to product liability in the places of operation, consistently implements the existing quality standards of the places of operation and the industry, and has formulated such internal management systems as the *Quality Control System*, etc. In 2022, the Group has optimised its quality control system construction, updated and released 17 systems, including the *Management Manual of Quality, Environmental and Occupational Health and Safety System*, as well as 33 procedures to strictly control quality risks in each link of the whole value chain, such as procurement, manufacturing and delivery, etc. Sany Heavy Equipment and Sany Marine, the subsidiaries of the Group, both have passed professional audit and certification, with product and equipment design and manufacture meet the requirements of ISO 9001:2015 quality management system standard.




Figure: Quality Management System Certification (International)



Figure: Quality Management System Certification (Domestic)

Product Quality Improvement Program


The Group has established corresponding measurement standards and goals for product qualification rate, failure rate and other quality data, and continuously follows up on the specific work progress and completion of the quality improvement plan, and makes effective summaries and optimised adjustments. In 2022, leveraging on such industrial software as QIS/MOM/MES/SAP, the Group strictly abided by the requirements of its internal systems and conducted quality risk identification and control over the whole process from incoming materials to leaving the factory and to delivery, and has realised online operation of 280 process nodes and 32 automatic nodes.



has realised online operation of

280

process nodes




32

automatic nodes

Case	Launch of Quality Planning Mechanism to Improve Product Quality by Multiple Departments
<p>The Group has established a monthly quality planning mechanism, which comprehensively covers after-sales failures, re-inspection problems, technical agreements, new audience rooms, technical changes, regular inspections and patrol inspection, to comprehensively manage problems related to product quality. A monthly meeting is held by relevant departments to discuss and make quality control plans, so as to form a closed-loop management model of PDCA, which has achieved preferable results, with the after-sales indicators, re-inspection quality and process indicators comprehensively lifted.</p>	

Supplier Quality Management

The Group has set up internal regulations such as the *Incoming Material Control System*, the *Parts and Components Access (Approval) Procedure*, the *Technical Transformation Project Management System*, the *Sporadic Equipment Declaration and Procurement Management System*, the *Equipment Installation and Acceptance Management System*, and strictly implemented the supplier access mechanism in accordance with internal management regulations. Sany International properly arranges procurement in strict compliance with review requirements as well as safety and quality standards. In 2022, the Group implemented process monitoring over suppliers through digital software.

Case	Improving Quality Management Efficiency through the Digital Software of Quality Cloud
<p>The Group has developed the "Quality Cloud" software, timely updated the inspection standards for warehouse-in inspection and process inspection, specified the dimension requirements of key parts and components, and required suppliers to conduct self-inspection and take photos for review. In the past, the internal weld of the box-type structure could not be inspected during the inspection of the supplier's incoming structural parts, now the monitoring of internal weld quality can be realised by uploading photos to the Quality Cloud. The Quality Cloud can also trace the specific operator and production date, specifically, it has achieved the monitoring of more than 9,800 quality points from 59 suppliers, with a total of 110,000 quality data photos collected in 2022.</p>	

Product Production Quality Management

Sany International has set up standardised systems, and the *Management System for Non-conforming Products* is formulated. Relying on comprehensive quality management and preventive control measures, as well as a quality inspection system centered on automation technology and error-proofing system, non-conforming products are prevented from flowing into the next process.

Focusing on the inspection benchmark, the Group clarifies the key steps to be controlled in the production process. In 2022, the Group updated the *Regulations on the Atlas of Errors in the Production Process*, through the publicity of key points, and combined with the daily training and publicity of the manufacturing to ensure that all personnel, from persons in charge of production to inspectors, are familiar with the quality control points in the production process, and ensure that the product quality is fully compliant.



Product After-sales Management

Upholding the principle of customer first, being open and transparent, the Group regularly collects product quality suggestions from customers, and regularly arranges on-site supervisors to follow up quality management. The Group strictly abides by internal regulations such as the *Product Recall Management System*, to conduct timely investigations on defective products, timely give feedback on product defects and make rectifications accordingly, and formulate preventive measures to minimize the dangers and hidden dangers caused to customers by defective products.

During the Report Period, the Group did not experience any incident of product recalls due to product quality issues, and the percentage of total products sold or shipped subject to recalls for safety and quality reasons was zero.

Quality Publicity and Training

The Group carries out Quality Month activities, and conducts publicity and training in the form of daily publicity newspapers, monthly reports and on-site centralized inspections. Each department within the Group conducts various quality-related special training sessions, including quality awareness, product failures and countermeasures, inspection skills, etc. In 2022, a total of 2,500 person-times have been received.



Customer Services

Adhering to the business philosophy of "All for the Customer, All from Innovation", Sany International focuses on the user demand-oriented business model, which covers the whole links of product design, manufacturing and after-sales services. Centering on the provision of best solutions from the perspective of customers, pursuing the goal of prompt response to customer demands by capitalising on smart services, and following the service philosophy of digitalized, networked and intelligent smart ecological cloud services, the Group is committed to optimizing the quality of services, and ensure that the rights and interests of customers are fully protected in strict compliance with such laws and regulations as the *Law of the People's Republic of China on the Protection of Consumer Rights and Interests*.



Quality of Customer Services

The Group provides a full range of integrated services and constantly improves the after-sales mechanism. In 2022, the Company established an after-sales coordination group for shutdown faults, and specifically stipulated the number of days for dealing with domestic shutdown faults and international shutdown faults to further optimise the service quality.

Table: All-round Integrated Services of Sany International

	Coal Machine Lecture Hall	<ul style="list-style-type: none"> We build an online communication platform for learning and training, which can realise online learning, live teaching, online examination and message interaction, etc.;
	Remote Service	<ul style="list-style-type: none"> We realise remote service visualisation, real-time sharing of fault scene vision between back-end experts and front-line service personnel, and support service engineers in need to solve tricky faults efficiently and quickly;
	Smart Call Center	<ul style="list-style-type: none"> Remotely guide customers to handle faults online through tools such as the Customer Cloud or virtual phone, and realise smart voice browsing, visualised IVR and real-time online three-way calling or video communication between customers, customer service personnel and engineers;
	Accessories Mall	<ul style="list-style-type: none"> Relying on the Sany Customer Cloud Platform, we have established an online accessories mall where customers can place orders online to purchase accessories;
	Logistics Visualisation	<ul style="list-style-type: none"> We realise online queries of the whole process of spare parts delivery, and visualize the logistics status.

Through "Sany Customer Cloud Platform", the Group has established a response mechanism that seamlessly connects the upstream and downstream of the industry, including equipment agents, users, repairers and operators, which can provide "one-click quick call" service and automatically match with service engineers, so as to provide customers and partners with performance management solutions covering the whole life cycle of the equipment.

In 2022, Sany Port Machinery carried out an 82-day spring inspection activity of "Serving the World with Concerted Efforts" to conduct a comprehensive physical examination of equipment for customers. We focused on investigating and preventing cracking problems of boom and spreader structure parts, inspected the status of new products and conducted preventive testing of air conditioning and fire prevention issues in summer. Moreover, the Company listened to customers' demands through QR code assigned by "one-click call", striving to improve customer satisfaction and create value for them.

Case	Sany Heavy Equipment Carried out the "Global Service Tour", Wholeheartedly Fulfilling Its Commitment to Customers with Actions
<p>The Global Value Service Tour by Sany Heavy Equipment in 2022 was launched on 18 May, lasting a total of 135 days, with a total service mileage of 105,000 kilometers, and total 920 customers were visited with a customer satisfaction rate of 100%, representing a successful implementation of the task.</p>	
<p>A total of 2,538 customers were interviewed during this global service tour, 279 questions and suggestions were collected, with the problem closure rate of 100%; a total of 287 on-site customer training sessions and 4 online large-scale training sessions were carried out for mechanical, electrical, and hydraulic knowledge of the equipment, maintenance operation standards as well as common fault cases, and a total of 4,734 customers participated in those training sessions.</p>	
<p>Figure: Training or Seminar Site of Global Service Tour</p>	

Customer Satisfaction

The Group has formed a regular customer satisfaction survey mechanism and formulated the *Guidance File on the Follow-up Work of Customer Satisfaction Survey*. In 2022, Sany Port Machinery conducted a customer satisfaction survey through an online platform on the basis of optimised survey questionnaires and an investigation platform. In 2022, our customer satisfaction reached 92.5 points, representing a year-on-year increase of 0.1 points.

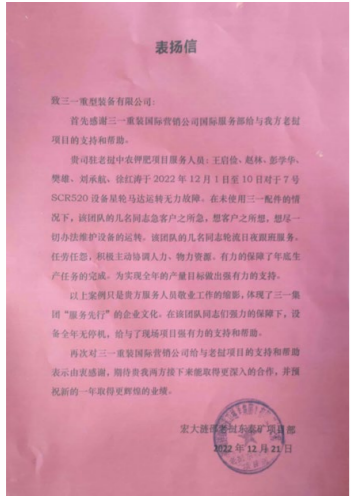
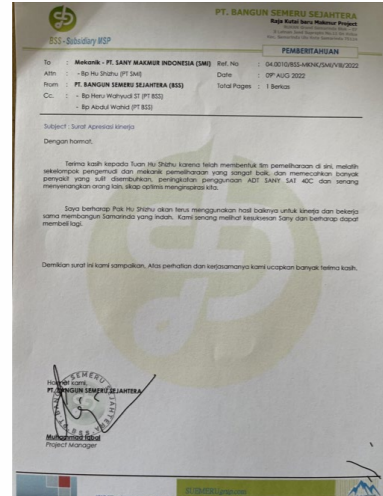

In 2022,
our customer satisfaction reached
92.5 points

In order to improve the efficiency of complaint handling and resolution, and enhance customer satisfaction, the Group has established the *Customer Complaint Handling Process*. All of the customer feedback and complaints will be responded to in accordance with the process standards of the guiding document. For all customer complaints, the Group will reply and reach a consensus with customers within two hours upon the receipt of information, and achieve a 100% handling rate. During the Report Period, the Group has received 6 complaints about product quality.



