



三一重工

QUALITY CHANGES THE WORLD

2022

CORPORATE SOCIAL
RESPONSIBILITY REPORT

SANY

SANY Heavy Industry Co., Ltd.

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About this Report

This is the 2022 Corporate Social Responsibility Report (hereinafter referred to as “this report”) released by SANY Heavy Industry Co., Ltd. This report is a genuine description of SANY Heavy Industry’s efforts to fulfill its economic, social and environmental responsibilities and achieve sustainable development, and contains Company’s response to major issues that stakeholders focus on. This report has been reviewed by the Board of Directors of the Company and is responsible for the authenticity and effectiveness of the information herein.

Reporting Period

This report covers the period from January 1, 2022 to December 31, 2022. To ensure the consistency of the report, some of the contents may cover information before or after the reporting period.

Reporting Scope

This report covers SANY Heavy Industry Co., Ltd. and its subsidiaries.

Data Sources

All the information and data are from the Company’s official documents, statistical reports and financial reports, as well as the information and data collected, summarized and reviewed by the Company. This report is published in both Chinese and English. In case of any inconsistency, the Chinese version shall prevail. Unless otherwise specified, the currency unit is RMB.



Basis of Preparation

This report is prepared according to the *Rules Governing the Listing of Stocks on Shanghai Stock Exchange* (February 2023 Revision), the *Guidelines No.1 for Self-discipline Regulation of Listed Companies on Shanghai Stock Exchange -Standard Operations* and refers to the Global Reporting Initiative’s Global Standards for Sustainability Reporting (GRI Standards) released by Global Sustainability Standards Board(GSSB) and a *Guide to Formulating Corporate Social Responsibility Reports for Enterprises in China* by the Chinese Academy of Social Sciences.

Note on Appellation

For the ease of readability, SANY Heavy Industry Co., Ltd. is hereinafter referred to as “SANY Heavy Industry,” “the Company,” and “We” in this report.

Access to this Report

This report is available for browse and download on the Shanghai Stock Exchange website: www.sse.com.cn and the Company’s website: www.sany.com.cn

If you want a paper copy of this report, please contact the Securities Affairs Department of the Company.

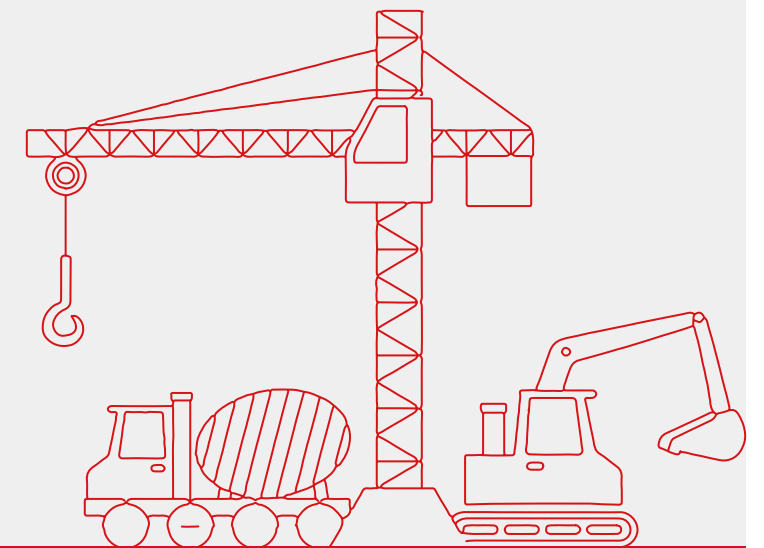
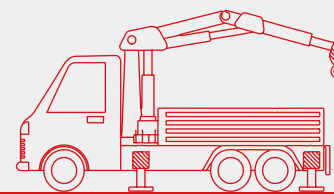
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Message from the Chairman



SANY Heavy Industry Co., Ltd.
Chairman Xiang Wenbo

The year 2022 has witnessed both changes and turbulence, unity and division in the exacerbated geopolitical crisis and sluggish economic recovery. Future growth is challenged and restricted by uncertainties about the world's economic recovery and continued global turmoil. Under these circumstances, we are committed to promoting long-term value growth through the development of our core business. By relying on our corporate strategy of "Digitalization, Electrification and Internationalization", we continue to improve the effectiveness of corporate governance and risk management. We also promote green economy by achieving environmental management objectives as well as adhering to UN Sustainable Development Goals and China's commitment to the Carbon Peak and Carbon Neutrality. Meanwhile, we undertake more social responsibilities by creating a better workplace for our employees and realizing positive interactions with stakeholders to strive toward our vision of "Build First-class Enterprises, Foster First-class Talents, and Make First-class Contributions."

At present, the machinery industry is experiencing a long-term technological upturn due to crossover between the Fourth Industrial Revolution and the Third Energy Revolution and the world is in an unprecedented window of opportunity to develop cutting-edge technologies. SANY Heavy Industry is undergoing strategic transformation towards digitization, electrification and internationalization. On digitization, the Company vigorously promotes the digital transformation in the full business process of management, manufacturing, R&D, commerce, marketing and service strives. This is to turn SANY Heavy Industry into a digital and intelligent company with data- and AI-driven decision-making and cooperation-based network. On electrification, the Company focuses on the three technical routes of pure electricity, hybrid and hydrogen fuel by promoting electrification in main-engine products and developing core technologies and producing key spare parts, as a way to develop electrical products with high quality, low power consumption and comfortable experience. On internationalization, the Company intensifies international product development, plans more supply chains globally and promotes marketing service system construction. While committed to our internationalization strategy, we continue to make localized improvements to our products, design products and operate the company for 8 billion people as global customers to build a world-class brand for China.

Sound corporate governance serves as the foundation of corporate development. Following the principles of compliance with the law, clear hierarchy, efficient management and scientific rationality, we always attach great importance to the quality of our operations and constantly reinforce the construction of the Board of Directors to give full play to the leading role of the Board of Directors in corporate governance. We build a modern corporate governance system by ensuring that operations are in accordance with laws and regulations, improving risk control and prevention capabilities. Integrity education and anti-corruption work is furthered by regulating the business activities of the Company and our partners to create a clean and upright business environment.

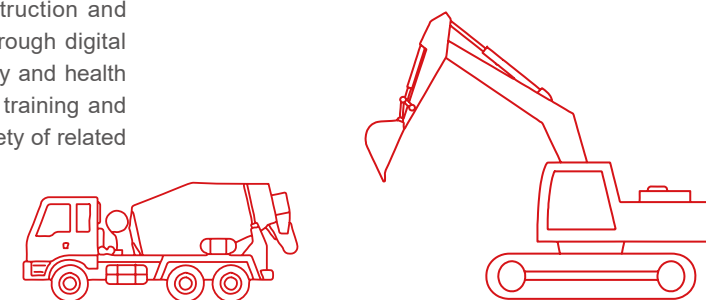
We strive to be a responsible industry leader by contributing to the social prosperity with advanced technologies, leading products and considerate services. In order to improve our independent R&D efficiency, we adopt a hierarchical and matrix-based R&D management and invest heavily in production innovation. We also work with industry experts and university laboratories to explore cutting-edge technologies. We pursue superior product quality and all of our subsidiary manufacturers of main engine and spare part are certified by ISO 9001 or IATF 16949 in 2022. We achieve full-life-cycle quality monitoring by constantly improving the efficiency of product quality monitoring and building quality information systems. Always conducting our business cooperation activities in a responsible manner, we work together with our suppliers and customers worldwide to build sustainable partnerships.

We promote green and low-carbon transformation and capabilities for guaranteeing safety to facilitate high-quality development. We build a well-rounded system for managing safety, environment and occupational health and standardize the system in terms of system, policy, process management and supervision and inspection. Adhering to nation's initiative against pollution and "Dual Carbon" goals, we set the pollutant reduction target in 2022 and gradually emit less pollution in production and operation through technological innovation and resource investment. We continue to improve low-carbon operation scenarios and green park construction and improve energy and resource utilization through digital transformation. To improve production safety and health management, we put in place inspections, training and alerts in safety to protect the health and safety of related parties like our employees, suppliers.

With the talent management concept of "employees first" and "employees-oriented," we strive to create a better platform for our employees' growth. Over the years, we have always been protecting the legal rights and interests of our employees and committed to providing them with better compensation and welfare policies. Besides, we have established a well-defined career development sequence to help employees realize their self-development goals and self-worth. In 2022, we released an employee incentive plan of RMB 485 million to motivate employees as a practical effort to promote the joint development of the enterprise and talent.

We uphold the national identity of "our responsibility for the country outweighs the profit of the Company" by fulfilling our social responsibility and devoting ourselves to making the society better. In 2022, we engaged our employees and their families in green and low-carbon activities, friendly community building, volunteer education and innovation. We take Daotong Village, Lianyuan City, Hunan Province as our practice base to promote the cause of helping Rural Revitalization. We help improve the disaster rescue capacity of the whole society by supporting private rescue organizations to build a disaster relief network system and funding insurance coverage for front-line rescuers.

Looking forward to 2023, SANY Heavy Industry will grasp more great historical opportunities in this new era and uphold the corporate mission of "Quality Changes the World, and To Become the Pioneer of Intelligent Manufacturing." Facing unprecedented changes, SANY Heavy Industry will work together with all stakeholders to explore a path of sustainable development to meet global challenges and to generate more value for our employees, shareholders and society, contributing to the global sustainable development goals.



About SANY Heavy Industry Company Profile

Since its inception, SANY Heavy Industry Co., Ltd. has sustained rapid growth. It is now one of the world's leading manufacturers of equipment and machinery. The Company has received the National Scientific and Technological Progress Award three times and the National Technology Invention Award twice. The two awards represent the highest national honor in the engineering and machinery industry after the founding of the People's Republic of China. SANY Heavy Industry Co., Ltd. is primarily engaged in equipment manufacturing, and its product portfolio include concrete machinery, excavator, crane, road construction machinery and piling machinery. SANY Heavy Industry concrete machinery firmly establishes is No.1 position in the world. Our excavator sales ranked first globally for the first time in 2020. And our sales of large tonnage crane, crawler crane and piling machinery ranked first in China.



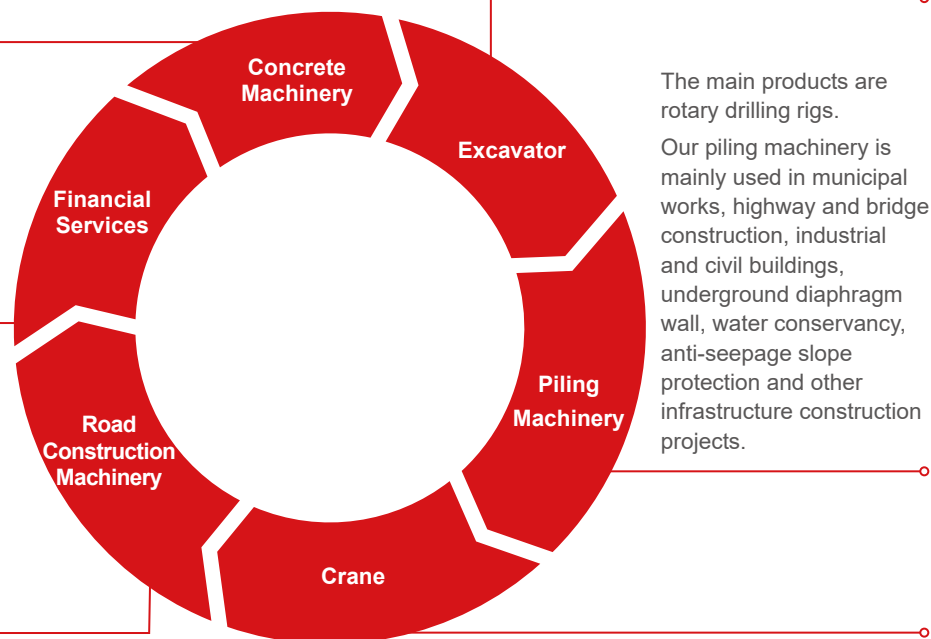
Our main products include truck-mounted concrete pump, trailer pump, batching plant, truck mixer, line pump.

Concrete machinery is mainly used in infrastructure construction such as railway, highway, subway, hydroelectric power plant, metallurgical engineering and the real estate industry.

Our excavators include large, medium, small, and mini excavators.

They are mainly used in the farmland, water conservancy, railway, highway, construction, real estate industries.

We offer the vehicle financing service to provide buyers of engineering machinery with mortgage, financing leasing and other financial services.



The main products include roller, paver, grader, and asphalt batching equipment.

Road construction machinery is mainly used for the construction of highway, urban road and airport runway.

The main products are truck cranes and crawler cranes.

Cranes are widely used in the electric power, steel, bridge, shipbuilding, and petrochemical industries. Small truck cranes are mostly used in bulk cargo business such as municipal works, while large truck cranes and crawler cranes are used in the power, steel, shipbuilding, and petrochemical industries.

SANY Heavy Industry (SH: 600031) was listed on July 3, 2003. It is the first enterprise in China to succeed in the split-share structure reform and achieve full circulation of shares. In July 2011, SANY Heavy Industry was shortlisted in the Financial Times (FT) Global 500 list for the first time, and it was the only Chinese construction machinery enterprise on the list. In 2012, SANY Heavy Industry acquired German manufacturer Putzmeister, renowned as the "Global No. 1 Brand of Concrete Machinery". In 2022, SANY Heavy Industry was honored as one of the annual "50 Smartest Companies (TR50)" by *MIT Technology Review* and ranked 129th in the *Fortune* China 500, ranking first in the engineering machinery industry. SANY Heavy Industry was selected as one of 2022 Forbes China Sustainable Development Industrial Enterprises Top 50. Changsha Plant 18 made the World Economic Forum's (WEF) Lighthouse Factory List, and the only 2 Lighthouse Factories in the global heavy industry both came from SANY Heavy Industry, representing the leading strength of China's engineering machinery.

SANY Heavy Industry has business divisions and industrial centers all over the world. It has built industrial parks in Beijing, Changsha, Shanghai, Kunshan and other places in China, and global R&D and manufacturing centers in India, the United States and Germany.

Adhering to the mission of "Quality changes the world," SANY Heavy Industry spends more than 5% of its sales revenue on R&D every year and is dedicated to manufacturing world-class products. Building on the strength of technological innovation, SANY Heavy Industry received the National Scientific and Technological Progress Award three times and the National Technological Invention Award twice. These two awards represent the highest honor in the engineering machinery industry in the PRC. In terms of patent application, the Company ranked first in the total number of patents applied and granted in the domestic engineering industry.

With the premier product quality, SANY Heavy Industry has undertaken a great number of significant projects worldwide, including Burj Khalifa, Beijing Olympic venues, London Olympic venues, Brazil World Cup Stadium, Shanghai Tower, Hong Kong International Finance Center, Hong Kong-Zhuhai-Macau Bridge, Beijing Daxing International Airport, and Xiong'an New Area.

SANY Heavy Industry was honored as one of the annual

"50 Smartest Companies"

by *MIT Technology Review*

Ranked

129th in the *Fortune*

China 500

Ranking

first in the engineering

machinery industry

2022 Forbes China Sustainable Development Industrial Enterprises

Top 50

The only

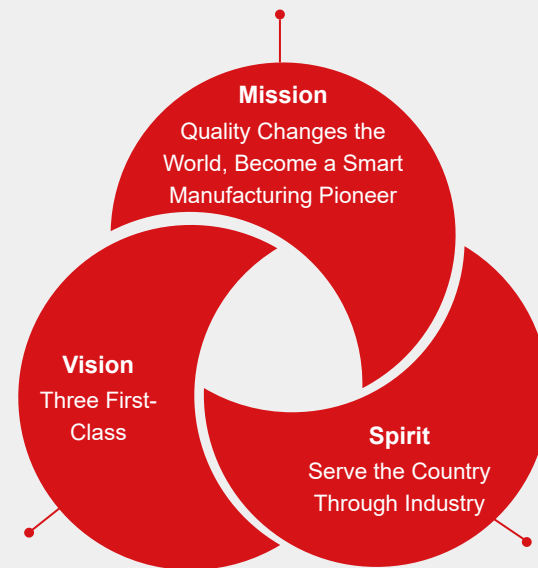
2 Lighthouse Factories in the

global heavy industry both came from SANY Heavy Industry

Corporate Culture

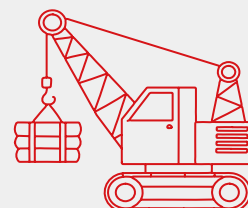
Achieving ambitious goals requires a strong team. Unity is the prerequisite of building a strong team. In 2022, the Company continued to uphold the SANY Heavy Industry Culture Consensus and make steady progress towards the Three First-Class Vision, which is "Build first-class enterprises, Foster first-class talents and Make first-class contributions."

- SANY Heavy Industry's mission is "Quality changes the world," meaning that the Company will build a new impression of 'Made in China' in the overseas Market with its top products and services and build itself into a world-class Chinese brand.
- SANY Heavy Industry's mission in the new era is "Become the Pioneer of Intelligent Manufacturing." That means the Company will pursue digital transformation to empower itself to be a leading machinery equipment manufacturer globally, and set an example for more companies to engage in the exploration for smart manufacturing. We hope to contribute to China's shift from a big manufacturer to a manufacturing powerhouse.



- SANY Heavy Industry's vision is "Build first-class enterprises, Foster first-class talents, Make first-class contributions."
- We will keep working hard to turn SANY Heavy Industry into a role model for the high-quality development of private companies, as well as a world-class enterprise that demonstrates China's intelligent manufacturing expertise.

- The founders of SANY Heavy Industry established the Company with the spirit of "Serving the country through industry," that is, to build the testing ground for reform and opening up among Chinese industries. At SANY Heavy Industry, we believe that people grow great by dreams. The founding aspiration of "Constantly strive to become stronger and serve the country through industry" provides an eternal driving force for everyone at SANY Heavy Industry.



Altruism

World-wide human cooperation is not primarily based on mutual love but on mutual benefit. To get more cooperation opportunities, we should follow the contract, respect the rights and interests of others and do good to others. Therefore, altruism is a noble and wise behavior for self-development and altruistic organizations and individuals will gain more strength and support. As a business organization, SANY Heavy Industry gives priority to customers, employees, suppliers and society in terms of altruism.



Customer First

A company and its business activities are defined by the value of customers, customers not only determine the commodity value, but also all production factors, including operators' interests and employees' wages. Therefore, it's a big thing for operators to understand, schedule and satisfy customers' needs every day.



Employee First

Company always prioritize employees when it comes to the relationship between company development, shareholders' interests and employee growth. To be more specific, Company values the physical and mental well-being of employees. Employees are helped to work and live happily and healthily on an equal and respectful basis. Meanwhile, they are helped to be successful in self-worth and financial rewards.



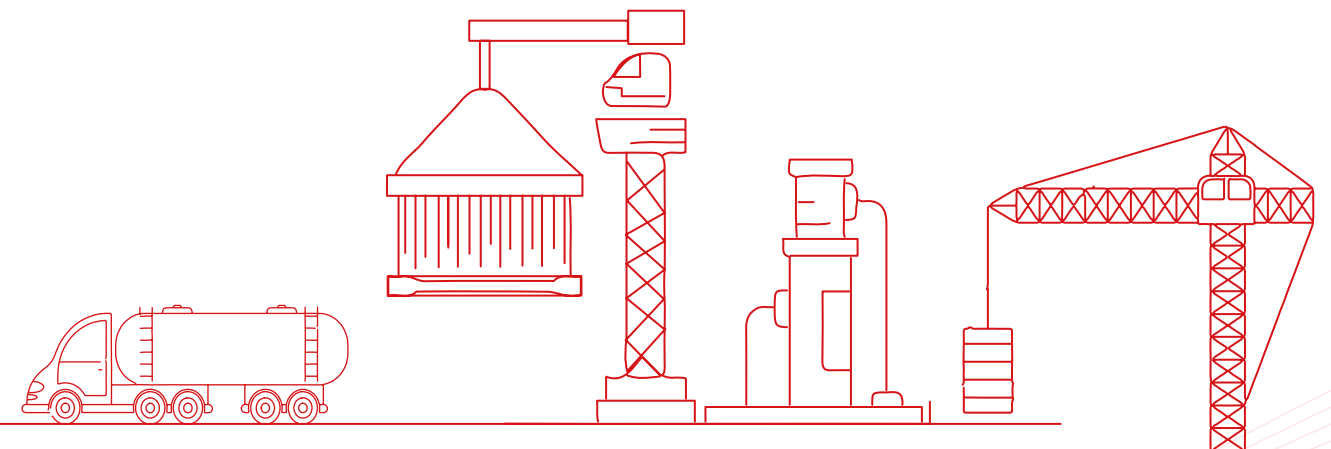
Innovation Guided

Innovation guidance based on generating value for customers is promising while following and catching up others is nothing but failure and mediocrity. Bill Gates once said, "The only way to develop business is through innovation."



Hardworking Employees as the Foundation

Enterprise competition lies in talents, thus attracting talents brings the Company a promising future. In SANY Heavy Industry, hardworking employees shall be honest, studious and diligent.



Awards and Recognition 2022



Gold Award for New Energy

April, 2022

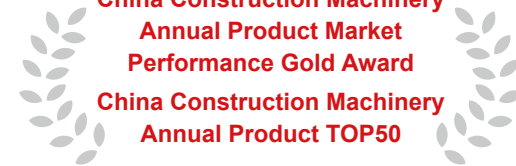
China Construction Machinery
Quality Supervision Testing Center



Gold Award for Application Contribution

April, 2022

Journal of *Construction Machinery &
Maintenance*



China Construction Machinery Annual Product Market Performance Gold Award China Construction Machinery Annual Product TOP50

April, 2022

China Construction Machinery
Quality Supervision Testing Center
Journal of *Construction Machinery &
Maintenance*



Fortune China 500

July, 2022

Fortune China



One of annual "50 Smartest Companies"

July, 2022

MIT Technology Review



China Patent Silver Award, China Design Silver Award, China Patent Excellence Award

August, 2022

China National Intellectual
Property Administration



2022 Customer Care Award of Top Ten Marketing Events in China Construction Machinery

September, 2022

2022 China Construction
Machinery Marketing &
Aftermarket Conference



2022 Top 10 Marketing Events of China Construction Machinery, 2022 Golden Service Award of China Construction Machinery

September, 2022

Journal of *Construction Machinery
Today*, Journal of *Construction
Machinery & Maintenance*



People Choice Award, Award for Best Product of the Year, Bill Shaw Memorial Cup

November, 2022

The Crane Industry
Council of Australia



2022 China Foundation Construction Equipment of the Year

November, 2022

T50 Summit of World Construction
Machinery Industry, *China
Construction Machinery Magazine*



Iconic Innovative Product Award

November, 2022

The Fourth Artificial Intelligence
Industrial Innovation and
Application Competition



2022 Second Prize of Science and Technology Award of China Road Construction Industry Association

November, 2022

China Highway
Construction Association



The Star Product of the Country

December, 2022

CMII2022 China Machinery
Industrial Conference



China New Growth · Agile Leader of 2022

December, 2022

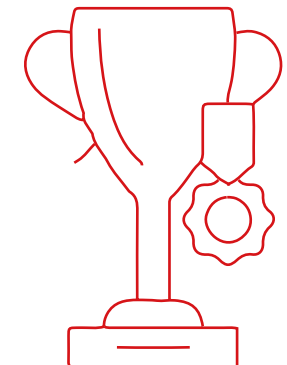
Harvard Business Review



2022 Forbes China Sustainable Development Industrial Enterprises Top 50

February, 2023

Forbes China



Sustainable Development Management

Sustainable Development Management System

SANY Heavy Industry has established a sustainable development governance structure, which vertically links the board of directors and senior management, the working group of sustainable development and executive staff and horizontally coordinates various functional departments. The structure covers all subsidiaries' executive systems for sustainable development, jointly promoting SANY Heavy Industry's synergistic development in governance, society and environment.

SANY Heavy Industry's Sustainable Development Governance Structure






Stakeholder Engagement

SANY Heavy Industry establishes a regular stakeholder communication mechanism to get to know and respond to the expectations and demands of stakeholders. Aimed to generate shared values, SANY Heavy Industry conducts materiality assessments regularly to take major issues that stakeholders focus on into daily operations and decision making.

Stakeholder Communication Strategy

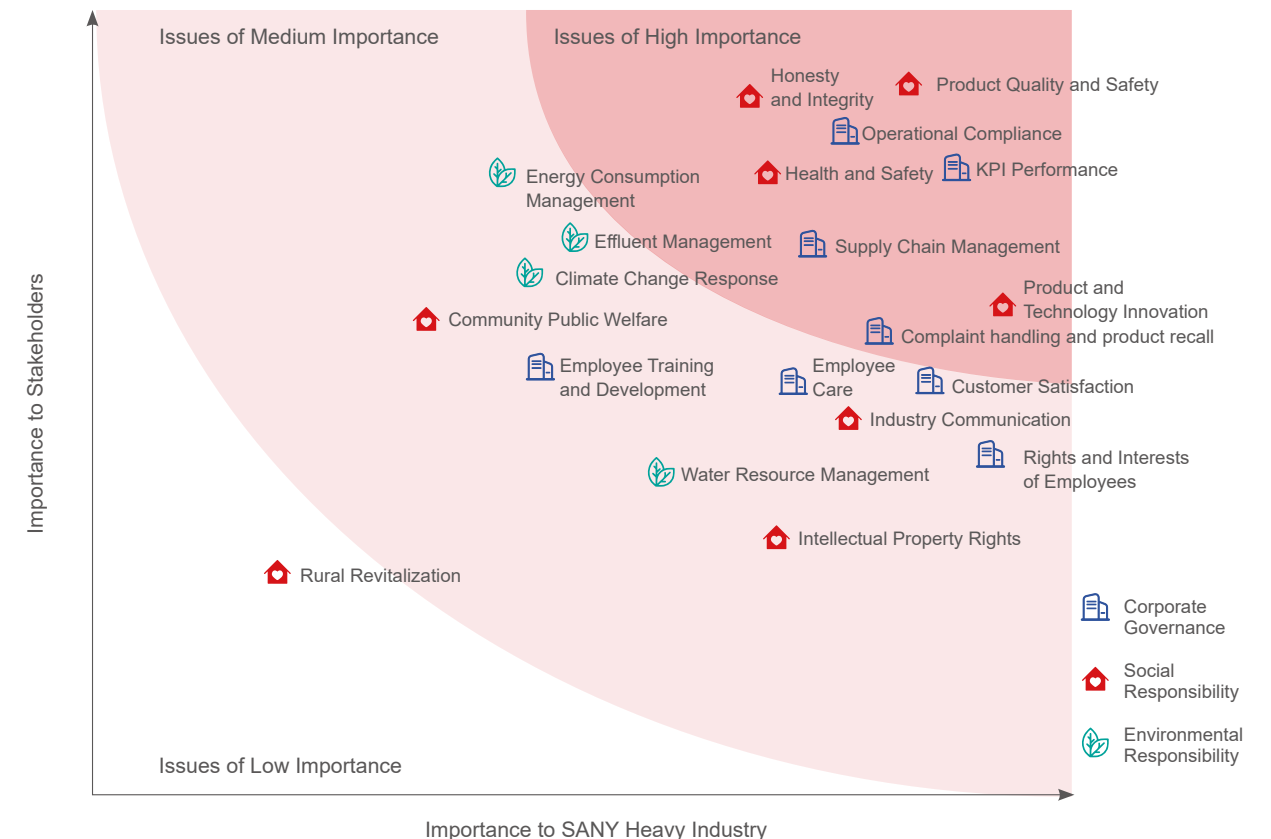
Stakeholders that are crucial to the development of SANY Heavy Industry include government departments and regulators, shareholders, investors, employees, suppliers, customers, communities, the public and non-governmental organizations (NGO), partners and industry peers. The Company values the expectations and demands of stakeholders by maintaining active communication with them through multiple channels and responding to the expectations and issues of common concern in the value chain.

Stakeholders	Issues in Focus		Communication and Feedback	
 Government Departments/Regulators	<ul style="list-style-type: none">Operational ComplianceHonesty and Integrity	<ul style="list-style-type: none">Effluent TreatmentClimate Change Response	<ul style="list-style-type: none">On-site Spot ChecksOn-site Investigation	<ul style="list-style-type: none">Dialogue and Meeting
 Shareholders	<ul style="list-style-type: none">KPI PerformanceOperational Compliance	<ul style="list-style-type: none">ESG Management	<ul style="list-style-type: none">Shareholders' MeetingRoadshow	<ul style="list-style-type: none">On-site Investigation
 Investors	<ul style="list-style-type: none">Corporate GovernanceIndustry Communication	<ul style="list-style-type: none">Product Quality and SafetyTechnology and Innovation	<ul style="list-style-type: none">Company AnnouncementRoadshow	<ul style="list-style-type: none">Investment ConferenceTelephone Conference
 Employees	<ul style="list-style-type: none">Rights and Interests of EmployeesRemuneration and Benefits	<ul style="list-style-type: none">Health and Safety	<ul style="list-style-type: none">Employee TrainingCustomer Satisfaction Survey	<ul style="list-style-type: none">Labor Union Activities

Stakeholders	Issues in Focus		Communication and Feedback	
 Suppliers	<ul style="list-style-type: none">Supply Chain ManagementHonesty and Integrity	<ul style="list-style-type: none">Product Quality and Safety	<ul style="list-style-type: none">On-site AssessmentSupplier Training and Assistance	<ul style="list-style-type: none">Quality CommunicationSupplier Conference
 Customers	<ul style="list-style-type: none">Product Quality and SafetyIndustry Communication	<ul style="list-style-type: none">Climate Change ResponseTechnology and Innovation	<ul style="list-style-type: none">Market ResearchMedia Conference	<ul style="list-style-type: none">Customer Satisfaction SurveyOnline and Offline Promotion
 Community, the Public and NGO	<ul style="list-style-type: none">Community CultureCommunity Environment	<ul style="list-style-type: none">Public Welfare Poverty Alleviation	<ul style="list-style-type: none">Community SymposiumOnline Promotion	<ul style="list-style-type: none">Community Publicity
 Partners	<ul style="list-style-type: none">Industry CommunicationHonesty and Integrity	<ul style="list-style-type: none">Stable Partnership	<ul style="list-style-type: none">Strategic Cooperation	<ul style="list-style-type: none">High-level Exchanges
 Industry Peers	<ul style="list-style-type: none">Fair Competition	<ul style="list-style-type: none">Industry Communication	<ul style="list-style-type: none">Industry Forum and MeetingInspection and Exchange of Opinions	<ul style="list-style-type: none">Cooperation Agreement

Materiality Analysis

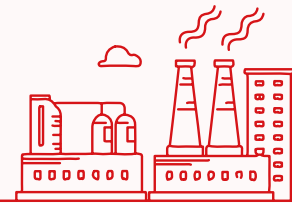
In order to better respond to the expectations of stakeholders in this report, the Company regularly identifies and evaluates the material issues. The material issues that have significant impact on the Company and stakeholders are defined, specially revealed and responded in the report. We have drawn up a matrix of the importance distribution of issues in terms of both "Importance to Stakeholders" and "Importance to SANY Heavy Industry" to clarify the focus of responsibilities.