Achieve the handling rate

100%

Case	Thanks to the Conscientiousness, Sany Heavy Equipment Team Was Highly Recognised by Customers
<p>On 21 December 2022, the project department of Hongda Lianshao Dongtai Mining in Laos sent a letter of thanks, praising the team members' service-oriented spirit of "Prioritise Customers' Urgent Needs and Think from the Customers' Perspective", and on 26 December, Thailand subsidiary also sent a letter of thanks to express its affirmation and gratitude to the special service team of Sany Heavy Equipment in Thailand.</p> <div style="display: flex; justify-content: space-around;">    </div> <p>Figures: Letters of Thanks or Recommendations from Overseas Customers</p>	

Responsible Marketing

The Group firmly advocates responsible marketing, has formulated and updated the *Administrative Measures for Fair Marketing Competition*, requiring all business units, branches and agents to sign a letter of commitment, and conduct training and publicity at least once a year and self-inspection at least once every six months, and promise not to exaggerate facts or discredit competitors when promoting products, strictly abide by the bottom line of industry competition, and prohibit unfair competition. For the personnel and units who violate the regulations, the Group imposes administrative penalties such as economic punishment, demotion, suspension or even dismissal. In case of constituting a crime, the violators shall be handed over to the judiciary authority for handling. In addition, to ensure that the product information provided to customers is accurate, all advertising copies and related data must be jointly reviewed by the Company's legal counsel and the research institute before being released.



04

Growth in Harmony

Material Issues

- 01/ Employees' rights and interests guarantee
- 04/ Employees' safety and health
- 08/ Employee training and development
- 10/ Employee diversification and equal opportunities
- 22/ Employee communication



Talents Introduction and Retention

Employees are the most valuable asset of Sany International. The Group actively improves its own employment system, creates a diverse, free, healthy and safe working platform for employees, establishes a close relationship with mutual trust and support, and is committed to cultivating a first-rate team and achieving the corporate culture of "Creating First-rate Talents".



Compliant Employment

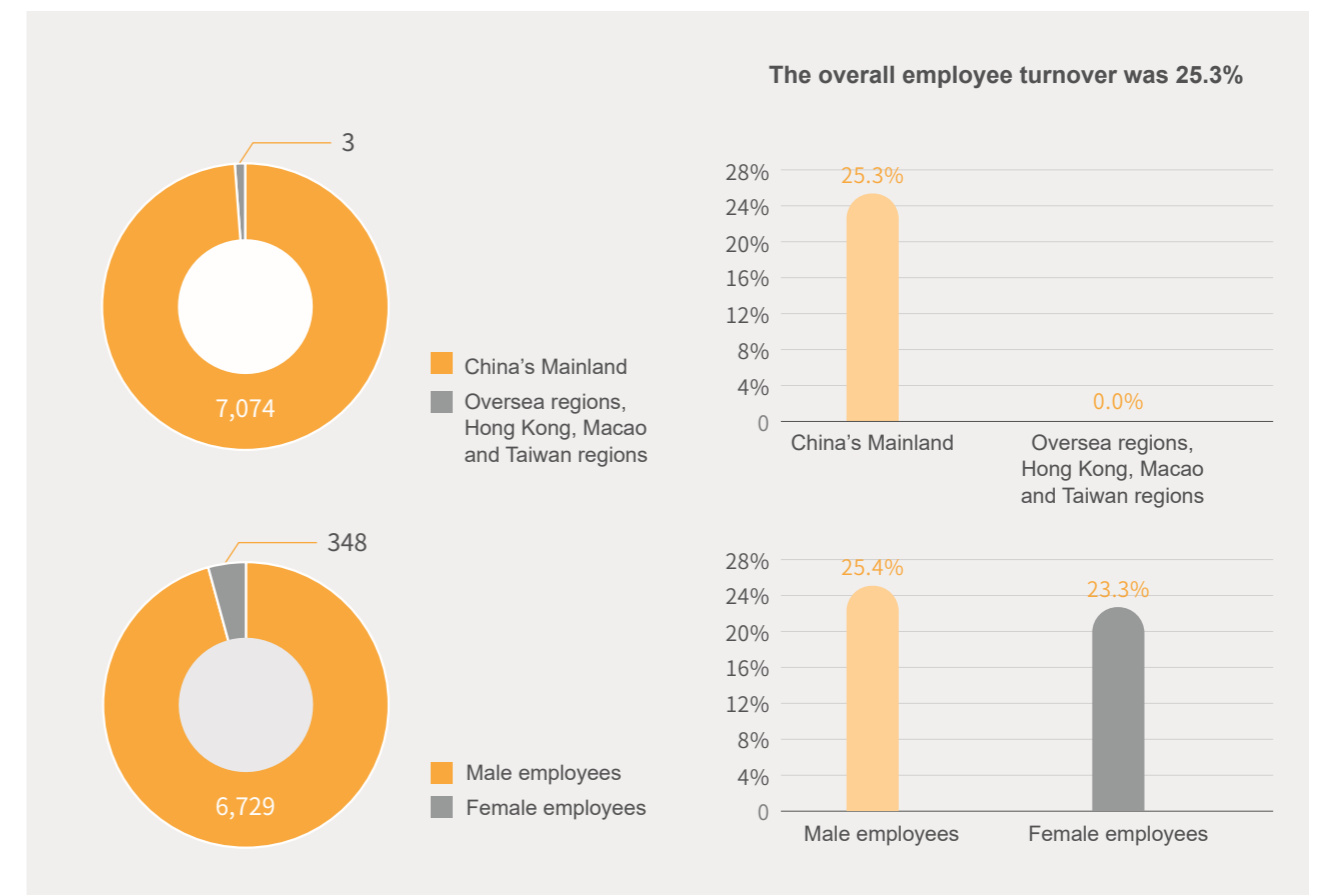
Sany International supports the core conventions of the International Labour Organisation and labour rights and interests protection mechanism to fully protect human rights. We support international human rights conventions such as the Universal Declaration of Human Rights. We comply with the relevant laws and regulations of each operating place such as the *Labour Law of the People's Republic of China and the Labour Contract Law of the People's Republic of China*, and formulate the internal management systems such as the *Recruitment Management System, the Recruitment Channel Optimisation Management Measures and the Process and Management System for Jointly Running a School*, to standardize the corporate recruitment process and employment standards and improve the quality of recruitment.

During the recruitment process, the Group strictly abides by various anti-discrimination laws and regulations, respects the diverse backgrounds of employees, and resolutely eliminates discrimination due to differences in religion, race, gender, nationality and age, etc. In terms of employee employment and performance benefits, we adhere to the principle of fairness and openness to ensure that employees enjoy fair working conditions. At the same time, the Group also responds to the legal regulations of the *Provisions on the Prohibition of Using Child Labour*, prohibiting any employment of minors as labourers. According to the actual employment situation of the Company, the Company adjusts the employment policy in time to prohibit the phenomenon of forced labour.

Civil liberties

We respect employees' rights of free association and collective bargaining agreements, and establish a corporate labour union as an effective bridge for communication among employees and between employees and the Company. We attract talents through channels such as internal competition, social recruitment and campus recruitment, strengthen cooperation with many excellent colleges and universities, and focus on exploring technical talents in the fields of Internet and technology, so as to use emerging technologies such as software and data to drive the Company's intelligence development.

Up to the end of the Report Period, the Group employed a total of 7,077 employees worldwide (including outsourcing labour), including 7,074 employees in Chinese Mainland and 3 employees in overseas regions, Hong Kong, Macao and Taiwan regions; 6,729 male employees and 348 female employees. During the Report Period, the overall employee turnover was 25.3%, of which the employee turnover in Chinese Mainland was 25.3%, and the employee turnover in overseas regions, Hong Kong, Macao and Taiwan regions was 0.0%. The turnover of male employees was 25.4%, and the turnover of female employees was 23.3%.



Compensation and Welfare

The Company has formulated internal welfare policies such as the *Management System for Staff Incentives and the Integrity, Management Measures for Staff Incentive Scheme*, the *Paid Annual Leave Management Process*, the *Employee Welfare Management Regulations* and the *Reward and Punishment Management Process*, forming a comprehensive rights protection system. Meanwhile, we provide employees with a diversified performance-based remuneration system that includes equity incentives to increase their income levels, share the Company's development results with employees, enhance employees' work enthusiasm, enhance their sense of work achievement, and further enhance employees' confidence in the future development of the Company.

Welfare system



Basic welfare

- Legal holidays are given according to national regulations, such as marriage leave, bereavement leave, maternity leave, paternity leave, breastfeeding leave and work-related injury leave, etc.;
- Employees in China's Mainland: Five insurances and the housing fund are paid according to law;
- Employees in Hong Kong: Medical insurance and year-end bonus are provided;
- Special groups (foreign experts, personnel on business trips abroad): The corresponding insurance is covered.



Equity incentive

The Group has adopted a share option scheme and a share incentive plan to honour and reward the employees contributing to the growth and development of the Group. In 2022, a total of 1,170 employees were granted restricted stock incentives.



In 2022, a total of **1,170** employees were granted restricted stock incentives.



Performance bonus

We have established a multi-performance system such as year-end performance bonus, profit sharing plan and extraordinary target rewards, provide reasonable performance components for R&D, sales, senior management, and front-line employees and issue performance rewards according to employees' contribution.



Other welfare

Social insurance, commercial insurance, occupational health examination welfare, birthday welfare, housing welfare, heatstroke prevention and cooling welfare, catering welfare, clothing welfare, holiday welfare, transportation welfare, employee event welfare and schooling welfare for employees' children.



Employee activity

Employee birthday parties, family open days, employee baking activities, badminton games, basketball games, cooking competitions, food festivals, fishing competitions and other rich activities for employees.

Case Implemented a Family Open Day for Experiencing Sany's Care Culture

The Company carried out a family open day activity in Mid-July 2022. The activity set many processes such as scene experience, parent-child activity, food appreciation, interactive games, making the employee's family enter the enterprise to deeply feel the friendly work life and corporate culture of Sany's employees.



Figure: Family Open Day of Sany International

Case Held a Badminton and a Basketball Competition to Strengthen Employees' Cohesion

The Company held the 13th Badminton Competition and Staff Basketball Competition activities in July and September 2022, respectively, enriching the spare-time cultural life of the Company and staff. The activities also strengthened colleagues' exchanges and enhanced cohesion while showing the excellent work style of unity and mutual assistance, and the aggressive style of Sany's employees.



Figure: Employees Entertainment Competitions

Case Held an Employee Baking DIY Activity to Promote Employees' Happiness

On Mother's Day in May 2022, the Administrative Department and regional labour union jointly organised the employee baking DIY activity "Double Happiness from Baking with Your Company" to respect the remarkable efforts the Sany's employees made in work, which strengthened the employees' happiness and belongingness and motivated employees for work.



Figure: Hold an Employee "Baking Diy" Activity

Career Development

Adhering to the concept of "Build A First-class Enterprises, Foster First-class Talents, Make First-class Contribution", the Group provides employees with a comprehensive training system ranging from new hires entry to professional skills improvement, so that employees can always tap their unlimited potential and continuously realise their self-value.

Training Course System

The Group has formulated internal management systems such as the *Training Management Process* and the *Training Management System*, established an online learning platform "Sany Online College" developed for all employees, and built a training course system covering R&D, business, quality, career development and leadership improvement, providing opportunities for employees to realise their self-value.