Performance Highlights in 2022

"Digitalization, Electrification and Internationalization" Corporate Strategy

- **25** lighthouse factories were put into operation which boosted the average capacity by **68%**
- Electrification patents accumulated to **697** and **79** models of electric products were developed with the sales of over **3,500** and revenue of RMB **2.7** billion in 2022
- International sales revenue reached RMB **36.571** billion, up **47.19%** year-on-year. **30,000** overseas excavator exceeded were sold



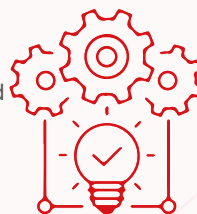
Honest Operations and Governance

- **100%** coverage of internal anti-corruption audits and internal anti-corruption training covered over **8,100** staff members
- **100%** of our suppliers signed a cooperation agreement or commitment letter on integrity and **5** training sessions on integrity education cover **1,538** suppliers



R&D and Product Quality

- R&D investment reached RMB **7.826** billion, up **9.78** percent year-on-year
- **2,663** patents were applied for and **1,781** patents were granted. The Company has won **2** China Patents Silver Awards and **3** China Patent Excellence Awards
- Developed and published **6** national standards and **8** organizational standards
- **100%** of the Company's **23** subsidiary manufacturers of main engine and spare parts passed the ISO 9001 or IATF 16949 Certification
- **1,058** suppliers joined in the camps on "necessary knowledge and skills," covering **2,650** participants



Green and Safe Operations

- **8** of the **23** subsidiary manufacturers of main engine and spare part passed the ISO 14001 environmental management certification and ISO 14001 EMS external audit. **9** passed the ISO 45001 occupational health and safety management certification and the ISO 45001 external OHSMS audit
- Over RMB **140** million was invested in the technical transformation project for VOCs emission reduction with an reduction of **134.83** tons
- Clean energy usage (photovoltaic power generation) reached **16.013** million kWh with utilization ratio is **1.88%**
- The energy-saving and consumption reduction projects saved RMB **57.776** million in energy costs, year-on-year savings of **20.11%**
- The construction of smart green industrial parks **3.0** was completed, covering **18** parks nationwide
- **418,920.5** hours of health and safety training were provided with total attendance reaching **268,190**
- **No one** suffered from occupational diseases. The coverage of occupational health checkup for those on professional posts reached **100%**



Workplace and Employees

- The employee coverage of vocational training was **78.42%**, amounting to **96.80** hours for each employee
- Share incentives of as much as RMB **485** million were offered to **7,000** staff members
- **20,262** valid questionnaires of satisfaction survey were collected and **87%** of the surveyed employees were satisfied
- A total amount of RMB **428,700** was delivered as assistance to 32 employees financial difficulty



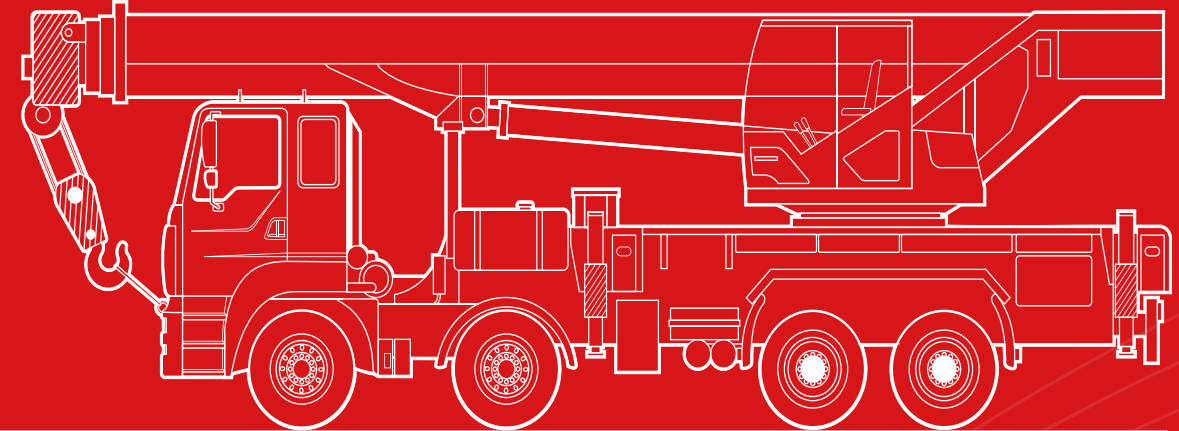
Giving Back to Society

- The community investments totaled RMB **45.769** million and voluntary activities for employees totaled **687.4** hours



Feature: "Digitalization, Electrification and Internationalization" Corporate Strategy

Committed to long-termism, SANY Heavy Industry firmly promotes "Digitalization, Electrification and Internationalization" Corporate Strategy, facing the long-lasting international economic complexity and severity. We help achieve the "dual carbon" goals through digitalization and grasp opportunities of clean tech to further the digitalization reform. We promote internationalization by accelerating our reach to the world. As a step towards the goal of building a world-class enterprise, the layout innovation is sped up to generate more development potential, further consolidate the Company's core competitive advantage and promote its high-quality development.



Digitalization Aids in the Achievement of the "Dual Carbon" Goals

SANY Heavy Industry upholds the concept of "data-driven future" and unrelentingly implements the Company's digitalization strategy. We have made extensive efforts to construct Lighthouse Factories, deploy the Industrial Internet of Things, promoted standardized, online, automatic, and intelligent processes, leveraged industrial software, and facilitated data management and application. We have driven R&D digitalization, smart supply chain, smart manufacturing, and smart operation. While improving its own production and service efficiency, SANY Heavy Industry orients the production mode and consumption model to green, energy-saving, recycling, aiming to lead the industry's technological progress and strongly promote China's "3060 Dual Carbon" strategic goals through practical actions.

Achievements in Building the Lighthouse Factory

The Company leverages the cutting-edge technologies of the Fourth Industrial Revolution to expand smart manufacturing to the upstream and downstream links of the industrial chain, helping SANY Heavy Industry set an example for smart manufacturers around the world. The Lighthouse Factory integrates and uses new technologies in intelligence, digitalization, and automation to achieve comprehensive changes in models of business, product development, production, quality management and consumer service. This is to promote higher efficiency, quality upgrading, energy saving and emission reduction and operation optimization.

The Company has continuously improved its 31 factories based on the Lighthouse Factory standards. By the end of 2022, 25 factories had been put into operation, enhancement in automation with a 68% increase of average capacity and a 45% reduction in labor costs on the production line.

The number of Lighthouse factories that have been put into production is

25

Achieving an average capacity increase of

68%

Lighthouse production line labor costs have decreased by

45%



SANY Heavy Industry's Changsha Factory No.18 made Lighthouse Factory List

On October 11, 2022, SANY Heavy Industry's Changsha Factory No.18 made the World Economic Forum's (WEF) new Lighthouse Factory list. As of the reporting period, the only 2 Lighthouse Factories certified by the WEF in the global heavy industry both came from SANY Heavy Industry, demonstrating the leading strength of SANY Heavy Industry's digitalization. Relying on Root Cloud's operating system of industrial Internet of things, smart work has been realized in all 9 processes and 32 representative scenarios of Lighthouse Factory No.18, which makes complete intelligent manufacturing of turn pieces of steel plate into a Boom Pump Truck. After the transformation, the capacity of Lighthouse Factory No.18 has increased by 123% and labor efficiency by 98% while the manufacturing cost on unit product has reduced by 29% in the same production area.



SANY Heavy Industry's Factory No.18

Meanwhile, the Factory has created an energy management system based on industrial Internet of things to significantly improve such management. Through automatic identification of abnormalities, the welding consumption index of the Factory has reduced from 1.21m³/kg wire to 0.44m³/kg wire, a reduction of 64%. In 2022, SANY Heavy Industry's Factory No.18 completed a Dual Carbon Monitoring Platform. Based on industrial Internet of things and block chain technology, it displays and controls carbon emissions and green energy conditions in a real-time manner by connecting water, electricity, oil and natural gas. System for carbon emission standards was established to constantly reduce carbon emissions intensity and costs. By the end of 2022, the carbon emission intensity of Factory No.18 is less than 0.015tCO₂e/RMB 10,000 of output value, leading the manufacturing industry according to the report of *Carbon Emission Intensity of 2020 Fortune 500 Chinese Enterprises*.



Dual Carbon Monitoring Platform of Factory No.18

Achievements in Building the Industrial Internet of Things

SANY Heavy Industry's Industrial Internet Platform (hereinafter referred to as "IoT Platform") is oriented to the needs in digitalization, networking and intelligence of manufacturing industry. As a service system of mining, integrating, aggregating and analyzing massive data, the Platform with ubiquitous connection¹ is able to flexibly supply and efficiently allocate manufacturing resources. The IoT Platform can extensively connect various devices and systems to model the digital twin², which will help enterprises effectively reduce cost and improve quality and efficiency as well as collaborative efficiency between service quality and industry chain.

Committed to independent research and development, we constantly upgrade the IoT platform and data mining platform to connect application systems and equipment control systems. In this way, information technology (IT) and operation technology (OT) are integrated to improve production and operation efficiency. In 2022, we witnessed the real-time online access by the Company's IoT Platform to 16,000 devices, 46,000 cameras and 23,000 energy uses, forming cross-system information integration and interconnection. Systems in algorithm model and energy consumption control were optimized through the massive data collected by the IoT Platform, realizing a cost reduction of RMB 58 million.



Standardized, Online, Automatic, and Intelligent Processes & Industrial Software Application

SANY Heavy Industry promotes standardized, online, automatic and intelligent processes across our R&D, supply chain, procurement, production, sales and operation. In 2022, the Company's achievements on standardized, online, automatic, and intelligent processes are remarkable. 23 processes were automatically monitored and warned online based on the self-developed process monitoring platform, which greatly improved the quality of the Company's products and the transparency in the production process with reduced costs by RMB 51.72 million.



SANY Heavy Industry optimized commodity-handling process of purchase and warehousing

In 2022, SANY Heavy Industry optimized purchase and warehousing as the process of sorting out commodities. We optimized the commodity-handling rules to design the sorting sampling algorithm in terms of the parameters of material price and annual purchase amount. Commodities are extracted automatically by the computer for 3R (Real Site, Real Object, Reality) sorting, which improves the accuracy of stocking and decreases the number of stockers.



Process monitoring platform interface



Intelligent logistics project was listed as one of annual application scenarios of digital transformation by the Industry and Information Technology Department of Hunan Province

SANY Heavy Industry's "factory intelligent logistics based on 5G multi-device collaborative" project was listed as one of 2022 representative application scenarios of manufacturing digital transformation in Hunan Province released by the Industry and Information Technology Department of Hunan Province. It highlights the Company's strength in digital transformation. Adopting multiple types of 5G-connected equipment, the project relies on low-latency and highly reliable 5G to realize multi-device collaboration of storage and distribution and automatic pick-up and delivery of various objects. This effectively solves the problems of delayed material distribution, low accuracy and low turnover efficiency. With the goal of reducing costs with fewer staff achieved, the timely distribution rate increased by 11% and the inventory turnover rate increased by more than 50%.



Intelligent logistics project

Intelligent Product and Technology

SANY Heavy Industry promotes the application of digital technology to create industry-leading intelligent products and technologies. We use unmanned driving, remote control, intelligent operation, big data analysis and 5G network to develop a variety of intelligent products. We also deploy intelligent operation to reduce the workload of our staff and carry out auxiliary work with the aid of intelligent technologies. As of the end of the reporting period, we have made significant breakthroughs in the application of L4³ driverless technology, cloud control and V2X technology⁴. These achievements have greatly assisted customers to improve their intelligence level and strongly promoted the implementation of the Company's digital intelligence transformation strategy.

¹ Ubiquitous Connection refers to connect everyone and everything, everywhere, at all times.

² The digital twin refers to a digital "clone" designed for a physical device and based on the device or system.

³ L4: Automatic vehicle system is capable of performing driving tasks and monitoring the driving environment in certain environments and under specific conditions.

⁴ V2X technology: Vehicle-to-Everything technology can perform interactions between vehicles and various applied communications and application scenarios.



SANY Heavy Industry develops L4 intelligent driving dumper truck

In July 2022, the intelligent driving dumper truck developed by SANY Heavy Industry made its official debut. The intelligent dumper truck is equipped with various sensors such as LIDAR, camera, millimeter wave radar. Relying on the Company's self-developed advanced technologies like perception, positioning, planning and control, it can detect obstacles around on its own. It automatically adapts to types of obstacle scenarios with has innovative functions including automatic unloading, parking, turning, stopping by and bypassing obstacles, collaborating signal lights and blind intersections. All these truly make the dumper truck reach L4 intelligent driving.



Intelligent driving dumper truck

Electrification Targets Opportunities of Developing the Clean Technology

SANY Heavy Industry deepens the clean technology reform of machinery and equipment and promotes the electrification of its main-engine products such as engineering vehicles, excavation machinery, loading machinery and cranes. So the low-carbon transformation of products is accelerated. In 2022, the Company focuses on the three technical routes of pure electricity, hybrid and hydrogen fuel by continuing to update electrified products. Electrification patents accumulated to 697 and 79 models of electric products were developed with the sales of over 3,500 and revenue of RMB 2.7 billion in 2022.

Pure-Electric Technology

Committed to being an electrification example in the machinery industry, SANY Heavy Industry has always made efforts in developing pure-electric technology and launch electrified vehicle models.

Highlight models



Pure electric mini excavator SY19E

Using SVPWM (Space Vector Pulse Width Modulation) technology, we develop customized high-efficiency electronic control software and hardware in terms of the characteristics of battery voltage platform and the oil pump of the electric excavator. In this way, the energy consumption of electric drive is optimized, 7% higher in efficiency than the common working position of traditional diesel engines. So energy is saved and consumption reduced.



Electric driven large excavator SY2600E

With the application of "8 pumps and 3 valves" power technology, the excavator is equipped with the standard voltage of 6000V/50Hz mining equipment and the maximum installed power of 900kW. Relying on the advanced RCS full electric control hydraulic system, it is completely driven by its electric control, which makes SANY Heavy Industry lead in the technology.



Electric Mixer Trucks

We initiate and adopt the patented technology of no subframe and uniquely integrated design of chassis, reducing weight by 600kg compared with competing products of the same class. The mixer truck is equipped with thermostatic management system, adapting to various climates from -30°C to 50°C.



Pure Electric Truck Crane STC250BEV

With the pure-electric-driven chassis, the truck crane features little operation noise, low costs of use and maintenance. With the full boom length of 43.5 meters and the limit climbing of 40 degrees, the maximum speed of 90 km/h, it has outstanding performance in redeployment.



The world's first hydrogen cell mixer trucks were officially delivered

On February 18, 2022, SANY Heavy Industry delivered the first batch of hydrogen fuel cell vehicles for Yueyang City. The hydrogen vehicles provided by SANY Heavy Industry will strongly promote the landing of hydrogen energy construction vehicle operation scenario in Yueyang City and efficiently help the green and low-carbon development of construction machinery industry.



Hydrogen Technology

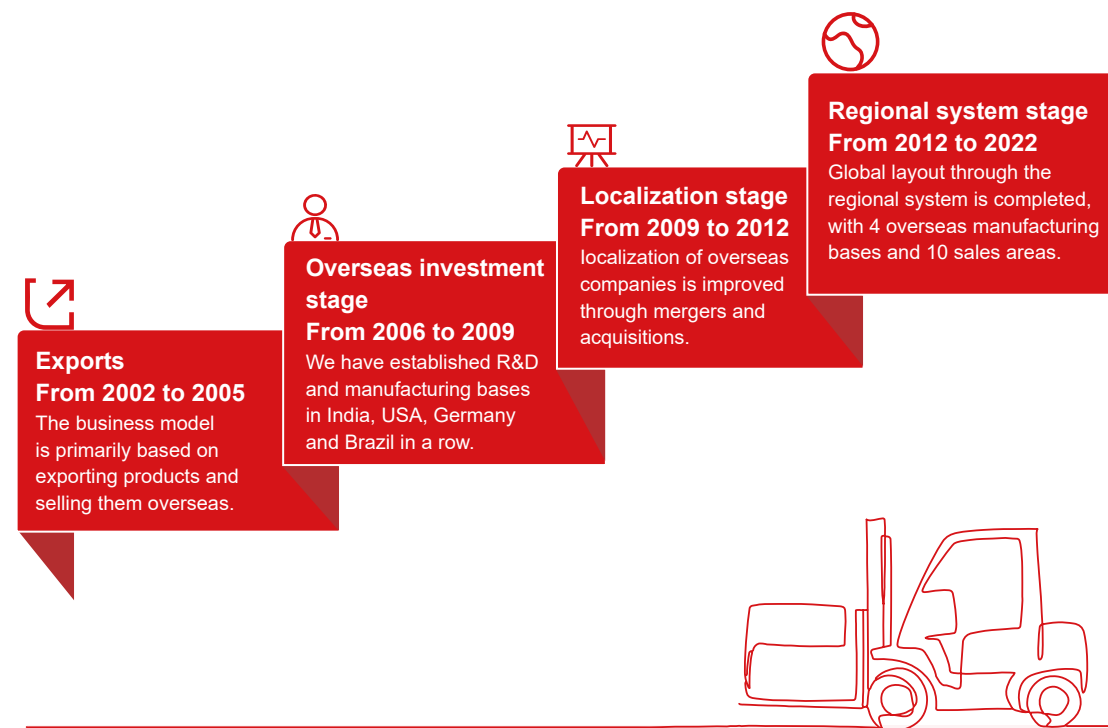
SANY Heavy Industry is fully aware of the great potential of hydrogen technology in energy transformation, hence regarding fuel cell and hydrogen industry as a focus on its future electrification. We focus on developing a system for hydrogen production via water electrolysis, hydrogen refueling equipment and core components with SANY Heavy Industry's independent intellectual property rights. And we make an extensive layout of the whole industry chain, including green hydrogen production, storage and transportation and filling equipment.

Hydrogen cell mixer trucks at the delivery ceremony

Internationalization Helps Extend our Reach Globally

We fully realize that internationalization is the only way to build a world-class brand and a world-class enterprise. SANY Heavy Industry put forward the strategy of "internationalization" at the early stage of its expansion. Since 2002 when internationalization started, the Company has stepped on a unique journey to internationalization.

SANY Heavy Industry's Journey of Internationalization



While committed to our internationalization strategy and an internationalization guideline of "Establish a Strong Foothold, Operate Locally, Prioritize Services," SANY Heavy Industry focuses on differentiated market development and goes on making localized improvements to our products, design products and operate the company for 8 billion people as global customers to build a world-class brand for China.

The Company has increased its investment in overseas resources and marketing channels and improved its competitiveness among overseas key clients, and increased the market share of heavy equipment. We have also constructed better spare parts centers in regions outside of China, and built a global capacity to supply parts. We have continued to promote the digitization strategy globally, established intelligent Lighthouse Factories, built localized advanced manufacturing capacity, and facilitated digitalized online marketing, digital service and digital operation. Additionally, we have built a stronger pipeline of overseas talents, offered attractive incentives, gathered an excellent localized team, and strengthened our footprint in the local market. We have accelerated international product development, enhanced international R&D strength, significantly increased the number of R&D personnel, and focused on global mainstream markets such as Europe and the US.



Helping the construction of Qatar World Cup venues in 2022

Qatar has renovated or built eight stadiums for the 2022 World Cup. SANY Heavy Industry's construction equipment was used in building the World Cup infrastructure, including truck cranes, large excavators, pump trucks, mixer trucks. As of the end of the reporting period, many machinery products of SANY Heavy Industry have ranked first in Qatar market, among which the over 50% market share of crane and concrete machinery.



SANY Heavy Industry truck crane exported to Qatar



SANY Heavy Industry Made its Debut at INTERSCHUTZ

INTERSCHUTZ is an internationally renowned event in the fire safety industry. In June 2022, SANY Heavy Industry presented at the exhibition with two brand equipment of 48m long-span high-lift fire truck and 28m powerful-demolition high-lift fire truck with the theme of Guarding Homes. Both provided key support for improving fire-fighting methods for large-span space buildings, attracting visitors from all over the world and showing the strength of China's intelligent manufacturing to the world.



SANY Heavy Industry team at the Exhibition Site

2022

The company's annual global sales revenue reached RMB

36.571

billion

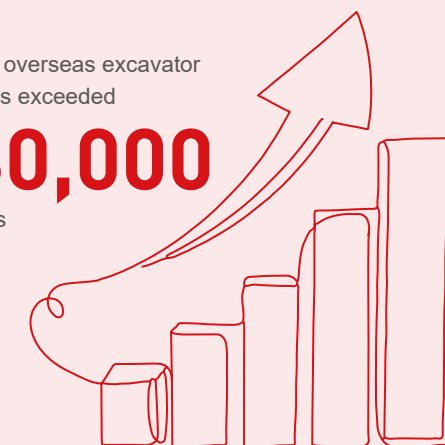
a year-on-year increase of

47.19%

The overseas excavator sales exceeded

30,000

units



01

Honest Operations and Governance

SANY Heavy Industry is oriented to adhere to the business ethics of honesty and compliance, as a way to enhance its competitive advantage of sustainable development. Committed to bringing sound, sustainable and stable development to the environment and society through compliance management, we build a first-class governance system in line with the business ethics and operational compliance principles.



Strengthen Corporate
Governance



Comprehensive Risk
Management



Anti-Corruption and
Compliance



16 PEACE, JUSTICE
AND STRONG
INSTITUTIONS



17 PARTNERSHIPS
FOR THE GOALS

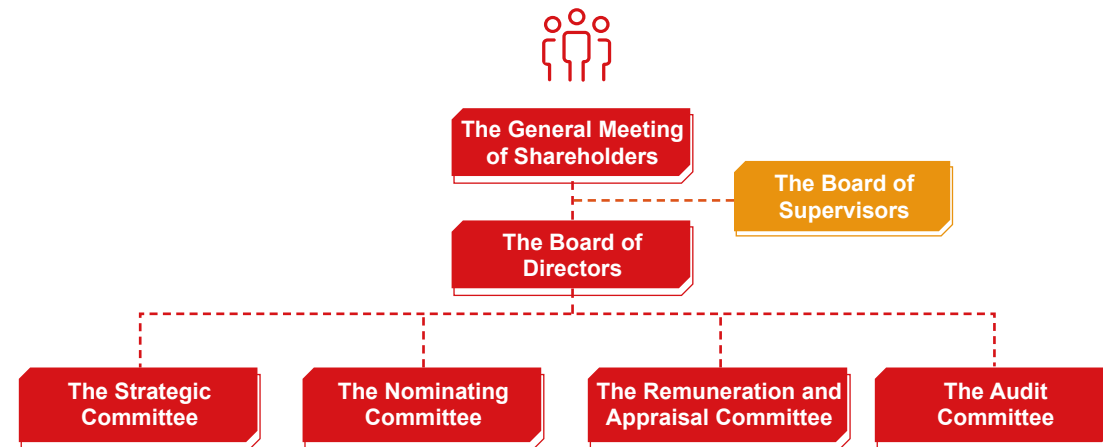


Strengthen Corporate Governance

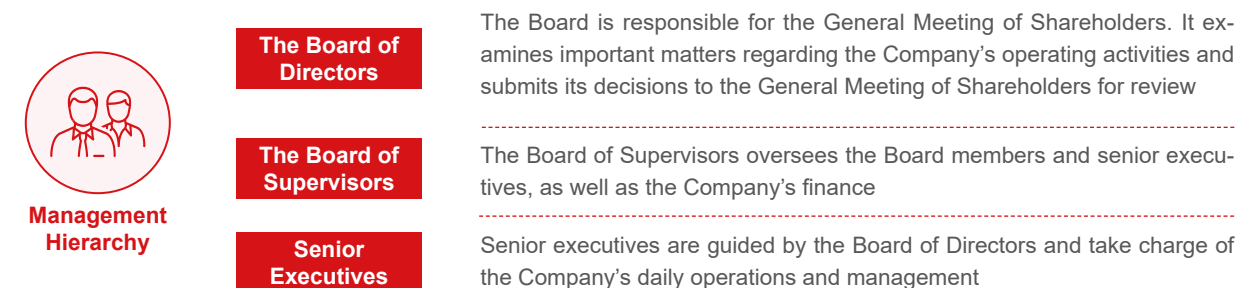
A sound corporate governance mechanism is the key to the long-term, stable and sustainable development of the Company. The Company strictly abides by the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, the *Code of Corporate Governance for Listed Companies*, the *Rules Governing the Listing of Stocks on Shanghai Stock Exchange*. We constantly improve our governance framework, make the General Meeting of Shareholders, the Board of Directors, the Board of Supervisors standardized, disclose information in terms of compliance and establish a sound and standardized modern corporate governance system with effective checks and balances and efficiently operations.

The Board of Directors establishes the Strategic Committee, the Nominating Committee, the Remuneration and Appraisal Committee, and the Audit Committee. The Company puts a high value on corporate board diversity by forming the Board with experienced members from different backgrounds to promote the Company's balanced decision-making. Strict with the corporate governance, the Company's directors are professional and experienced in legal affairs, finance and audit, risk management and corporate management. As an important part of our corporate governance system, our independent directors aim to protect the interests of minority shareholders and stakeholders and promote the Company's long-term sustainable development. In 2022, there are 9 directors including 3 independent directors and one female director in the Board of Directors.

Corporate Governance Structure



SANY Heavy Industry's Management Level and Major Responsibilities



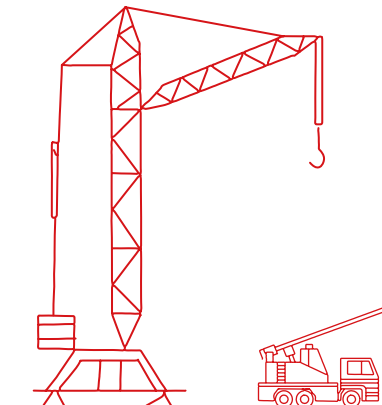
The Company organizes the General Meeting of Shareholders, Board of Directors Meetings and Board of Supervisors Meetings in accordance with applicable laws, regulations and the *Articles of Association*. The convening, deliberation and voting procedures complied with relevant regulations. The Company's and the shareholders' legitimate rights and interests, especially minority shareholders' are safeguarded. In 2022, SANY Heavy Industry held 5 General Meetings of Shareholders and 13 Board of Directors Meetings, with 100% directors attendance; 12 Board of Supervisors Meetings were held, with 100% member attendance.



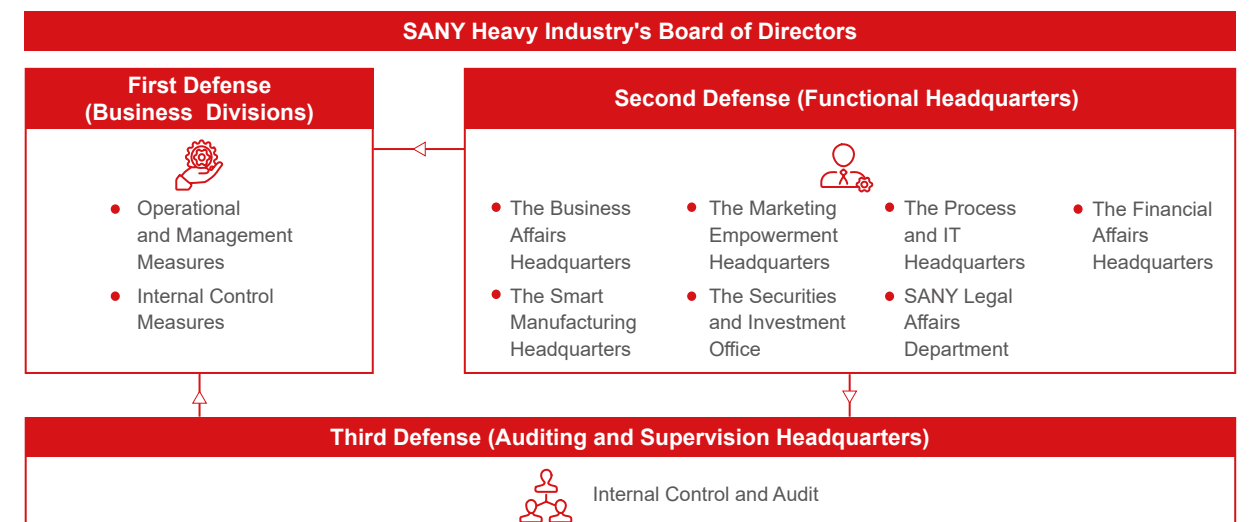
Comprehensive Risk Management

Considering the realities of production, operation and management of the Company, SANY Heavy Industry has established a standardized and effective risk management and internal control system. The Company has formulated and issued internal laws and regulations, such as *Audit and Supervision Quality Manual*, *Auditing and Supervision Management System*, *Audit and Supervision Plan and Management Process*, *Audit and Supervision Rectification Tracking Management Process*, *Judgment Guide for Problems, Defects and Risks* and *Operation Guide on Internal Control Evaluation*. In this way, we continuously improve our capability for preventing risks and the Company's operation and management to ensure the safe and sound operation of the Company.