Table: Training systems of Sany International

R&D	Business	Quality	Career development
<ul style="list-style-type: none"> Professional knowledge and skills Patent knowledge and risk management Data analysis model Standardized management 	<ul style="list-style-type: none"> Supplier management Procurement budget planning Customer communication and service Marketing knowledge training 	<ul style="list-style-type: none"> Quality control tools Quality management system and research Operation safety training 	<ul style="list-style-type: none"> Human resources management Leadership training

New employee training

In accordance with the internal management measures such as the *Entry Training Management Process*, the *Entry Training Management Measures* and the *Credit System Training Management System*, we require new employees to complete comprehensive induction training during the probationary period, and in-service employees must complete learning courses with certain credits every year. During the Report Period, we provided a total of 147,486 person-times of training, and the average training time for all employees was 79.08 hours.

We provided a total of **147,486** person-times of training

The average training time for all employees was **79.08** hours

Case Held a Sany Gourmet Festival and the Employees Enjoyed the Festive Feast

On 1 March, 2022 to celebrate the 36th Sany Day of Sany Group, Sany Ocean Heavy Industry Co., Ltd. held an activity "2022 Gourmet Festival of Sany Marine Heavy Industry" in Zhuhai Industrial Park with multiple designed links like food check-in, food appreciation and interesting activities. The activity began with a festive lion dance performance. Receiving the wealth by painting the lion's eyes not only expressed the unlimited expectations for the future, but also encouraged Sany's staff to keep the original aspiration in mind and continue striving. After the lion dance performance, the leaders of the Company including Chairman Fu Weizhong jointly cut the large cake emblazoned with "2022 Sany Marine Heavy Industry's Gourmet Festival" and then a feast of food and fun started. 42 kinds of Chinese and western snacks and delicacies were provided free of charge, satisfying the gourmets' taste buds. And there were also interactive games such as ringtoss, beanbag game, red packet wall. The gifts kept on being given and the fun was going on.

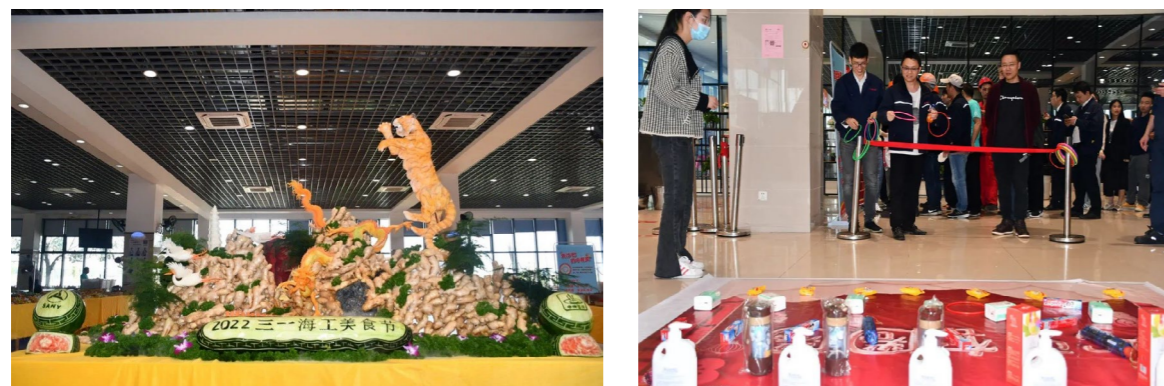


Figure: 2022 Sany Marine Heavy Industry Gourmet Festival

Continuing education

We provide continuing education and vocational qualification recognition support programs for all employees to encourage employees to further improve their academic qualifications and vocational skills. We provide junior high school and senior promotion training for front-line technicians, carry out skill development projects, organise relevant welders to obtain international welder certificates and organise technicians for external study and training to obtain relevant certificates upon passing the examinations.

Talents Promotion Development

To realise a fair and just promotion, we have formulated performance evaluation criteria and an incentive and restraint mechanism for senior management. The Company's recruitment of senior management is open and transparent, complying with the provisions of relevant laws and regulations. For all regular employees, we have formulated a performance management system and carried out hierarchical reporting and performance appraisal work.

Talents promotion paths

The Group designs the promotion paths according to two types namely operation management and professional R&D technician, among which, the operation management promotion path is from specialists to managers to senior managers; the promotion path for R&D technicians is internal title promotion: from junior to intermediate and to senior.

Table: The operation management promotion path



Table: The promotion path for R&D technicians



Customised talents selection

The Company has established a series of customised talent training and selection programs such as "Potential Talent", "Elite Training Camp", "Eyas Program" and "Reserve Echelon Cadre" to help employees achieve rapid growth, thereby creating a diverse and high-quality talent team.

Among the programs, the "Eyas Program" is the most effective way to realise promotion from the middle and grass-roots staff to the management of the Company for young trainees competing for jobs within the Company. Young employees intending to be promoted by this program can first sign up for join the Company's "Eyas Program" training class for full-time study. A new interview will be conducted after the candidates are selected based on various factors such as training scores. Once the candidate is selected, he/she will be directly appointed to the corresponding leadership position or will be promoted by one level from the entitlement level of the original position. Through selecting young and successful potential talents for management, new energy is brought to the development of Sany International and the mutual development of employees and the Company is achieved.



Health and Safety

Sany International adheres to the occupational health and safety management policy of "Total Involvement, Prevention First, Safety and Health, Law-abiding and Continuous Improvement". We have established the corporate occupational health and safety management system in accordance with the requirements of laws and regulations such as the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*.

System Certification

We have established the Occupational Health, Safety and Environment (HSE) Management Department in the Group layer to assess and analyse the work risks of different positions, actively avoiding and decreasing the health and safety risks of the work environment. To better implement the guidance and management of occupational safety and health, each subsidiary sets up corresponding Safety, Environmental Protection and Occupational Health Management Committee (Safety Committee) with the general manager of each subsidiary as the director and the manufacturing director as the deputy director. The Safety Committee strengthens safety and health awareness in the daily production and office work and is committed to promoting the occupational health protection of the Company's employees, jointly creating a safe, healthy and harmonious work environment.



All subsidiaries of the Group have passed ISO 45001:2018 Occupational Health and Safety Management System certification. We also carry out annual external audits of our Occupational Health and Safety certification and related risk work to maintain a continuous focus on occupational health and safety in our production operations.

System Construction

Sany International has formulated a series of safety management systems covering employees and contractors for safety risks of various positions, regularly assessed and systematically managed the safety and health performance of all operations in the Group. We have issued the *Incident Assessment Regulations* to clarify the incident punishment measures for internal employees and connected the incident occurring with the responsible executive's performance. Meanwhile, we formulated the *Supplier Safety Management System*, requiring contractors to sign the *Safety and Environmental Protection Agreement*, abide by the safety production rules and regulations formulated by the Company, and determine the person in charge of safety production at the operation site. Serious incidents shall be reported to the Commerce Department in time for further supplier qualification evaluation if any.

We positively check and govern the hidden dangers in daily work. We require that an on-site inspection should be conducted in each project area every day, an overall safety inspection should be conducted every week and a special safety inspection should be conducted every month to identify the potential safety hazards and rectify them in time. To realise systematic management, we have established an account management system for related parties of production operation in 2022 to review the qualification of all constructors. And the constructors are required to sign the safety agreements, and assist in carrying out the safety training activities for related personnel, ensuring no safety accidents occur on the construction site.

Management by Objectives

Sany International abides by the current national production safety laws and regulations and relevant guidelines, actively strengthens the management of production and safety and health-related objectives, and clearly implements safety management responsibilities in specific production and operation links. The work of the HSE team in each subsidiary is led by the head of the manufacturing department, is carried out on a day-to-day basis and is reported directly to the Board of Directors. We include each HSE management system objective in the annual personal performance objectives of the relevant functional personnel to ensure that the Group achieves the HSE management system goals in the whole process.

Table: HSE management metrics system goals of Sany International

Health and safety management dimension	Management index	Goals in 2021		Achievement of targets for 2021		Goals in 2022	
		Sany Heavy Equipment	Sany Marine	Sany Heavy Equipment	Sany Marine	Sany Heavy Equipment	Sany Marine
Employees' health and safety	Fatal accident rate	0	0	0	0	0	0
	Thousand-person serious injury rate	≤ 3‰	≤ 3‰	0	0	≤ 3‰	≤ 3‰
	Thousand-person injury rate	≤ 5‰	≤ 3‰	0	0	≤ 5‰	≤ 3‰
	Occupational disease rate	0	0	0	0	0	0
Fire safety	Explosion accident, major fire	0	0	0	0	0	0
	Large fire (10,000 ≤ Loss ≤ 100,000)	0	0	0	0	0	0
	Normal fire (Loss ≤ 10,000)	≤ 5‰	0	0	0	≤ 5‰	0
Labour protection equipment	The wearing rate and correct use rate of labour protection equipment for employees working on site	100%	100%	100%	100%	100%	100%
Special operations	The employment rate of special operators with certificates	100%	100%	100%	100%	100%	100%
Special equipment	Effective use and scheduled verification rate	100%	100%	100%	100%	100%	100%
Occupational health and safety training	Proportion of employees receiving safety training	100%	100%	100%	100%	100%	100%

To make the safety production goals come true, we adopt the annual HSE target and management program formulated by each subsidiary's manufacturing department. The relevant departments of the Group communicate with each subsidiary's manufacturing department to regularly conduct an internal inspection and rectification for the Group's HSE omission issues.

Safety Risks Management

HSE Management Department regularly organises each subsidiary's Business Department, Safety Management Department and Lean Quality Head Office to participate in research and discussion according to the *Hazardous Sources Identification and Risks Assessment Control Procedure*. The department also selects the risk assessment method for operating conditions as required (score evaluation method), job hazard analysis method (JHA) and safety checklist method (SCL), identifies and evaluates the safety hazards in various production links and areas such as loading, welding, hoisting, painting, assembling, shipping and transshipment, and sets targeted management goals and adopt specific management measures to guarantee the safety and reliability of the working environment.

Additionally, we also actively highly value the health and safety management of the supply chains as well as formulate a series of health and safety management goals covering the contractors, including the goals in employees' safety, fire safety, labour protection equipment, special operations, special equipment and other dimensions. In 2022, all of our subsidiaries realised the annual safety and health goals. We will continue to manage the health and safety management of the Company and contractors based on the annual goals, and further promote the health and safety management performance of the Group.