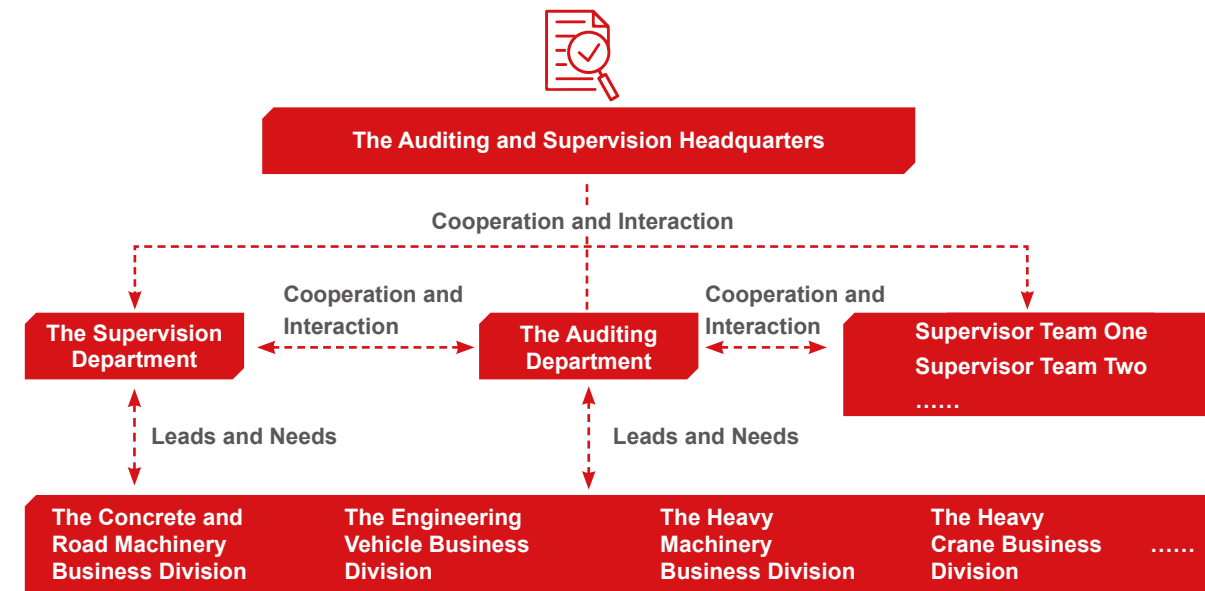
The Company has established three defenses of risk prevention and control, which consists of business divisions, functional headquarters and auditing and supervision headquarters. The defenses are supervised by the leaders of the Board of Directors. We define the responsibilities of risk management and integrate the requirements of enterprise risk management into enterprise management and business processes in terms of the responsibilities and functions of different posts, effectively building a risk prevention and control system. In 2022, by further strengthening the organizational structure and operating mechanism, the Company established a three-pronged supervision system combining centralized and decentralized approaches, which made for mutual supervision.



Three Defenses for Risk Management System



Auditing and Supervision System



Auditing and Supervision System



To strengthen the supervision and inspection of internal control, the Company has established a sound supervision and evaluation systems for internal control and risk management. We carried out auditing projects in economic liability, specialty, off office and internal control audit according to the auditing and supervision management procedures. We steadily promoted complete auditing coverage and comprehensive risk management and strengthened the up-down coordination mechanism. Meanwhile, we actively innovated auditing reform and built a digital auditing and supervision system to monitor the fundamental business processes of its subsidiaries and audited major problems and leads. In 2022, the Company conducted auditing projects covering 100% headquarters and subsidiaries.

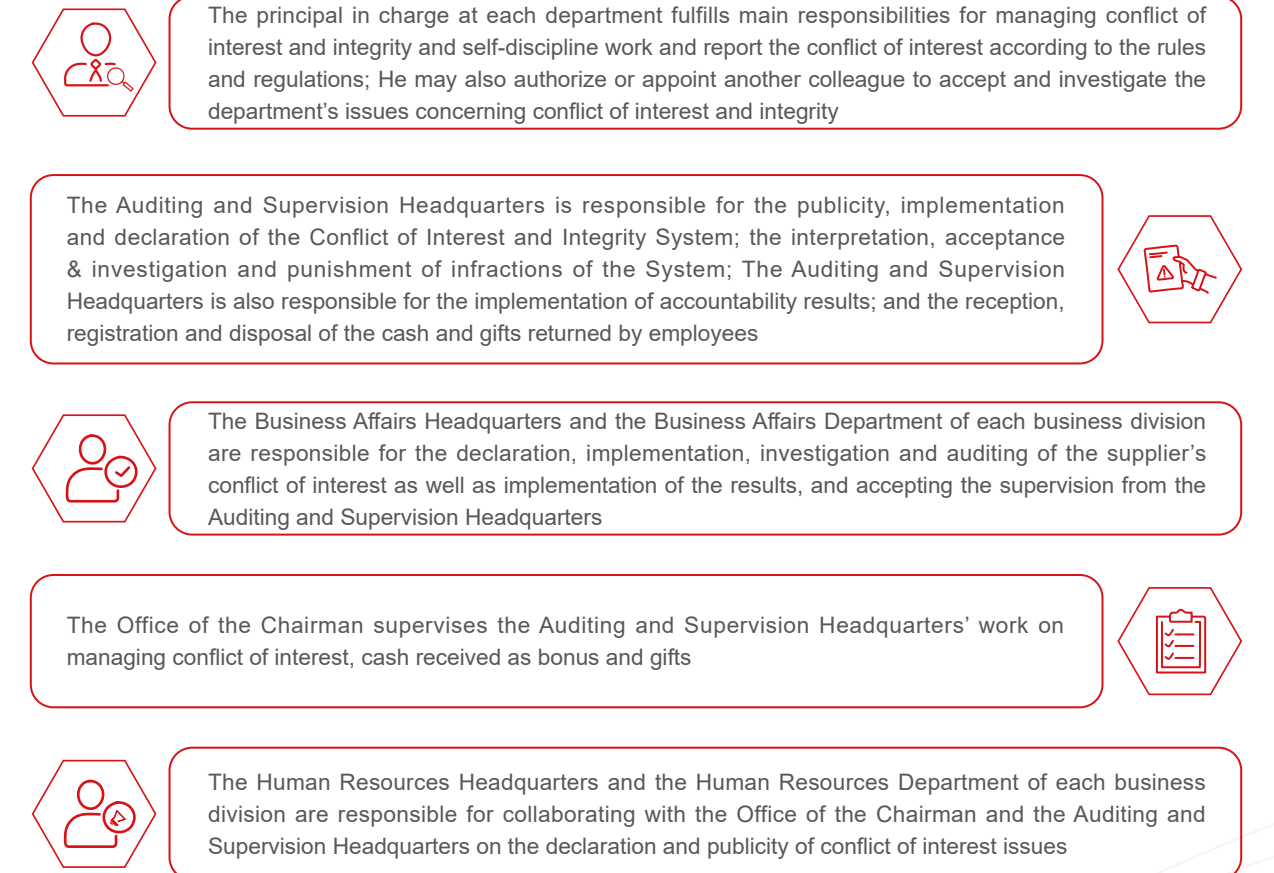
Anti-Corruption and Business Ethics

Committed to the business ethics of integrity, SANY Heavy Industry adopts a “zero-tolerance” approach towards corruption. The Company has established a sound anti-corruption system to develop an integrity culture by promoting anti-money laundering for a standardized and legal operation environment.

Integrity Management

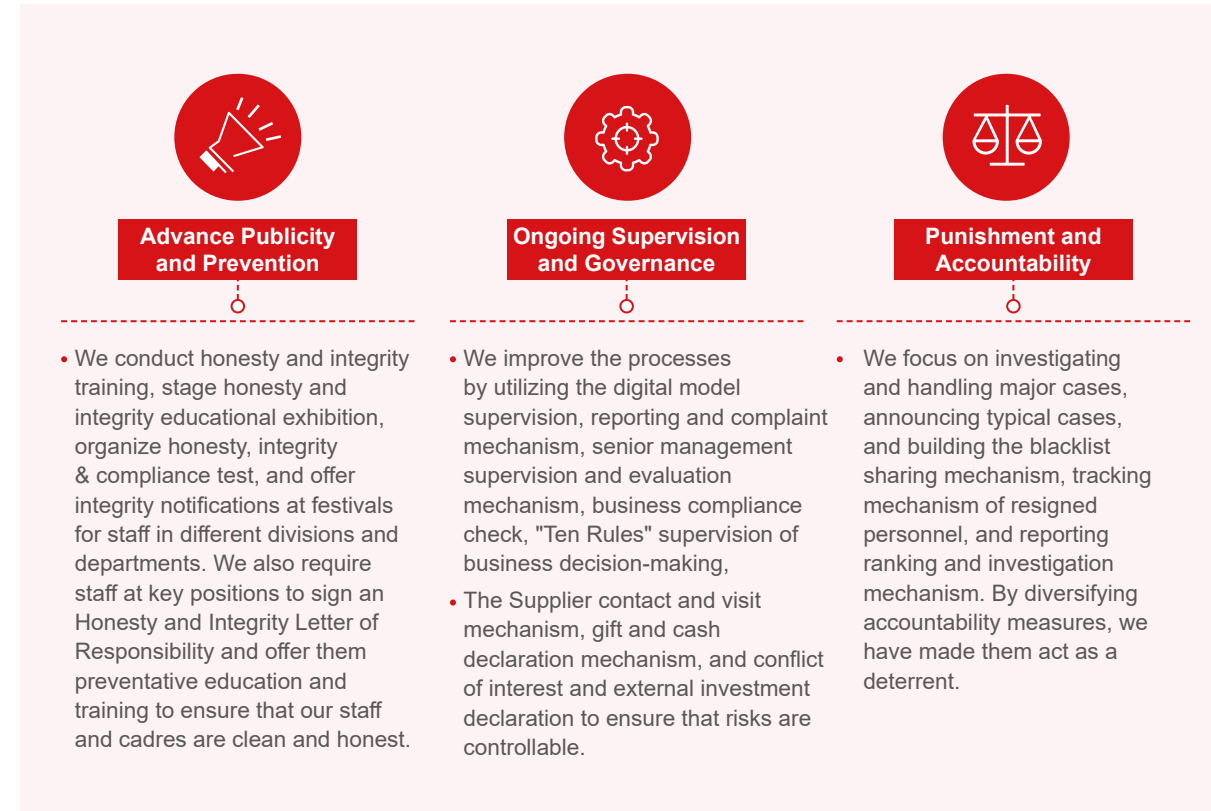
With a focus on anti-corruption, the Board of Directors directly supervises, guides, and evaluates the Auditing and Supervision Headquarters’ work outcomes and guides, supports, helps and makes decisions on anti-corruption management. The Company abides by the *Criminal Law of the People’s Republic of China*, the *Anti-Unfair Competition Law of the People’s Republic of China*, the *Interim Provisions on the Prohibition of Commercial Bribery* and other applicable laws and regulations in commercial operations like extortion, fraud and money laundering. The Company’s *Conflict of Interest and Integrity Management System*, the *Blacklist Sharing Management Procedures* and *Employee Code of Conduct Management* were formulated to make anti-corruption standard.

Responsible Departments for Integrity Management and their Duties



To step up integrity, the Company supervises corruption and prevent and control integrity risks by prioritizing the three aspects of “before, in progress and after.” We regularly audit anti-corruption and business ethics every year and leverage the advantages of big data monitoring technology to enhance the capability and effectiveness of corruption treatment. In 2022, the company carried out anti-corruption audit on its headquarters and subsidiaries, with a coverage rate of 100%.

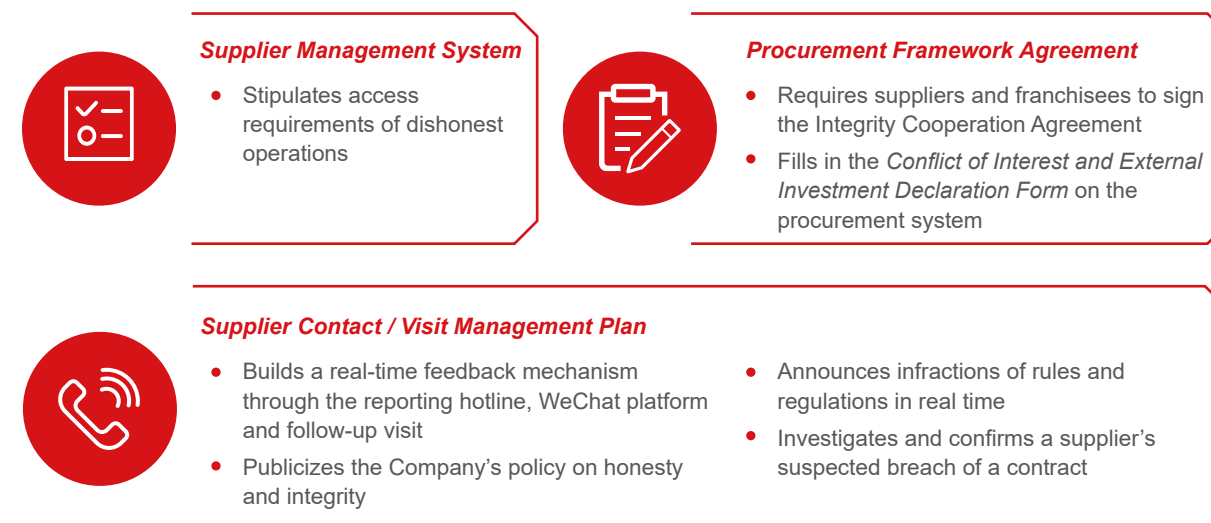
Anti-Corruption Initiatives



The Company focuses on the integrity performance of its business-related units and the entire supply chain. We established the *Supplier Management System*, the *Procurement Framework Agreement* and the *Supplier Contact/Visit Management Plan* to make suppliers standardized in terms of business ethics. In 2022, the Company timely informed business related units of the Company's anti-corruption resolution through supplier integrity education, integrity cooperation agreements and holiday reminder letters. In 2022, 100% of our suppliers signed the *Integrity Cooperation Agreement or Letter of Commitment*.