Creating a Safety Culture

Sany International continuously consolidates the employees' safety education and training to create a corporate culture of workplace safety. We provide new employees, on-the-job employees and contractors' employees with necessary safety knowledge training. All trainees are required to complete the relevant courses and pass related examinations before they can start relevant work, so that the product safety risks can be avoided to the greatest extent. In 2022, we refined the requirements for work safety, and formulated the *Forklift Driver Induction Certification System*, requiring all drivers gaining new licenses must pass the Company's internal training and tests and get a qualified grade before working.

New employees

We require new employees to complete special safety training for no less than 24 hours, including process safety operation training, safety training provided by the Quality Assurance Department, and safety publicity and implementation activities at the morning meeting of the team.

On-the-job employees

we have established special training plans for on-the-job employees according to job positions to provide at least one special safety training for each position every year.

Contractors' employees

For contractors' employees, we have formulated a systematic 5S and safety training system for the main person in charge of engineering construction and construction personnel, so that they can fully understand the safety management requirements of the Group.

Prevention of Occupational Disease Risks

Sany International strictly abides by national and local laws and regulations such as the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, and has formulated internal systems such as the *Occupational Health Management System*, the *Occupational Disease Hazard Prevention Management System* and the *Occupational Health Monitoring and Archives Management System*. We learn about the possible hazards in the workplace and develop corresponding preventive measures to reduce occupational hazards to employees through regular monitoring of occupational hazard factors. In addition, we issue allowances to qualified employees in special job positions, establish occupational health files for employees, maintain regular occupational health monitoring for employees, conduct regular occupational health inspections, and provide employees with personal protective equipment conforming to the safety and sanitation standards. We positively communicate with the employees and adjust the job positions where appropriate to satisfy the reasonable occupational safety requirements of employees. According to the provisions of the *Technical Specifications for Occupational Health Monitoring*, employees are provided with occupational health examinations covering pre-employment to pre-resignation examinations. To proactively prevent and minimize the probability of occupational diseases, we also adopt multiple measures, such as posting warnings and publicity signs and providing psychological counseling services.

Through systematic exploration of the occupational disease prevention and control system, we have formulated an annual plan for all employees' safety and occupational health, including a monthly implementation plan. We also regularly conduct environment tests on the Group and each subsidiary's production workplace, have generated and disclosed the *Detection Report of Occupational Disease Hazard Factors at the Workplace*. In the report, the job position settings, the monitoring and management of exposure to occupational disease hazard factors are described in detail, to ensure that employees are aware of the dangerous factors in the working environment and pay attention to the active prevention of such factors.



19 safety training sessions of the company layer were conducted throughout the year for new employees, with a total of over **700** trainees.



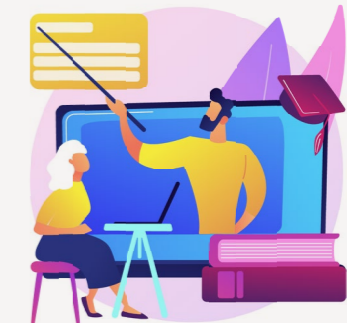
10 online safety training sessions and examinations were conducted through "Wenjuanxin", with a total of over **20,000** participants.



A safety lecture was conducted, with a total of **12,000** trainees throughout the year.



6 safety training sessions have been conducted throughout the year for forklift drivers, with a total of over **250** trainees.



05

Green Operation



Material Issues

- 03/ Climate change
- 09/ Atmospheric pollutants emission management
- 13/ Energy conservation and consumption reduction
- 15/ Wastes management
- 17/ Sewage discharge management
- 18/ Water resource management
- 21/ Green office

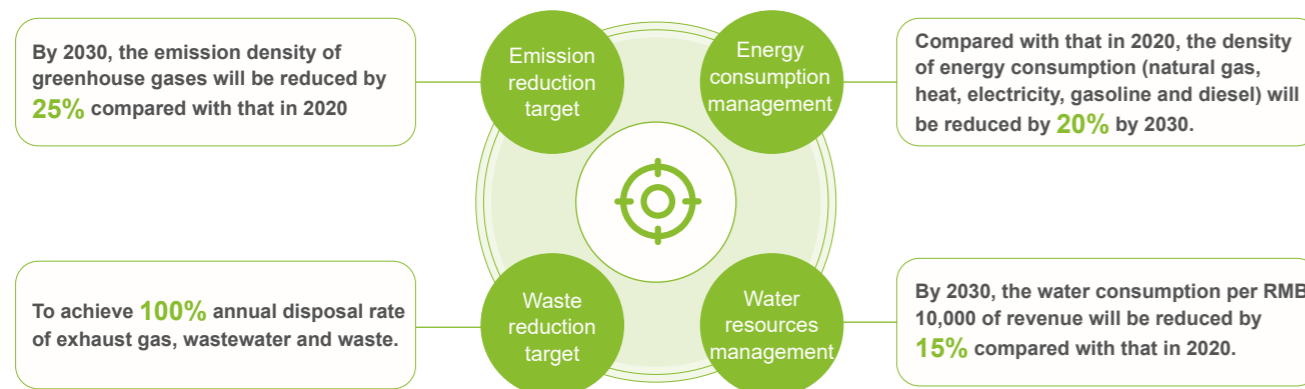


Environmental Management

Sany International strictly abides by the *Environmental Protection Law of the People's Republic of China* and other regulations and policy requirements, and has established a set of effective environmental management systems around the concerns of protecting the environment, saving resources and improving efficiency, so as to control environmental pollution at source. In 2022, we continued to promote the certification of various related management systems, further expanding the coverage of certification, updating and completing the certification of ISO 14001:2015, ISO 45001:2018, GB/T23331-2020, ISO 50001:2018, etc.



Based on the results of our regular environmental impact assessments and risk assessments, we develop appropriate environmental targets and plans and implement the environmental management system in the management of all operations throughout the Company.



Pollution Control

Sany International strictly abides by the *Environmental Protection Law of the People's Republic of China*, the *Atmospheric Pollution Prevention and Control Law of the People's Republic of China*, the *Water Pollution Prevention and Control Law of the People's Republic of China*, and the *Law of the People's Republic of China on Prevention and Control of Environment Pollution Caused by Solid Waste*, has established internal systems such as the *Pollution Prevention and Control Punishment*, the *Hazardous Wastes Management Procedure*, the *Exhaust Gas and Wastewater Management Manual*, the *Environmental Risks Prevention and the Management System* and *Environmental Emergency Plan*. We have set various pollutant emission management targets, and actively reduce toxic emissions and waste, such as the environmental targets including the emission of exhaust gas in the factory area, the environmental emission compliance rate of industrial wastewater, the rate of well-run environmental protection equipment, and the classified recovery and disposal rate of solid waste within the Company's production and operation business scope. By controlling environmental management risks with targets, the concept of waste emission reduction will be gradually realised. We pay close attention to the operation of environmental protection facilities by using the electricity monitoring system of environmental protection equipment, ensure that environmental protection treatment facilities operate synchronously with the main production facilities, and regularly replace auxiliary materials such as activated carbon, filter cotton and filter elements to improve the operation efficiency of environmental protection facilities.

Exhaust Gas

In order to effectively reduce the financial losses and risks caused by exhaust gas emissions, we strictly follow the provisions of the *Exhaust Gas and Wastewater Management Manual*, monitor, treat and control the exhaust gas produced in different production processes, understand its composition, emissions, emission temperature, location of emission outlets and other information, and then identify and adopt various exhaust gas treatment processes such as physical, chemical and biological methods. We actively improve the production process, optimise the exhaust gas emission link, and transform or remove harmful substances in the exhaust gas to ensure that it meets the emission standards of relevant national and local laws and regulations.

During the reporting period, the Group's exhaust gas management performance is as follows:

Exhaust gas emission	Unit	2022
Particulate matter	kg	556.51
Particulate matter emission density	kg/RMB10,000 of revenue	0.0004
VOCs	kg	441.60
VOCs emission density	kg/RMB10,000 of revenue	0.0003

Case Emission Reduction Scheme of Alternative VOCs Source

Emission reduction of alternative source: We have substituted the paint used in the painting process for the 3# workshop and 8# workshop of Sany Heavy Equipment Co., Ltd. The VOC content of the original oil-based primer was 368g/L, the VOC content of the oil-based topcoat was 344g/L, and the VOC content of the diluent was 898g/L. After research and discussion, the new water-based primer and water-based topcoat were adopted. After replacement, the VOC content of water-based primer was 117g/L and the VOC content of the water-based topcoat was 98g/L. The improvement scheme meets the requirements of VOC content in the water-based coatings of engineering protection coatings - mechanical equipment coatings - construction machinery and agricultural machinery coatings in Table 1 of *Technical Requirements for Coatings with Low Volatile Organic Compounds (GB/T38597-2020)*.

Terminal treatment measures: We updated exhaust gas treatment equipment, adopted the activated carbon adsorption concentration + catalytic combustion method, and linked the multi-stage filter and activated carbon adsorption and desorption system. By using multi-channel continuous operation, the organic substances in the exhaust gas are trapped in the equipment by the unique adsorption force of activated carbon, with an adsorption and removal efficiency of more than 80%.

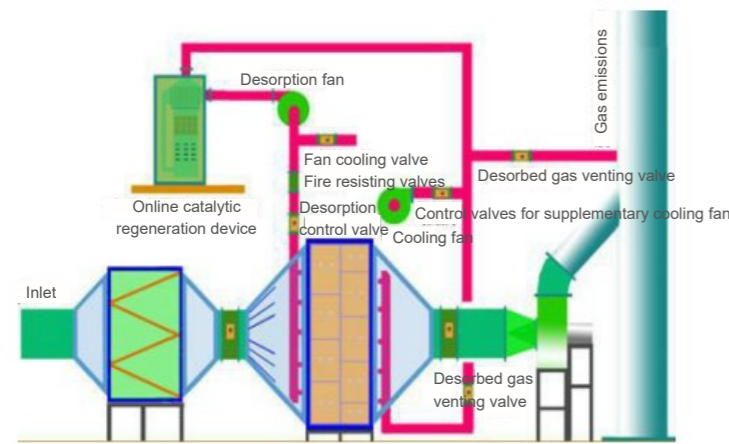


Figure: Schematic diagram of catalytic combustion process

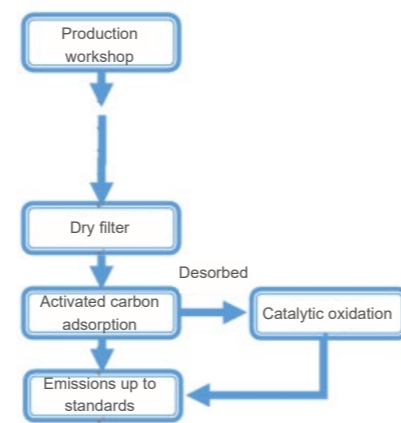


Figure: Exhaust gas treatment process

Wastewater

Sany International treats its production and domestic wastewater properly according to its own wastewater characteristics. Production wastewater includes painting wastewater, wastewater containing emulsion, vehicle cleaning wastewater in the painting workshop and used vehicle cleaning wastewater. It can be discharged to the wastewater treatment station in the plant area for further treatment by waste emulsion and painting wastewater treatment equipment after reaching the internal discharge standard. When the treatment effect meets the Integrated Wastewater Discharge Standard (GB 8978 - 1996) and the provincial and municipal wastewater discharge standards, it will be transported to the municipal wastewater treatment station through the urban sewage pipeline system. The domestic wastewater, including wastewater from administrative offices, staff dormitories and staff canteens, will be discharged to the municipal sewage treatment station through the municipal drainage system.