100% of our suppliers signed the Integrity Cooperation Agreement or Letter of Commitment

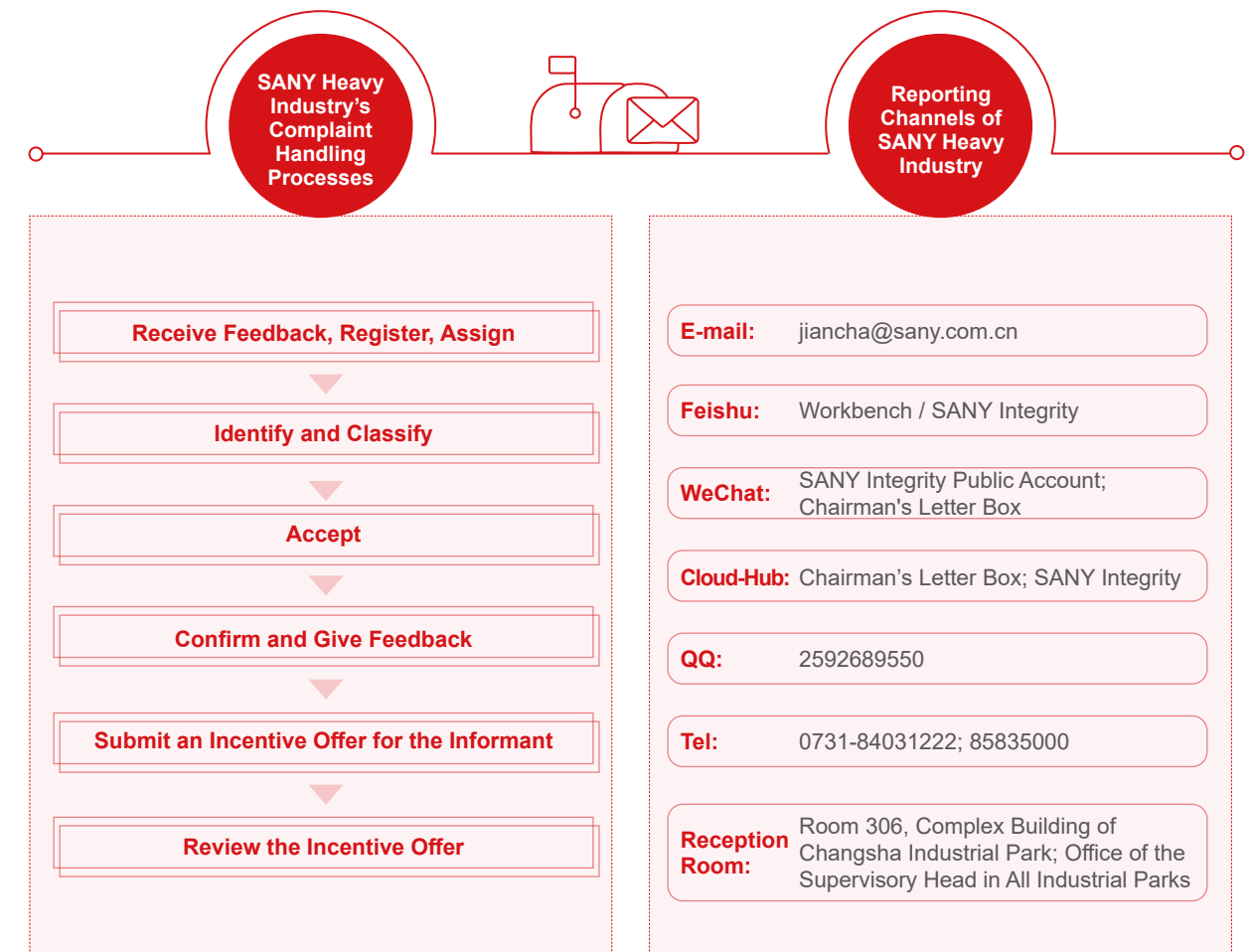
Supplier Integrity Management Rules



Complaint Reporting

Following the requirements of China's discipline inspection and supervision authority, the Company has developed internal regulations such as the *Reporting Management Procedures* to clarify ways to make reporting procedures standard. The Company has opened up diversified reporting channels, created a Smart Supervision Platform and specially-assigned persons from the standing reporting department handle reporting complaints. Complaints can be sent through multiple channels like E-mail account, employed Feishu (SANY Heavy Industry's real-time office software), WeChat, Cloud-Hub (mobile office software) and QQ, a hotline and a reception room. The Company collects and summarizes problems and leads regularly, turning them into standing books for regular judgement and punishment. In 2022, 133 complaint cases were all investigated and handled in terms of the *Complaint Management Processes*.

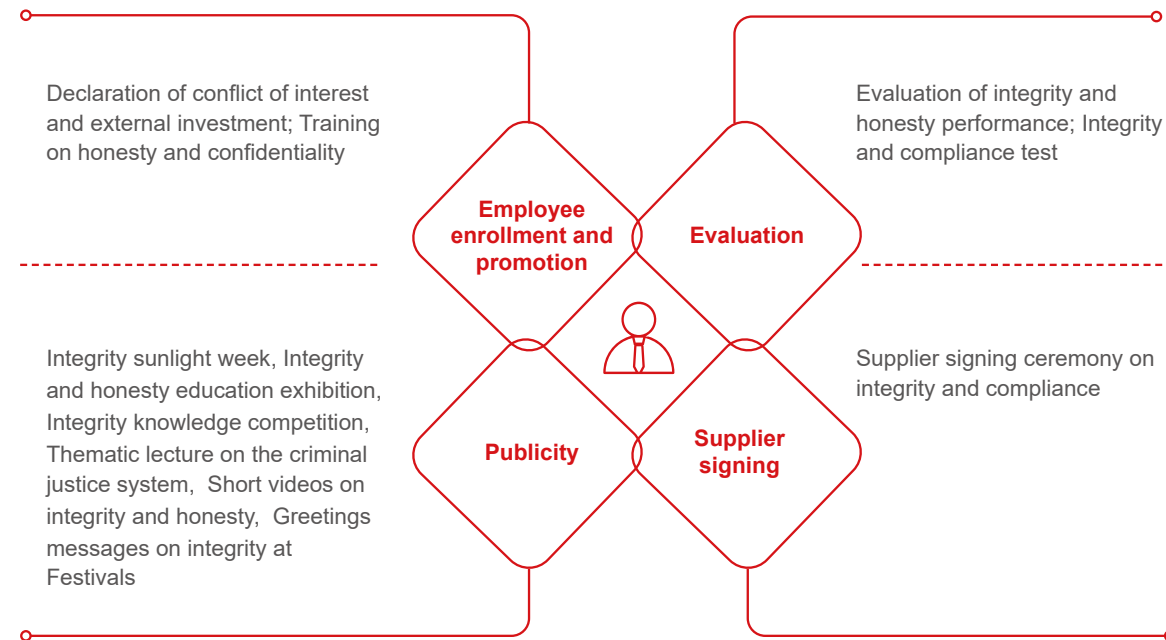
To safeguard rights and interests of whistle-blowers, we kept the informants' identity a secret and implemented the withdrawal system while passing the case information and investigating it. If the identity of a whistle-blower or informant were stolen or leaked, the competent department would be held accountable according to the Accountability Management System. If the informant were intimidated or retaliated, the Company would assign dedicated personnel to protect them from harm. If necessary, the Company would report the retaliatory conduct to the judicial authorities and hold anyone who took revenge responsible.



Anti-Corruption Training

The Company provides integrity training for all regular employees, internal directors, suppliers and part-time or outsourced personnel. The integrity education is intensified in a wide range of areas, including Employee enrollment and promotion, evaluation, publicity and supplier signing. In 2022, the Company carried out 25 phases of integrity education for new employees and 6 special lectures for business units, covering over 8,100 people, and conducted 5 phases of integrity education and training for suppliers, covering over 1,538 suppliers.

Integrity Education Forms



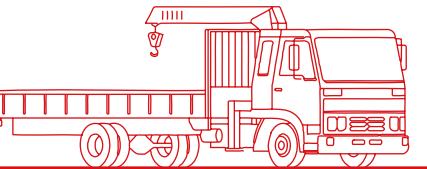
Anti-Money Laundering

The company strictly abides by the relevant provisions of the *Anti-Money Laundering Law of the People's Republic of China*, and has formulated and improved anti-money laundering systems like the *Anti-Money Laundering Internal Control System*, the *Anti-Money Laundering Self-Evaluation System*, the *Rules for Reporting Large Transactions and Suspicious Transactions*, and the *Trade(Business)-based Money Laundering Risk Assessment Management Measures*, *Anti-money Laundering Evaluation Measures*, the *Anti-Money Laundering Self-Evaluation Implementation Rules*, *Management Measures for Customer Identification and Customer Identity Information and Transaction Record Preservation*. Internal auditing and supervision are built up to ensure various anti-money laundering and anti-monopoly systems are put in place and effectively implemented. The Company has established an anti-money laundering internal control system from the aspects of financial management and financial monitoring.

Anti-Money Laundering Internal Control System

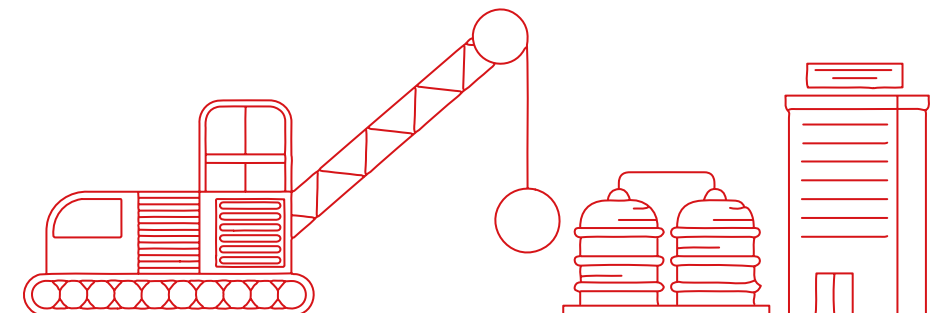
Financial Management

- Designate the Legal Compliance Department as the leading unit to take charge of the Company's anti-money laundering effort and appoint one dedicated officer in charge of anti-money laundering in each department.
- Develop and revise internal regulations and processes, clarify the anti-money laundering obligations and each department's anti-money laundering responsibilities, and regulate the reporting mechanism for suspicious transactions and money laundering risk assessment process.
- Operate the Anti-Money Laundering Information System to automatically identify and evaluate the customer's money laundering risk based on the anti-money laundering monitoring list, customer identity, financial product category and transaction amount, and communicate the money laundering investigation findings to the business segment.



Financial Monitoring

- Review the source and flow of specific cash transactions to ensure the compliance and legitimacy of capital flow and to eliminate illicit operations.
- Establish the CRM system and GSP system to manage customers and supplier files, carry out credit evaluation and review of customers and suppliers, and strictly control cooperative transactions and supplier access.





02

R&D and Product Quality

With the firm belief that scientific and technological innovation is the primary productive force, SANY Heavy Industry boosts its rapid growth by strengthening the foundational and independent R&D capabilities. We step up product quality management and closely communicate and cooperate with suppliers to establish a favorable reputation and power our sound and rapid development.



Consolidate the Foundational R&D Capability



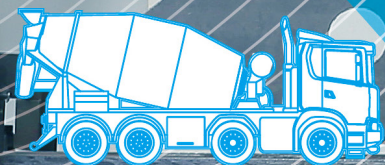
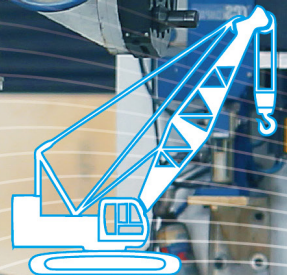
Innovation-Driven Development



Pursue Superior Quality



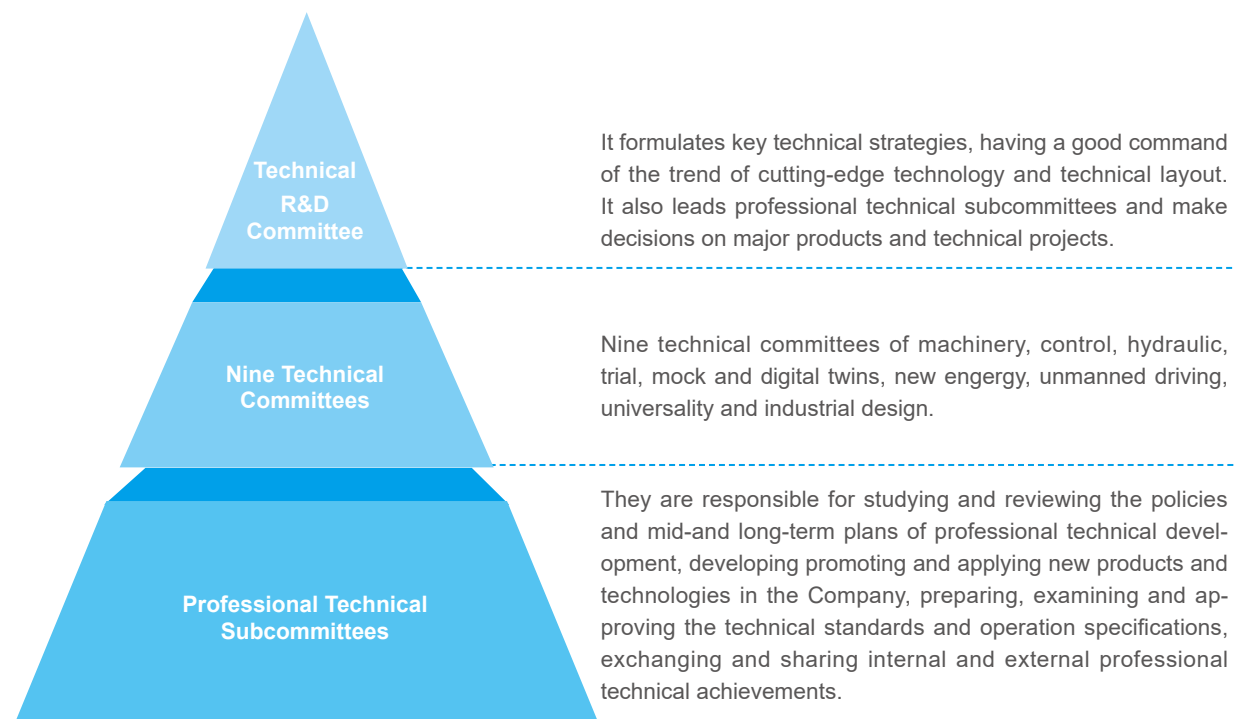
Jointly-Built Responsible Supply Chain



Consolidate the Foundational R&D Capability

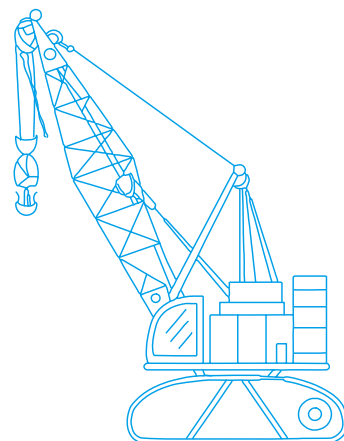
SANY Heavy Industry focuses on "electrification," "digitalization" and "internationalization" strategy to strengthen the foundational technical and R&D capabilities. The Company has established a sound R&D management structure, adopting a hierarchical and matrix-based management model and planning an integrated technological R&D system.

R&D Management Structure



The Company established management process throughout R&D project's entire life cycle. In terms of the *Research and Development Project Management System*, we made projects standard, including its scope, progress, risk, quality, change, human resources, finances, procurement and acceptance check to regulate the management process throughout a project's entire life cycle. The goal was to ensure the realization of the project's objectives. In 2022, the Company added the *Three-generation Parallel⁵ R&D Management System of SANY Heavy Industry*. By clarifying the basic rules of the "three-generation parallel" R&D strategy, we planned products and technologies in advance to facilitate basic technical R&D. The *Management Measures for Generic Technologies of Smart Products* was formulated to instruct technicians to identify such technologies according to specifications and lessen the repeated development of projects related to smart products. In 2022, SANY Heavy Industry has invested RMB 7.826 billion in R&D, a year-on-year increase of 1.68%, accounting for 9.78% in revenue.

The Company lays emphasis on the R&D talent training to develop its core competitive advantage. The Company establishes the Innovation Incentive System to stimulate the innovation enthusiasm of the R&D team and promote R&D work. The System clarifies the criteria for rewarding R&D projects and encourages R&D teams to set targets at different stages and receive the corresponding bonus. Rewarding R&D outcomes is a defining feature that runs across a project's entire life cycle. Additionally, we also place a high value on developing a talent training system. The Company developed the Talent Training Plan for our research personnel with different levels of expertise to develop a stronger pipeline of scientists and researchers. In 2022, we conducted training programs such as dean course, product manager training, youth training camp and R&D lecture hall, with a total of 18 R&D training activities covering a total of 7,848 person-times.



⁵ Three generations refer to SANY Heavy Industry's R&D strategic thinking of "One Generation of Marketing, One Generation of Reserve, One Generation of R&D."

R&D Training Programs in 2022



Innovation-Driven Development

SANY Heavy Industry abides by the *Patent Law of the People's Republic of China*, the *Trademark Law of the People's Republic of China*, the *Enterprise Intellectual Property Management* and other applicable national laws and standards. The Company has revised a number of internal regulations, such as the *Management Rules of R&D and Patent Work* and the *Trademark Management System*, and established a series of processes such as application, analysis, invalidation, operation, purchase and asset evaluation of patents. The goal is to create a whole chain of intellectual property service, which integrates innovation, application, protection and management.

To promote the building of a digital intellectual property management system, we have developed a Patent Navigation System, which allows for patent management, patent information retrieval and patent shelf. R&D personnel can use this system to search for categories of our main products and patents of the spare parts, improving the efficiency of preventing patent risk on and managing patent assets.

To comprehensively step up the protection of intellectual property rights and its legislation, the Company relies on legal approaches to crack down on infringement. In 2022, the Company won the lawsuit of protecting patent rights and enforced the payment of RMB 4 million, and initiated patent litigation against patent infringers with 3 cases filed.

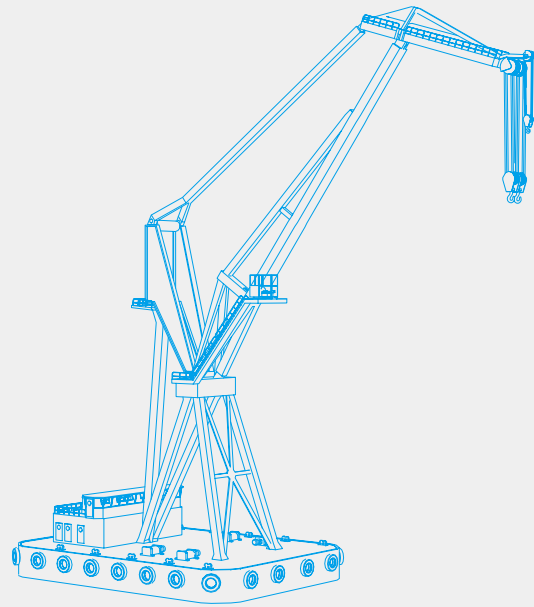
The Company actively applies intellectual property rights and stress the commercialization of R&D achievements. In 2022, the Company has made remarkable technical achievements in three smart driving, smart operation and intelligent services.

In 2022,

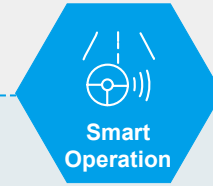


- The Company applied for **2,663** patents
- Applied for **323** foreign patents
- **1,781** effective invention patents were granted
- Won **2** China Patent Silver Awards
- Won **3** China Patent Excellence Awards
- Participating in creating **6** national standards and **8** organizational standards

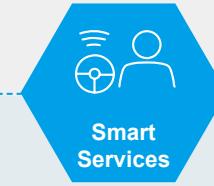
Commercialization of Scientific Research Findings in 2022



- Through self-developed L4 driverless technology, the pure electric dumper trucks are equipped with functions like automatic unloading, parking, turning, stopping by and bypassing obstacles, collaborating signal lights and blind intersections, realizing the unmanned and intelligent driving of the pure electric dump trucks.
- Through the cloud control and V2X technology, the joint scheduling of three types of vehicles (dump trucks, mechanical loaders and excavators) can help customers reduce over 80% operators and save over RMB 1 million in annual costs.



- Technical paths like prototype algorithm design, circuit configuration verification, hydraulic control simulation and real machine verification are adopted. The working device is equipped with sensors to control the excavator's bucket trajectory and perform the one-button miscellaneous function.
- The data of pump trucks' operating conditions is analyzed to find the changing rules of commutations number and the main system pressure with different operating conditions. In the way, the strategy optimization model for operating pump trucks is formed.



- With the cloud platform service for equipment data as the carrier, we realize the commercial operation of intelligent services in multiple industries, such as differentiated intelligent order dispatch and intelligent security solutions.

Over the years, the Company has been cooperating with well-established colleges and universities and various first-class enterprises, with the aim of realizing interdisciplinary, cross-industry and trans-departmental integration and accelerate industrial development by establishing a long-term and ordered mechanism. In 2022, SANY Heavy Industry has 71 foreign cooperation projects totalling nearly RMB 43.5 million. There are 56 first-class enterprises of various types in the cooperation with an amount of RMB 37.9 million.

Case: SANY Heavy Industry and Mengfa Energy Group Reached Strategic Cooperation

On May 20, 2022, SANY Heavy Industry signed a strategic cooperation agreement with Mengfa Energy Group in Changsha. Both will carry out in-depth cooperation in the fields of waste filling, coal mining and new energy.

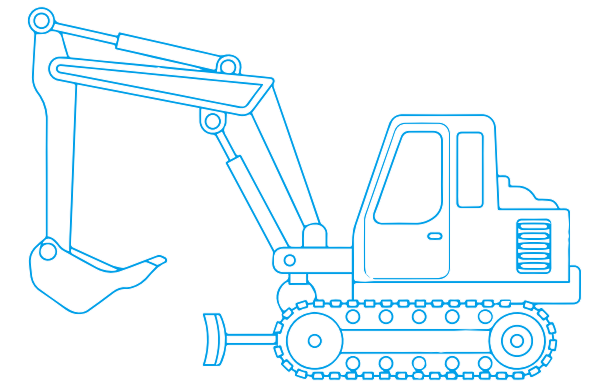
In terms of the agreement, both jointly promote the recycling of coal gangue and the construction of green mines through in-depth cooperation in paste filling system and EPC project, speedy drivage, fully-mechanized mining equipment and new energy equipment and services. This contributes to achieving the national "Dual Carbon" goals and developing green mines.



Signing ceremony

Pursue Superior Quality

SANY Heavy Industry pursues superior product quality. Product quality is ensured by building a quality management system for the whole life cycle. We also continuously promote customer service and communication and cooperation with customers. Brand core value is built with high-quality products and services.



Quality Management

The Company abides by the *Product Quality Law of the People's Republic of China* and other applicable laws and regulations and has developed internal regulations, including the *Importance Rating and Requirements of Product Quality Properties* to state the rating principles and management requirements for the importance of product quality properties. The *Technical Notification Management System and Technical Notice Management Procedures* are formulated to clarify the handling process of product quality problems such as after-sales failure and product repair. According to quality management systems like ISO 9001:2015, IATF 16949:2016, the Company requires all subsidiaries to meet its own quality management system requirements.

As of the end of 2022,



- **23** subsidiary manufacturers of main engine and spare part **passed** the ISO 9001 or IATF 16949 certification.

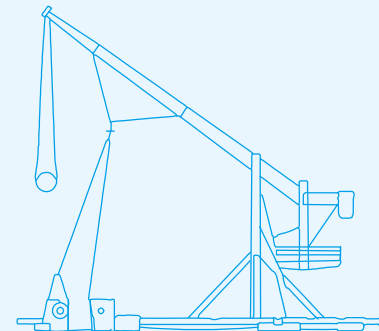
Quality Management System



The Company attaches importance to the digital transformation by establishing quality information system, integrating digital information technology with quality management. In 2022, the Company realized life cycle quality monitoring by developing and launching Phase II quality information system, including 35 life-cycle quality monitoring, and by planning 6 subsystems and 40 business modules.

To improve product inspection efficiency, the Company has innovated and developed the intelligent vision quality inspection system. The system utilizes the camera and other hardware equipment to enable the automatic monitoring and can operate continuously. The smart system resolves inconsistency in manual monitoring standards. We have also taken into consideration standard processes and special processes and developed many machine vision quality inspection technologies in response to different testing scenarios. These include quality inspections of blade, welding line, paint, machine, and rubber coating, detection of wrong and neglected loading, and dimension measurement. This realizes integrated vision monitoring for various products. In 2022, SANY Heavy Industry implemented 28 visual quality inspection programs, greatly improving the technical applicability and product inspection efficiency.

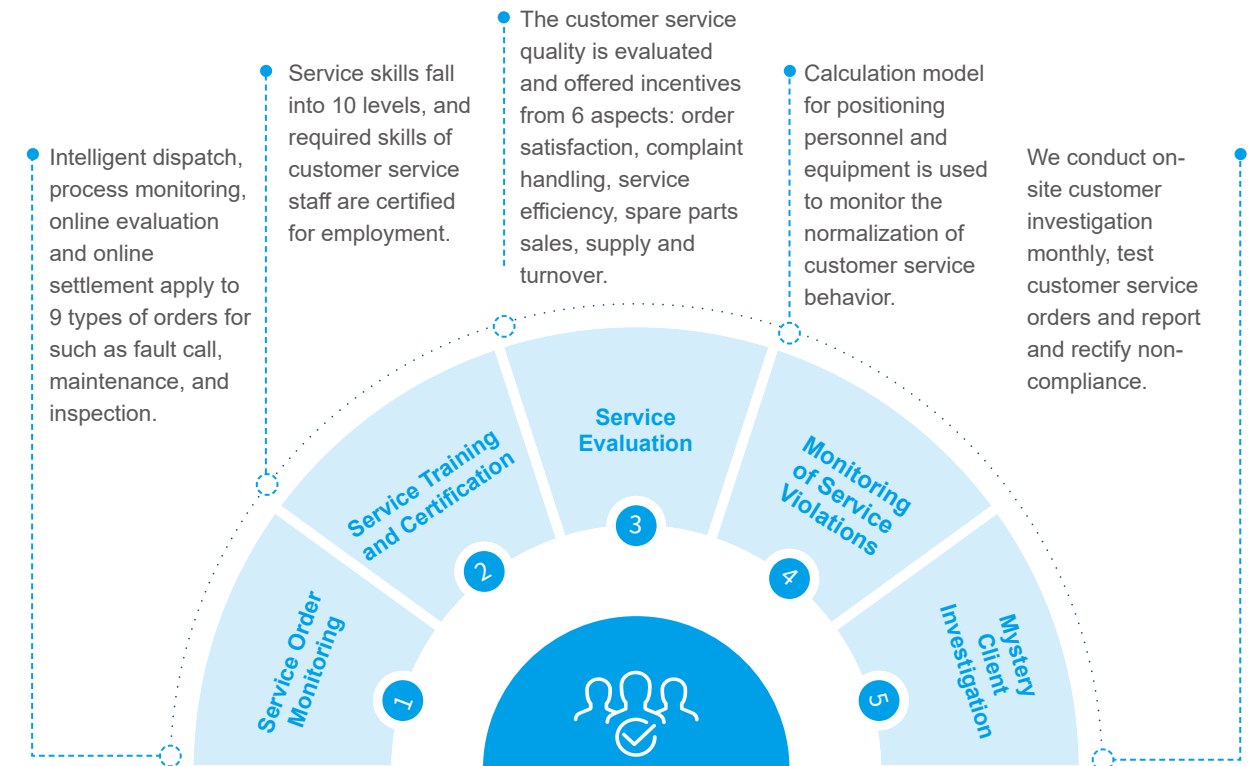
To deal with emergencies like a product safety incident, SANY Heavy Industry has developed the *Accountability Management System for Major Quality Defects* to standardize the emergency handling procedures of product safety incidents. If there were major quality incidents, the Company would enable emergency response mechanisms for product safety incidents and properly handle the situation according to the procedures. We would report the emergency response, losses and impacts caused to the Quality Headquarters and the Board Office within 24 hours. During the reporting period, the Company reported zero major product safety incident.



Customer Service

The Company abides by the *Law of the People's Republic of China on the Protection of the Rights and Interests of Consumers*, the *Advertising Law of the People's Republic of China*, the *Anti-Unfair Competition Law of the People's Republic of China* and other applicable laws and regulations, establishes and improves the management systems for customer service to improve the overall customer service.

Customer Service Enhancement Initiatives



SANY Heavy Industry puts a high value on user feedback, and has formulated internal documents like the *Customer Complaint Procedures*, the *Service Management System* and the *Customer Complaint Management Process: From Filing to Settlement*. We established and improved the customer complaint handling mechanism, opinion feedback mechanism and rapid response mechanism. We have classified the complaints into different levels and proactively handled them. We have made our complaint-receiving channels public, including the 24-hour hotline 4008-87-9318, online support personnel on our official website and complaint filing via PM on social media. These have allowed us to collect feedback from our customers promptly. In 2022, the Company received 2,367 complaints with a customer satisfaction rate of 83%. In 2022, the Company conducted a series of customer satisfaction surveys, such as service travel, demand survey on customer discussion, customer satisfaction survey by third party. Customers are invited to visit the factory to enhance interaction and improve customer service experience.

In accordance with the requirements of the *Personal Information Protection Law of the People's Republic of China*, the Company has formulated systems like the *Information System Classification Management System*, the *Information Security Incident Handling and Emergency Response Management System*, the *Data Accountability Management System*, the *Data Asset Classification Management Procedures*, the *Supplier Information Security Management System*, and the *Third Party Information Security Management Regulations*. We have established a system for managing and protecting information security and data privacy. The goal is to respect and protect customers' privacy. We have conducted regular training on information security for our staff and suppliers to enhance their awareness in this area. In 2022, the Company conducted 5 thematic training sessions on data leakage prevention and data compliance awareness for employees, and 1 thematic information training on "Introduction to SANY Heavy Industry Technical Middle Office" for suppliers.

Jointly-Built Responsible Supply Chain

Committed to synergy and win-win, SANY Heavy Industry integrates the concept of sustainable development into the supply chain by strengthening supplier management. The communication with suppliers is intensified to ensure product quality and stable production and operation with healthy and sustainable development with suppliers promoted.