In order to achieve higher wastewater conversion efficiency, we have continued to carry out substantial renovation of the sewage treatment station to improve the overall sewage treatment capacity and treatment efficiency, and regularly replaced the activated carbon, filter cotton, filter element and other spare parts in daily operation to ensure that the daily water can be continuously and timely filtered and treated, thus improving the operating efficiency of environmental protection facilities.

During the reporting period, the wastewater management performance of the Group is as follows:

Wastes

To implement the laws and regulations such as the *Environmental Protection Law of the People's Republic of China* and the *Law of the People's Republic of China on Prevention and Control of Environment Pollution Caused by Solid Waste*, Sany International has formulated internal regulations such as the *Hazardous Waste Management Procedure*, the *Hazardous Chemicals Management System*, the *Hazardous Waste Pollution Prevention Responsibility Information Disclosure System*, the *Hazardous Waste Pollution Prevention Responsibility System* and the *Hazardous Waste Standardized Management Index System of Hazardous Waste* to clarify procedures and measures to prevent hazardous waste pollution and continuously implement waste emissions reduction targets. In 2022, 100% of solid waste was recycled and disposed of.



General Solid Wastes

The general solid wastes of the Group include domestic solid wastes and industrial solid wastes. Among them, domestic solid wastes are collected and treated by the health department; industrial solid wastes, such as left-overs and scrap metal, are sorted and recycled by full-time personnel, and then sold to professional recycling companies for recycling.



Hazardous Solid Wastes

Through the detailed *Responsibility System for Prevention and Control of Environmental Pollution by Hazardous Wastes*, the Group has defined the specific responsibilities of each operation and production participant, from the general manager, HSE manager, workshop director, HSE specialist, hazardous waste warehouse manager to workers, and formed a mutually restrictive and collaborative responsibility system for environmental prevention and control, so as to effectively control the environmental pollution risks brought by hazardous solid wastes to the Company. We ensure the standardized management of the Company's hazardous waste from all aspects including generation, collection, storage, transportation, utilization and disposal, strictly control hazardous solid waste, and require that hazardous solid wastes such as waste oil and waste residues must be placed in a special warehouse with warning signs, declared and registered, and managed uniformly to ensure that hazardous waste is treated harmlessly.



During the reporting period, the waste management performance of the Group is as described in the table below:

Index	Unit	2022	2021
Hazardous wastes			
Waste paint bucket	Ton	145.91	319
Paint slag	Ton	190.80	138
Waste mineral oil	Ton	46.64	65
The total amount of hazardous waste	Ton	383.35	522
Hazardous waste density	Ton/ RMB10,000 of revenue	0.0002	0.0005
Non-hazardous wastes			
Copper and iron waste	Ton	46,614.73	41,008
Domestic waste	Ton	1,668.05	1,047
Other industrial waste	Ton	475.02	-
The total amount of non-hazardous waste	Ton	48,757.80	43,270
Non-hazardous waste density	Ton/ RMB10,000 of revenue	0.03	0.04



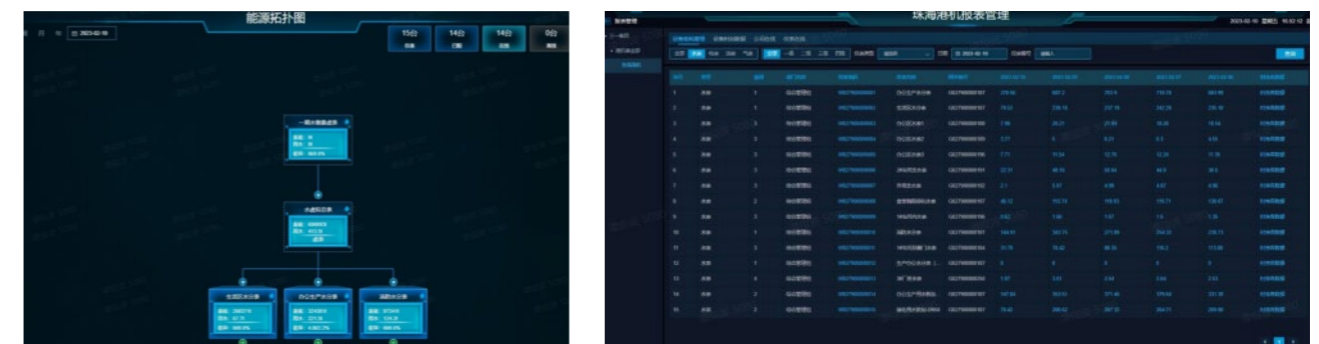
Energy

Sany International strictly complies with the requirements of the *Energy Conservation Law of the People's Republic of China* and other relevant laws and regulations, and has established a standardized energy management system and tracks the Group's energy consumption through the digital energy management platform. We advocate energy conservation, implement various energy management measures and will continue to improve energy efficiency and reduce energy consumption in the long term.

Digital energy management, multiple measures to improve quality and efficiency

Sany International has many product categories and complex production processes, involving electricity, oil, gas and other energy sources, making energy management a complex task. We carry out a comprehensive energy identification of existing products and production processes in order to reduce the waste of resources during production operations and improve the efficiency of energy and resource utilization.

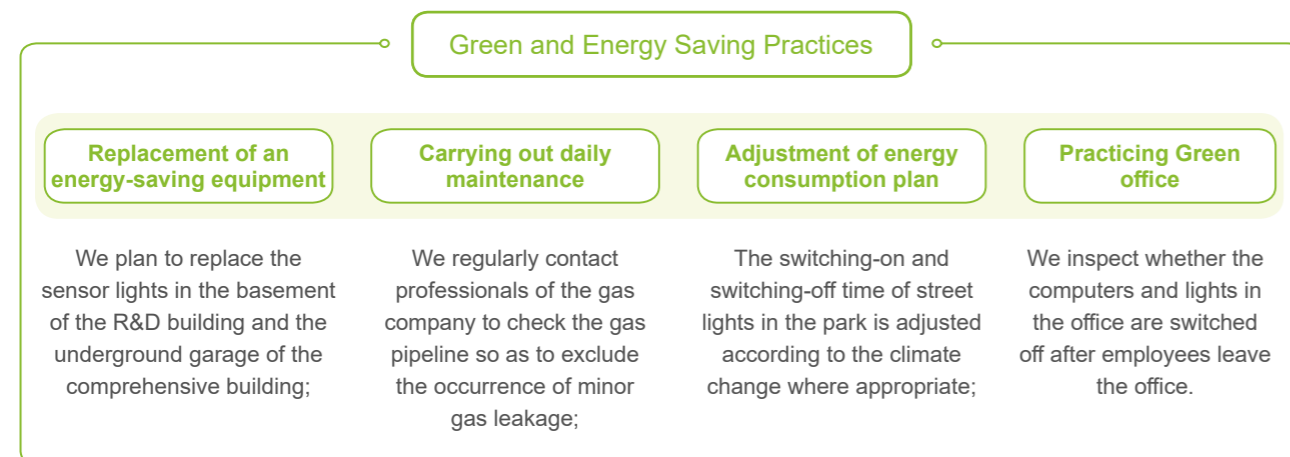
In order to better standardize energy use and management, we are constantly experimenting with digital transformation, adopting 5G and industrial Internet technologies, and applying the energy management platform to effectively connect the manufacturing equipment and digital instruments in the plant for real-time data collection and monitoring, enabling intelligent monitoring and management of water, electricity, oil and gas in the plant. At the same time, we visualize the energy consumption through the digital display of the energy topology diagram, and make analysis and suggestions based on the data results, so as to maximise the online rate and utilization rate of production equipment.



Intelligent energy-saving monitoring system for water use in the park

Carry out energy conservation actions and advocate green office

We have always advocated the green concept in production, operation and daily office work, and achieved remarkable results in energy conservation and consumption reduction.



In 2022, we issued the *Energy Consumption Management System for Non-production Areas*, which regulates the daily energy use environment such as lighting and air conditioning in office areas, street lamps and landscape lamps in public areas, charging of electric vehicles in the park, and temperature control of central air conditioning in summer. By defining the responsible person, setting the notification punishment standard, limiting the use time, paying for charging, and unified temperature control, we can maximise the resource conservation on the basis of ensuring normal office and business operations.

During the reporting period, the energy consumption of the Group is as described below:

Index	Unit	2022	2021
Direct energy consumption			
Natural gas	Cubic meter	2,778,716.50	2,553,025
Natural gas use density	Cubic meter/ RMB10,000 of revenue	1.79	2.50
Purchased heat supply	GJ	33,202	34,520
Purchased heat use density	GJ/RMB10,000 of revenue	0.02	0.03
Gasoline	Liter	16,896.60	94,797
Gasoline use density	Liter/RMB10,000 of revenue	0.01	0.03
Diesel	Liter	1,139,535.02	944,062
Diesel use density	Liter/RMB10,000 of revenue	0.73	0.93
Indirect energy consumption			
Purchased electric power	Kwh	84,054,983.78	60,059,392.79
Use density of electric power	Kwh/RMB10,000 of revenue	54.10	58.91

Water Resources

Sany International pays attention to water conservation and water resources recycling in all production and operation links, strictly abides by the requirements of the *Water Pollution Prevention and Control Law of the People's Republic of China*, the *Regulation on Urban Drainage and Sewage Treatment* and other relevant laws and regulations, and has formulated internal systems such as the *Water Conservation Management System* and the *Energy Conservation Management System for Water Pumps* to maximise the efficiency of water resources utilization. We gradually promote the implementation of our water conservation targets through regular awareness improvement campaigns on water conservation. We planned to reduce the water consumption per RMB10,000 of operating revenue by 15% by 2030 compared with that in 2019. We draw water from municipal water supplies and no risk of shortage in access to available water resources has been identified yet.

We have taken a series of water conservation measures in the Group:

- Digital transformation of water resources management**

We have installed rating meters on energy-saving faucets to implement real-time uploading of data, monitor leakage and reduce waste of water resources;

- Rainwater collection and recycling**

Rainwater collection systems are installed at each plant area, and the collected rainwater is used as water for landscape irrigation in the park;


- Advocating water conservation**

The water conservation reminders are posted at conspicuous places, and the phenomenon of water waste is checked in various areas from time to time every week.

Case

Water Pump Energy Conservation Management System of Sany Marine Heavy Industry

In order to ensure the reliable and economical operation of the Company's water pump system, maximise the efficiency of water pump operation and achieve the purpose of energy conservation and consumption reduction, we have formulated clear management requirements for the operation and management of all water pump systems in the Company. In this management system, we have put forward detailed scheme management and technical guidance on the daily work of pump equipment, units, pipe network, operation system, monitoring and inspection, clearly implement the inspection responsibility of each link, and carry out routine self-assessment and summary notification to ensure the effective realization of energy conservation effect.



Index	Unit	2022	2021
Total water consumption	Ton	566,529	665,144
Water use density	Ton/RMB10,000 of revenue	0.36	0.65

Raw Materials and Packaging Materials

In order to better standardize the use of raw materials and improve the utilization rate of raw materials, Sany International actively responds to the advocacy of reduction at source, and has formulated management systems such as the *Loading Centre Program Design and Remaining Materials Management System* with reference to standards at all levels, so as to standardize the management of raw materials and implement the responsibility for raw materials management to relevant personnel.

The Group continued to optimise product packaging and reduce the application of auxiliary materials. Based on quality guarantee, we continue to optimise the practice of using wooden boxes as packaging for raw materials and parts and components to minimize wood wastage.



During the Report Period, the resources consumption for raw materials and packaging materials in the Group are as described below:

Index	Unit	2022	2021
Steel consumption	Ton	237,758.99	160,773.20
Steel use density	Ton/RMB10,000 of revenue	0.15	0.16
Paper consumption	Ton	34.26	24.81
Paper use density	kg/RMB10,000 of revenue	0.0221	0.0243
Packaging wood	Ton	1,158.59	1,295.93
Packaging wood use density	kg/RMB10,000 of revenue	0.75	1.27



Addressing Climate Change

Greenhouse Gas Management

Greenhouse gases continue to cause climate change, which has gradually become a global concern in recent years. Strengthening corporate greenhouse gas management and implementing responsibility for emission reduction are important supports for achieving the goal of carbon peaking and carbon neutrality. We are actively implementing our corporate responsibility to reduce GHG emissions and setting reasonable emission reduction targets, with a plan to reduce GHG emissions by 25% per RMB 10,000 of operating revenue by 2030 compared with that in 2019. The Group's greenhouse gas emissions are mainly derived from the combustion of gasoline and diesel for transportation vehicles and purchased electricity and heat.

Sany International actively reduces the proportion of fuel consumption through energy management and control in the production process and efficient management of commercial and transportation vehicles, including reducing unnecessary dispatching of vehicles and re-purchasing electric forklifts to replace the original small-tonnage forklifts.

Index	Unit	2022	2021
Scope 1 greenhouse gas emissions	Ton of carbon dioxide equivalent	8,353.65	8,200.00
Scope 2 greenhouse gas emissions	Ton of carbon dioxide equivalent	51,588.78	38,691.71
Scope 1 and 2 greenhouse gas emissions	Ton of carbon dioxide equivalent	59,942.42	46,891.72
Greenhouse gas emission density	Ton of carbon dioxide equivalent/ RMB 10,000 of operating revenue	0.0386	0.0460

Climate Risks

Sany International actively responds to China's goal of achieving carbon neutrality by 2060, and cooperates with upstream and downstream partners to jointly address climate change. We are committed to reducing greenhouse gas emissions, actively addressing related risks of climate change while expanding our business. Meanwhile, we regularly assess climate change risks and identify opportunities in all value chains of the supply chain. According to the suggestion of the Task Force on Climate-Related Financial Disclosure (TCFD), we identify entities, risks and opportunities for transformation, and make targeted responses. We gradually incorporate the foreseeable future risks of climate change and extreme weather events into the Board of Directors' consideration of the business continuity plan, and monitor and review the impact of climate change on business operations.

We have formulated and implemented long-term carbon emission reduction goals based on the national action line of "Carbon Peak in 2030 and Carbon Neutrality in 2060" so as to improve the energy efficiency of daily operations. We encourage employees, suppliers and customers to cooperate in emission reduction activities, actively develop clean technology products and solutions, establish contingency plans based on local risks of climate change and extreme weather events and include them in the consideration for selection of new operating locations.

Policies and laws

Impact

China has updated its nationally determined contribution targets, made a commitment to “reach the carbon emission peak prior to 2030 and realise carbon neutrality prior to 2060”, and launched the national carbon market for reasonable pricing of corporate greenhouse gas emission costs. With the release of national and regional policies and management objectives for addressing climate change, it is expected that the Group’s operating energy consumption and greenhouse gas emissions will be further restricted by regulatory requirements, and it may be necessary to strengthen the monitoring of energy and greenhouse gas emissions data, resulting in higher operating management costs.

Solution

We have established greenhouse gas emission reduction objectives, and actively monitored greenhouse gas emissions and carried out energy conservation and emissions reduction in accordance with ISO 14001 environmental management system requirements.

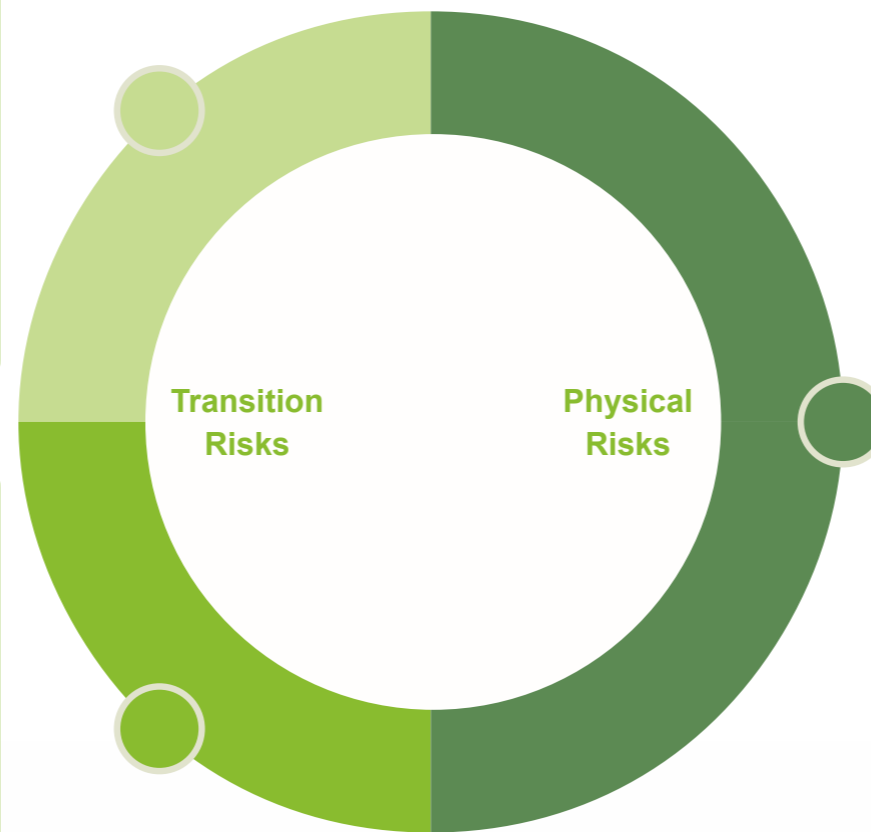
Market

Impact

Under the global response to climate change, the demand of consumers and customers for clean and low-carbon products continues to grow, and products with high energy consumption and high carbon will gradually lose market share, which may further lead to a decline in corporate revenue. Meanwhile, due to the need for product and business transformation, the costs of raw materials to be purchased have increased.

Solution

We actively carry out research and development of clean technology products and solutions, and have formed a series of electric transportation products with international competitiveness, and plan to further expand the product line. For example, we have independently developed the terminal equipment management system and automatic case grabbing and releasing system, to realise the seamless connection between the business process and control process.



Extreme weather

Impact

Under the background of global climate change, the frequency and density of extreme weather such as heavy rain and tropical cyclones will increase. Sany International’s operating locations will generally be affected by disruptions in production, transportation and supply chains, which may lead to increased operating costs, productivity decline and equipment loss, etc.

Solution

We formulate contingency plans for severe weather, strengthen daily maintenance and management of facilities and equipment, and take relevant risks into account when selecting new operating locations in the future.



06

Empowering Society

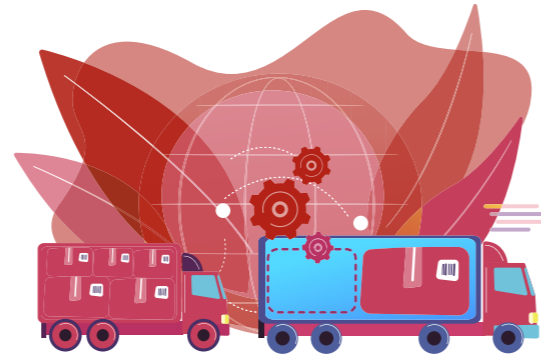
Material Issues

- 16/ Supply chain management
- 19/ Promoting industrial development
- 23/ Engagement in social activities



Sustainable Supply Chain

The Group strictly abides by the *Company Law of the People's Republic of China* and the *E-Commerce Law of the People's Republic of China*, and has formulated internal management systems such as the *Sany International Supplier Management System*, the *Sany International Supplier Alliance Management System* and the *Customer Designated Development List* to continuously perfect the supplier management system and boost value chain partners to put into practice sustainable development.



Supply Chain Management System

Access for suppliers

The Sany International GSP system, known as the "Global Supplier Portal", is the only window for all suppliers to connect with Sany. The platform is fully functional and easy to use, with interface functions covering all stages of the supplier's full lifecycle, including supplier information, approval of various processes, monthly evaluation of supplier performance, etc.

The Company has included environmental management and social responsibility performance in the supplier access process, including environmental requirements such as ISO 14001 environmental system certification and local environmental assessment registration; and has set up a social responsibility and environmental friendliness section to assess human resource development planning and energy conservation and emission reduction.

Classification and grading

In the process of supplier screening, audit and management, the Group classifies and manages suppliers according to their qualifications and delivery ability, taking into account factors such as its business plans, strategic objectives and past cooperation with suppliers. In addition, the Group also sufficiently considers environmental, social and governance factors and has stipulated different standards and restrictions for different categories of suppliers.

Performance assessment

In the process of supplier performance management, the Group continues to follow up on the supplier's performance process, promptly tracks and handles the supplier's performance problems, strictly implements the supplier assessment standards, and implements reward and punishment measures. Sany Heavy Equipment performs monthly performance evaluations of suppliers, and the evaluation results are divided into four grades: A, B, C and D, among which, the D-grade suppliers will be blacklisted if they breach the contract seriously. In 2022, the Company strengthened supplier training and assistance to upgrade supplier performance.

Index	Region	Quantity (units)
Number of suppliers by region	South China	92
	East China	481
	North China	125
	Central China	180
	Northeast China	113
	Southwest China	13
	Northwest China	20
	Hong Kong, Macao, Taiwan and overseas regions	19

Supplier Responsibility Advocacy

The Group is devoted to building a sunny and transparent business environment with its partners, and has formulated rules and regulations such as *Requirements for Integrity of Suppliers* and resolutely resisted any form of corruption such as bribery.

Anti-corruption in the supply chain

The Group requires all partners, including suppliers, to sign the *Statement of Integrity* when cooperating with the Group, and input it into the GSP system. Integrity clauses are also listed in the framework of contract agreements, continuously promoting the integrity of suppliers in fulfilling their responsibilities.

In terms of anti-corruption training for the supply chain, the Group persistently arranges regular annual integrity training for all procurement staff. In 2022, the Group hosted four integrity conferences for all staff and conducted on-site assessments of suppliers, requiring them to read out integrity requirements and sign on the spot.

Supplier Communication Training

The Group places emphasis on communication and exchange with cooperative suppliers. Through the establishment of a supplier assistance mechanism and conducting supplier training, we strive to make common progress with suppliers and reach a long-term strategic alliance.

In 2022, the Group carried out training on suppliers' basic requirements, and passed on key contents such as product delivery logic and audit points to suppliers. The delivery score of supplier performance evaluation was greatly improved, and the negative comment rate decreased by 7.5 percentage points. Meanwhile, the Group held a supplier conference in 2023, which effectively enhanced the confidence of suppliers, reinforced the support for Sany's business and understanding of the Group's supply chain policies.

Industrial Win-Win

The Group firmly promotes R&D strategy, actively engages in industry and university-enterprise cooperation, continuously enhances an investment in scientific research and development and technological innovation, and makes a number of technological breakthroughs in the direction of intelligence, cleanliness and efficiency by relying on advanced R&D platforms such as symbolic test benches and intelligent product design platforms.

In 2022, Sany Heavy Equipment cooperated with the Shenyang University of Technology and Northeastern University to establish 25 technical platforms, published 7 papers and 14 industrial reports, and applied for 238 patents; reviewed and reported the national R&D project "High Performance Manufacturing Technology and Major Equipment" together with Hunan University; participated in the national key research and development project "Inter-organisational Reverse Logistics Information Integration Service Platform for Decommissioned Construction Machinery" together with China Electric Institute.



Establish

25 technical platforms



Published

7 papers



Published

14 industrial reports



Applied for

238 patents

Contribution to Society

Social development is the foundation of the Group's development, and social responsibility is also Sany's mission. We always uphold the spirit of "Constantly Striving to Become Stronger and Serve the Country Through Industry" and patriotism, adhere to scientific public welfare, and strive to promote the positive interaction between business and public welfare, as well as between enterprises and society, and jointly build a beautiful society full of vitality, goodwill and trust. In 2022, we continued to be involved in community building, devoted ourselves to public welfare undertakings, and promoted the harmonious development of enterprises and communities.



Case

Powerful Cooperation, Pioneering New Electronic Control System in the Industry

In 2022, Sany Heavy Equipment and Zhuzhou Power Conversion Technology National Engineering Research Centre Co., Ltd. jointly developed an electronic control system to realise the grid-connected control of multi-power units with dual engines and high-voltage batteries, forming the industry's leading grid-connected system of dual engines and high-voltage power batteries. This technology adopts two sets of engine units, one set of power batteries and two sets of AC/DC rectification systems, which can make the engine units generate electricity stably and connect to the main circuit, supply power to the wheel motor, and charge the power battery.

Combating COVID-19 with Solidarity to Boost Material Security

In 2022, Sany International Volunteer Service Detachment participated in the pandemic prevention work of communities on behalf of the Company, assisted in nucleic acid detection, entry and exit inspection, and people flow guide, etc. to alleviate the tension and predicament of community personnel, realizing the mission and responsibility of youths with practical actions, and contributing to the production and supply assurance and pandemic prevention and control.

The Sany Pandemic Prevention Team and the Administration Department worked together with the nucleic acid testing stations to jointly organise 156 home visits to conduct nucleic acid testing for a total of 322,939 people and public area disinfection 4,018 times. At the same time, we made proper procurement of medicines for COVID-19 infections to ensure the supply of medicines for employees.



Figure: Sany Heavy Equipment donated anti-pandemic items

Contributing to Rural Revitalization

The Company actively carries out rural revitalization projects in various fields, adapts to local conditions, and based on characteristic local resources, promotes industrial integration and development. The Group has explored a scientific and effective industrial development path that benefits farmers, fully stimulates the vitality of existing talents in rural areas, and leads villagers to the road of common prosperity.

Case Developing Shared Farms and Realizing Industrial Revitalization

Sany International has been supporting the development of modern agriculture in Shuangshi Village, Jiangyou City, introducing high-quality talents and advanced technology from Sichuan Agricultural University, vigorously promoting the transformation and upgrading of the pig farming industry, and improving quality and efficiency. It has initially formed an industrial cluster with pig farming advantages and characteristics, which integrates breeding, propagation, fattening, slaughtering, refined and deep processing, warehousing, logistics and social services, driving innovation and employment, and guiding the surrounding villages to realise industrial revitalization.



Case Sany International Donated Street Lights to Light up the Road to Rural Revitalization

Sany Heavy Equipment Marketing Company Yunnan Branch spent RMB50,000 to donate street lights for rural revitalization to enhance the sense of acquisition, happiness and security of the people in Yunnan mountainous areas and effectively guarantee the living of people in poverty-stricken areas in Yunnan.



Case Charity Sales of Watermelons to Support Farmers

In the summer of 2022, in the face of the losses caused by heavy rain to watermelon farmers, Sany International, as a leading enterprise in Pingsha Town, Zhuhai City, responded to the government's call to carry out charity sales of watermelons to help farmers and fulfil its social responsibilities.

Outlook

The year 2023 marks the beginning of implementing the strategies of the 20th CPC National Congress. Under the backdrop of centennial rejuvenation and great power construction through industrial development, at the turning point of persistence and breakthrough, Sany adheres to its mission of "Quality Changes the World", and leads industry with wisdom, faith, and unremitting efforts, ushering in another thriving spring after the cold winter.

Sany International will continue to promote the industrial upgrading of China's mining equipment, logistics equipment and robotics industry, keep deepening its digital intelligent transformation, and strengthen R&D innovation. In addition, the Group will lead the development of industrial products in the direction of serialization, electrification and intelligence, and contribute our own share to the realization of green, safe, efficient and intelligent mining, logistics port and smart factory construction.

Under the global trend of promoting carbon neutrality and carbon emission reduction, we actively practice the concept of sustainable development, unswervingly implement the sustainable development strategy, and further strengthen the analysis and management of sustainable development-related issues on the basis of the existing management mechanism and work process. In partnership with various stakeholders, we innovate sustainable products and solutions, and drive the integration and symbiosis of enterprise development, social progress and ecological improvement.

Appendix

ESG Key Performance Table

Category and Name of Key Performance Indicators	Unit of Indicators	Data in 2022
A: Environment		
A1: Emissions		
<i>A1.1 Types of Emissions and Respective Emissions Data¹</i>		
NO _x emissions	kg	82,547.28
SO _x emissions	kg	5,156.68
Particulate matter emissions	kg	556.51
VOCs emissions	kg	441.60
<i>A1.2 Direct and Energy Indirect Greenhouse Gas Emissions and Density</i>		
Direct greenhouse gas emissions (scope 1)	Ton of carbon dioxide equivalent	8,353.65
Indirect greenhouse gas emissions (scope 2) ²	Ton of carbon dioxide equivalent	51,588.78
Scope 1 and 2 greenhouse gas emissions	Ton of carbon dioxide equivalent	59,942.42
Greenhouse gas emission density	Ton of carbon dioxide equivalent/ revenue of RMB ten thousand	0.0386
<i>A1.3 Total Hazardous Wastes Produced and Density</i>		
Waste paint bucket	Ton	145.91
Paint slag	Ton	190.80
Waste mineral oil	Ton	46.64
The total amount of hazardous waste discharged	Ton	383.35
Hazardous waste discharge density	Ton/revenue of RMB ten thousand	0.0002
<i>A1.4 Total Non-hazardous Wastes Produced and Density</i>		
Iron and steel waste	Ton	46,614.73
Other industrial waste	Ton	475.02
Domestic waste	Ton	1,668.05
The total amount of non-hazardous wastes discharged	Ton	48,757.80
Non-hazardous waste discharge density	Ton/revenue of RMB ten thousand	0.03
<i>A1.6 Amount of Waste Recycled</i>		
Amount of waste paper recycled	kg	430.94
Amount of waste wood recycled	Ton	3,261.46

¹ In 2022, due to the relocation of the Sany Port Machinery's plants and the fact that the wastewater treatment ledger system has not yet been completed, data related to wastewater discharges for the current year has been omitted for the sake of clarity and reliability.

² The emission factor for purchased electricity is selected from the "Notice on the Management of Greenhouse Gas Emission Report of Enterprises in Power Generation Industry for 2023-2025" issued by the Office of the Ministry of Ecology and Environment of China on February 7, 2023, which is 0.5703tCO₂/MWh.

Category and Name of Key Performance Indicators	Unit of Indicators	Data in 2022
A: Environment		
A2: Resources Utilization		
<i>A2.1 Direct and/or Indirect Energy Consumption by Type in Total and Density</i>		
Natural gas	CBM	2,778,716.50
Purchased heat supply	GJ	33,202.00
Gasoline	Liter	16,896.60
Diesel	Liter	1,139,535.02
Purchased electricity	kWh	84,054,983.78
Natural gas use density	CBM/revenue of RMB ten thousand	1.79
Use density of purchased heat supply	GJ/revenue of RMB ten thousand	0.02
Gasoline use density	Liter/revenue of RMB ten thousand	0.01
Diesel use density	Liter/revenue of RMB ten thousand	0.73
Use density of purchased electricity	kWh/revenue of RMB ten thousand	54.10
<i>A2.2 Total Water Consumption and Density (e.g. per unit of production volume, per facility)</i>		
Total water consumption	Ton	566,529.00
Total water consumption density	Ton/revenue of RMB ten thousand	0.36
<i>A2.5 Total Packaging Material Used for Finished Products (in Tons) and, if Applicable, with Reference to per Unit Produced</i>		
Packaging wood	Ton	1158.59
Packaging wood use density	kg/revenue of RMB ten thousand	0.75
Steel consumption	Ton	237,758.99
Steel use density	Ton/revenue of RMB ten thousand	0.15
Paper consumption	Ton	34.26
Paper use density	kg/revenue of RMB ten thousand	0.0221
B: Social		
B1: Employment		
<i>B1.1³ Total Number of Employees by Gender, Employment Type, Age Group and Geographical Region</i>		
Total number of employees	Person	7,077
Number of employees by gender		
Male	Person	6,729
Female	Person	348
Number of employees by employment type		
Marketing service	Person	1,174

³ The total number of employees includes the number of full-time employees with whom the Company has a formal employment contract.

⁴ The calculation method for the employee turnover: the number of resigned employees in each category during the year/the number of employees in each category at the end of the year *100%.

Category and Name of Key Performance Indicators	Unit of Indicators	Data in 2022
R&D technology	Person	1,547
Operating management	Person	401
Manufacturing type	Person	3,463
Other types	Person	492
Number of employees by age group		
Employees aged 30 and below	Person	2,534
Employees aged 31-40	Person	3,555
Employees aged 41-50	Person	856
Employees aged 50 or above	Person	132
Number of employees by geographical region		
China's Mainland	Person	7,074
Hong Kong, Macao, Taiwan and overseas regions	Person	3
<i>B1.2⁴ Employee turnover by Gender, Age Group and Geographical Region</i>		
Total employee turnover	Percentage	25.3
Employee turnover by gender		
Male	Percentage	25.4
Female	Percentage	23.3
Employee turnover by age group		
Turnover for employees aged 30 and below	Percentage	23.3
Turnover for employees aged 31-40	Percentage	26.2
Turnover for employees aged 41-50	Percentage	25.8
Turnover for employees aged 50 or above	Percentage	35.6
Employee turnover by geographical regions		
China's Mainland	Percentage	25.3
Hong Kong, Macao, Taiwan and overseas regions	Percentage	0.0

Category and Name of Key Performance Indicators	Unit of Indicators	2022	2021	2020
B2: Health and Safety				
<i>B2.1 Number and Rate of Work-related Fatalities Occurred in Each of the Past Three Years</i>				
Work-related deaths	Person	0	0	0
Percentage of work-related deaths	Percentage	0.0	0.0	0.0

Category and Name of Key Performance Indicators	Unit of Indicators	Data in 2022
<i>B2.2 Working Days Lost Due to Work-related Injury</i>		
Total number of days lost due to work-related injury	Day	3,561
B3: Development and Training		
<i>B3.1 Percentage of Trained Employees by Gender and Employee Category</i>		
Percentage of trained employees by gender		
Male	Percentage	96.5
Female	Percentage	3.5
Percentage of trained employees by employee category		
Trained employees from marketing service	Percentage	21.0
Trained employees from R&D technology	Percentage	31.2
Trained employees from operating management	Percentage	13.9
Trained employees from manufacturing type	Percentage	23.6
Trained employees from other type	Percentage	10.3
<i>B3.2 Average Training Hours per Employee by Gender and Employee Category</i>		
Average training hours per employee	Hour	79.08
Average training hours per employee by gender		
Male	Hour	77.38
Female	Hour	111.99
Average training hours per employee by employee category		
Total average training hours per employee from marketing service	Hour	119.37
Total average training hours per employee from R&D technology	Hour	129.25
Total average training hours per employee from operating management	Hour	158.92
Total average training hours per employee from manufacturing type	Hour	34.55
Total average training hours per employee from other type	Hour	73.62
B5: Supply Chain Management		
<i>B5.1 Number of Suppliers by Geographical Region</i>		
Total number of suppliers	Number	1,043
Geographical distribution of suppliers		
South China	Number	92
East China	Number	481
North China	Number	125
Central China	Number	180

Category and Name of Key Performance Indicators	Unit of Indicators	Data in 2022
Northeast China	Number	113
Southwest China	Number	13
Northwest China	Number	20
Hong Kong, Macao, Taiwan and overseas regions	Number	19
B6: Product Responsibility		
<i>B6.1 Percentage of Total Products Sold or Shipped Subject to Recalls for Safety and Health Reasons</i>		
Percentage of total products sold or shipped subject to recalls for safety and health reasons	Percentage	During the Report Period, the Group did not experience any incident of product recalls due to product quality issues, and the percentage of total products sold or shipped subject to recalls for safety and quality reasons was zero.
<i>B6.2 Number of Products and Services Related Complaints Received</i>		
Product quality complaints	Time	6
Marketing service complaints	Time	23
B7: Anti-corruption		
<i>B7.1 Number of Concluded Legal Cases Regarding Corrupt Practices Brought Against the Issuer or Its Employees During the Report Period</i>		
Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the report period	Case	1
<i>B7.3 Description of Anti-corruption Training Provided to Directors and Staff</i>		
Number of participants in anti-corruption training for management and directors	Person	10
Percentage of employees participating in anti-corruption training	Percentage	100
Percentage of directors participating in anti-corruption training	Percentage	100
Community		
B8: Community Investment		
<i>B8.2 Resources Contributed to the Focus Area</i>		
Community investment	RMB ten thousand	4

Content Index of HKEx's ESG Reporting Guide

Main Scopes, Levels and Key Performance Indicators	Sections/Statement
Main scope A- Environment	
Aspect A1: Emissions	
General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste. Note: Air emissions include NO _x , SO _x , and other pollutants regulated under national laws and regulations. Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. Hazardous wastes are those defined by national regulations. Green Operation- Pollution Control
Key performance indicator A1.1	The types of emissions and respective emissions data. Green Operation- Pollution Control
Key performance indicator A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). Green Operation- Addressing Climate Change
Key performance indicator A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). Green Operation- Pollution Control
Key performance indicator A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). Green Operation- Pollution Control
Key performance indicator A1.5	Description of emissions target(s) set and steps taken to achieve them. Green Operation- Environmental Management
Key performance indicator A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them. Green Operation- Pollution Control
Aspect A2: Use of Resources	
General disclosure	Policies on the efficient use of resources, including energy, water and other raw materials. Note: Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc. Green Operation- Resources Conservation
Key performance indicator A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility). Green Operation- Resources Conservation
Key performance indicator A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility). Green Operation- Resources Conservation
Key performance indicator A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them. Green Operation- Resources Conservation
Key performance indicator A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them. Green Operation- Resources Conservation
Key performance indicator A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced. Green Operation- Resources Conservation

Main Scopes, Levels and Key Performance Indicators	Sections/Statement
Aspect A3: The Environment and Natural Resources	
General disclosure	Policies on minimising the issuer's significant impacts on the environment and natural resources. Green Operation- Resources Conservation
Key performance indicator A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them. Green Operation- Resources Conservation
Aspect A4: Climate Change	
General disclosure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer. Green Operation- Addressing Climate Change
Key performance indicator A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them. Green Operation- Addressing Climate Change
Main scope B- Social	
Employment and Labour Practices	
Aspect B1: Employment	
General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination and other benefits and welfare. Growth in Harmony- Talents Introduction and Retention
Key performance indicator B1.1	Total workforce by gender, employment type (for example, full- or part-time), age group and geographical region. Growth in Harmony- Talents Introduction and Retention
Key performance indicator B1.2	Employee turnover rate by gender, age group and geographical region. Growth in Harmony- Talents Introduction and Retention
Aspect B2: Health and Safety	
General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards. Growth in Harmony- Health and Safety
Key performance indicator B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year. ESG Key Performance Table
Key performance indicator B2.2	Lost days due to work injury. ESG Key Performance Table
Key performance indicator B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored. Growth in Harmony- Health and Safety
Aspect B3: Development and Training	
General disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. Note: Training refers to vocational training. It may include internal and external courses paid by the employer. Growth in Harmony- Career Development
Key performance indicator B3.1	The percentage of trained by gender and employee category (e.g. senior management, middle management). ESG Key Performance Table
Key performance indicator B3.2	The average training hours completed per employee by gender and employee category. ESG Key Performance Table
Aspect B4: Labor Standards	
General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour. Growth in Harmony- Talents Introduction and Retention

Main Scopes, Levels and Key Performance Indicators	Sections/Statement	
Key performance indicator B4.1	Description of measures to review employment practices to avoid child and forced labour.	Growth in Harmony- Talents Introduction and Retention
Key performance indicator B4.2	Description of steps taken to eliminate such practices when discovered.	Growth in Harmony- Talents Introduction and Retention
Operating Practices		
Aspect B5: Supply Chain Management		
General disclosure	Policies on managing environmental and social risks of the supply chain.	Empowering Society- Sustainable Supply Chain
Key performance indicator B5.1	Number of suppliers by geographical region.	Empowering Society- Sustainable Supply Chain
Key performance indicator B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	Empowering Society- Sustainable Supply Chain
Key performance indicator B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Empowering Society- Sustainable Supply Chain
Key performance indicator B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Empowering Society- Sustainable Supply Chain
Aspect B6: Product Responsibility		
General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labeling and privacy matters relating to products and services provided and methods of redress.	Digital and Intelligent Innovation- Quality Control
Key performance indicator B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Digital and Intelligent Innovation- Quality Control
Key performance indicator B6.2	Number of products and service related complaints received and how they are dealt with.	Digital and Intelligent Innovation- Customer Services
Key performance indicator B6.3	Description of practices relating to observing and protecting intellectual property rights.	Compliant Operation- Protection of Intellectual Property Rights
Key performance indicator B6.4	Description of quality assurance process and product recall procedures.	Digital and Intelligent Innovation- Quality Control
Key performance indicator B6.5	Description of consumer data protection and privacy policies and how they are implemented and monitored.	Compliant Operation- Information Security and Privacy Protection
Aspect B7: Anti-corruption		
General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Compliant Operation- Business Ethics Management
Key performance indicator B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	Compliant Operation- Business Ethics Management
Key performance indicator B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	Compliant Operation- Business Ethics Management
Key performance indicator B7.3	Description of anti-corruption training provided to directors and staff.	Compliant Operation- Business Ethics Management
Community		
Aspect B8: Community Investment		
General disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Empowering Society- Contribution to Society
Key performance indicator B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture ,sport)	Empowering Society- Contribution to Society
Key performance indicator B8.2	Resources contributed (e.g. money or time) to the focus area.	Empowering Society- Contribution to Society



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