Supplier Management

In accordance with the *Law of the People's Republic of China on Tenders and Bids*, the *Regulation on the Implementation of the Law of the People's Republic of China on Tenders and Bids* and the relevant law-making stipulations of the place where subsidiaries operate, SANY Heavy Industry has formulated the *Supplier Management System* and required all subsidiaries to establish an open, fair and just mechanism for supplier access and bidding management. We also clarify the scope of responsibilities of relevant departments in managing supplier access, evaluation and elimination.

We examine the all stages of supplier access, evaluation and exiting. For newly accessed suppliers, we conduct a comprehensive inspection from 6 dimensions, including their establishment years, access examination standard compliance, quality certificate, environmental certification, tax payment and honest operations. After the examination and inspection, we conducted hierarchical management on suppliers according to their classification and inspection results of comprehensive capabilities. These suppliers are classified as strategic, premium, backup, active exiting, and negative exiting suppliers.

Committed to incorporating ESG strategy into the whole process of supply chain management, we have always optimized the environment and social responsibility performance of the supply chain through strict access management, qualification review, regular assessment and inspection. In this way, the environmental and social risks of suppliers are effectively controlled. We have applied technologies like big data and intelligent algorithms to effectively reduce supply chain risks. System- and platform-based standards for controlling supplier risks are set, which deal with possible risks in advance, set off early warning when risks are about to occur, and systematically handle mechanisms and trace supplier risks after they occur.

SANY Heavy Industry's ESG Management Strategy for Suppliers



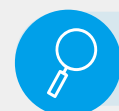
We conduct a thorough review of the environmental certificate provided by the supplier during the access approval process, take a "zero-tolerance" approach to fake or expired certificates, and terminate dishonest suppliers.

We require suppliers to submit information about their social responsibility and environmental certification. They should also disclose such information as operational compliance, tax payment, social security contributions, environmental protection certificate, quality certificate, debt, the relationship between shareholders and senior executives, and corporate governance capability.



We track the validity period of environmental protection certificate, quality certificate and other certificates of accessed suppliers. The supplier's business is automatically frozen if the certificate is invalid, and the ESG-related qualification certificates of suppliers are effectively managed.

We incorporate into the supplier evaluation system specific requirements of business ethics, staff management, health and safety, energy conservation and environmental protection as well as resource conservation. In the way, the system of a green supply chain is facilitated to be built.

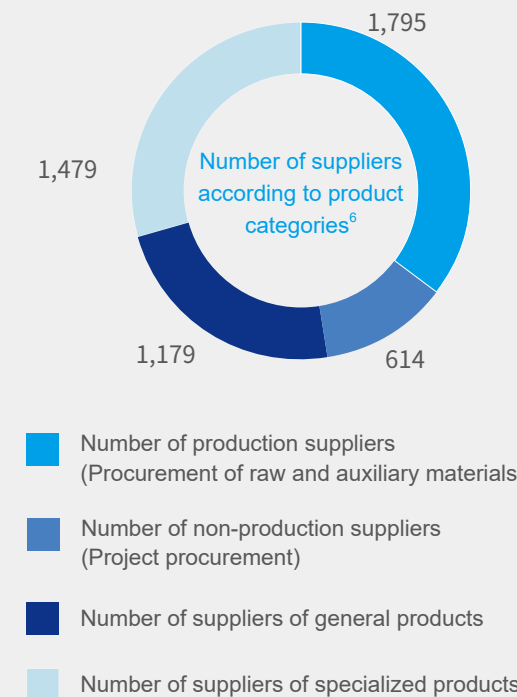
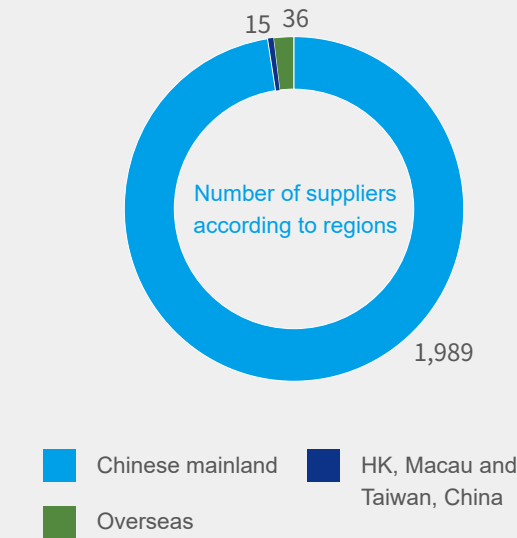


We designate fuel consumption as a critical metric and factor it into our product procurement assessment in order to practice green procurement.

We verify the information submitted by suppliers through on-site inspections. We have added corporate social responsibility terms and a sustainable development section to our Performance Evaluation Form. Additionally, we have worked to double-check the suppliers' performance in terms of employment, human rights, corporate culture, and employee satisfaction.



Number of SANY Heavy Industry's Suppliers in 2022



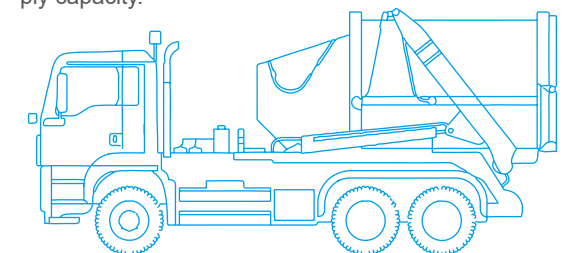
Supply Chain Digitalization

The Company vigorously promoted the construction of digital supply chain platform and strengthened the management efficiency of supply chain. In 2022, the Company launched a new-generation GSP (Global Supplier Portal) platform, which realized online management and control of core business processes from supplier access to exiting, from sourcing to contracting and from planning to delivery. The platform optimizes the supplier intelligent recommendation algorithm to publish business opportunities with the supplier's harvest rate of business opportunity increased by 25%. A fair, transparent and objective supplier performance evaluation model is launched to promote independent improvement of suppliers with the procurement share of premium suppliers increased by 119%. In this way, intelligent procurement modification and automatic balance between supply and demand are realized 10 million purchase orders were automatically placed with a modification reduction by 20%.

Supplier Communication

Regarding suppliers as important resources, the Company establishes supplier communication mechanism and formulates supplier empowerment strategy. Through the training camps on "necessary knowledge and skills" in modules like SANY Heavy Industry values, business process and system, quality requirements, new product development process, financial system, logistics and warehousing, we realize value sharing and convenient business development, ensuring cooperation between SANY Heavy Industry and its suppliers. During the reporting period, a total of 1,058 suppliers participated in the training camps on "necessary knowledge and skills," with attendance of 2,650 and 1,863 suppliers passing the final examination.

The Company actively provides support for suppliers to help them improve their operational capabilities and product quality for a win-win outcome to be achieved. We organize teams corresponding to status quo of suppliers, such as quality assurance team, R&D team and third-party organizations, to support suppliers improve their weaknesses in a targeted manner. During the reporting period, the Company offered team support for 44 suppliers to help improve their product quality and supply capacity.



⁶ There are 2,040 suppliers, and one supplier may supply more than one single category of product.



03

Green and Safe Operations

SANY Heavy Industry is firmly committed to green and safe development by making its active contributions to “dual carbon” goals and building itself into a resource-saving and environment-friendly business, and never forgets that “life and safety come first” to ensure safe production and robust operation. The Company has implemented a comprehensive safety, environmental and occupational health system, which is useful for the Company to improve its management efficiency and to seek green and safe development in the future.



HSE Management System



Environmental Protection



Stick to Green Development



Occupational Health and Safety



3 GOOD HEALTH AND WELL-BEING



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION



14 LIFE BELOW WATER



15 LIFE ON LAND



HSE Management System

Following the guideline of "putting people first, putting prevention first, conserving resources and protecting environment," SANY Heavy Industry continues to improve the construction of HSE management system by standardizing and normalizing the system with respect to the policy, procedure management, supervision and inspection. In 2022, the Company revised the *HSE Laws and Regulations Collection System, Identification, Assessment and Control System of Environmental Factors, Hazard Identification, Assessment and Grading Control System* and other relevant internal systems to further standardize the identification, evaluation and control of HSE-related risks in its activities, products or services.

We have also worked hard to achieve the HSE management system certification for all our key operations and conducted external third-party HSE audits annually. By the end of 2022, eight of the Company's 23 subsidiaries of main engines and spare part passed the ISO 14001 environmental management certification and achieved third-party external audit, and nine passed the ISO 45001 occupational health and safety certification and achieved third-party external audit.

34.78% of subsidiaries have obtained ISO 14001 environmental management system certification and passed third-party audits.

39.13% of subsidiaries have obtained ISO 45001 occupational health and safety management system certification and passed third-party audits.

Construction of the HSE Management System

System Improvement	Institutional Construction	Support for Implementation
<ul style="list-style-type: none"> Issue the <i>HSE Management Manual</i> as per ISO 14001: 2015 <i>Requirements and Guidance for Use of Environmental Management System</i> and ISO 45001: 2018 <i>Requirements and Guidance for Use of Occupational Health and Safety Management System</i>. Formulate HSE procedural documents and management regulations to optimize the HSE management system in an all-round way. 	<ul style="list-style-type: none"> The Board of Directors is responsible for reviewing and approving major decisions related to corporate environmental and safety issues, monitoring serious abnormalities occurred in environmental management. The Smart Manufacturing Division does its duty in environmental and safety work, and reports its progress to members of the Board to ensure that the HSE management system is effectively operated in the Company. 	<ul style="list-style-type: none"> HSE goals setting: the Smart Manufacturing Division sets its annual goals to be achieved in occupational health, safety and environmental management, and requires its subsidiaries to develop and split up the annual HSE management goals. HSE-associated performance: the <i>HSE Incentives and Punishment System</i> is established as a basis on which progress in HSE management is integrated into the individual performance assessment of the management. The policy that salaries are adjusted according to HSE performance assessment specifies a decrease in rates of executives when a poor HSE performance occurs, which is intended to encourage workers to devote themselves more actively in the job, improve the overall performance and promote relevant goals to be realized as planned.

In accordance with the *HSE Management Manual*, we have formulated strict policies within the HSE management system and implement integrated management of projects that encompasses pre-construction assessments, project operations and other aspects.

Measures for Whole-Process HSE Management



Environmental impact assessment

- Before the construction of the project, we carry out environmental impact assessment in accordance with the laws and regulations in the area where the project is located, investigate and assess the adverse effects and risks on the surrounding environment during the life cycle of the project, and formulate appropriate measures to mitigate and eliminate the adverse effects.



Occupational health and safety and environmental management for the introduction of new equipment, new materials, new technologies, and new processes

- Identify and assess the hazards and environmental impact of new equipment, new materials, new technologies, and new processes before they are introduced;
- Conduct HSE education before adopting new equipment, new materials, new technologies, and new processes before they are introduced;
- Conduct normative acceptance inspection of projects that involve the introduction of new equipment, new materials, new technologies, and new processes before they are introduced.



Pollutant management

- Eight subsidiaries are designated as units for prioritized sewerage management, all of which hold emissions permits and emit pollutants as permitted, and there has been no case of emissions exceeding standards;
- Establish an environment self-monitoring program to monitor pollutants through automated monitoring, manual monitoring, commissioned testing, etc.



Emergency management

- Identify and control situations that may lead to environmental/safety incidents/events or emergencies at the Company;
- Emergency plans are formulated and emergency drills are conducted regularly.



Safety, fire, public security, and environmental management for stakeholders

- Carry out necessary safety, environmental protection, fire protection and other reviews of project contractors and suppliers;
- Sign safety, environmental protection, fire protection, occupational health, public security and other agreements with stakeholders.



Environmental Protection

With sustained efforts in improving its long-term pollution prevention and control system, SANY Heavy Industry enhances its management and control over the discharge of such environmental hazards as wastewater, exhaust gas and waste, which is to reduce pollution from the source, and we try to avoid environmental damages in our business operation. In 2022, the Company attained a 100% compliance ratio for wastewater and exhaust gas discharge, and 100% compliance for hazardous waste treatment. We had not received any significant complaints or penalties relating to the environmental issues.

Exhaust Gas Management

Pollutants such as volatile organic compounds, welding/cutting fumes, exhaust gas from natural gas combustion, etc., are produced in the process of coating, welding, cutting, heating, and stoving. The Company always follows laws, regulations and standards, including *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution* and *Air Pollution Prevention and Control Action Plan issued by the State Council*, to implement in-house requirements for pollutant emissions in a strict way, and introduce advanced production technologies with low emissions so that we emit exhaust gas as per laws and regulations.

The Company controls its gas emissions from the source and across the course by continuously optimizing its equipment and production processes. For instance, SANY Heavy Industry uses environment-friendly paints in the coating line, and promote the waterborne paint electrostatic spraying and electrostatic powder spraying to reduce volatile organic compounds produced by traditional electrostatic spraying; the Company employs digital welding machines and automatic spraying robots in welding and spraying workshops for less exhaust gas production with shorter working hours and higher working efficiency. In an all-round way, we seek to reduce the impact of exhaust gas emissions on the environment. In 2022, we made a success in the reduction of exhaust gas emissions from the source by means of process optimization and alternative materials and in the improvement of air-purifying apparatus that works to control exhaust gas emissions in the last link. In total, we have invested over RMB 140 million in the whole year in reducing VOCs emissions by 134.83 tons. With the goal set to reduce exhaust gas emissions, the Company decreased VOCs emission per million revenue by 10% with 2021 as a base year. In 2022, VOCs emission concentration was 0.0011 ton per million revenue, a decrease of 39.71% compared with the base year, which has realized the goal.



In 2022



over

RMB **140** million

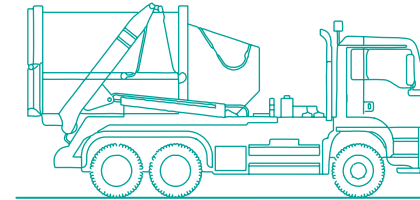
was invested in exhaust gas management

134.83

tons of VOCs emissions were reduced

39.71%

less VOCs emission concentration than 2021



Upgrading and improvement of the coating line in Zhongyuan Company as a subsidiary of SANY Heavy Industry for VOCs emission reduction

In 2022, Zhongyuan Company adopted environmentally friendly water-based paint instead of the original oil-based paint in its boom coating line, upgraded the new dry painting method, applied draft fans, dry filter cartridges and activated carbon in the production line, and treated dusts from shot blast in a closed facility for gravitational settling and removal in a filter cylinder. As a result of the transformation, the VOCs emission was decreased by 63.67 tons/year, from 68.32 tons/year to 4.65 tons/year, achieving a reduction rate of 93.19%. With a total investment of RMB 19 million, the project received RMB 2.51 million allowance from the central government for air pollution prevention and control.

Wastewater Management

Production wastewater and domestic wastewater are the main sources of wastewater discharge by SANY Heavy Industry. Wastewater pollutants primarily include chemical oxygen demand (COD), ammonia nitrogen and suspended solids. While the Company manages wastewater discharge in accordance with *Water Law of the People's Republic of China*, *Law of the People's Republic of China on the Prevention and Control of Water Pollution* and other regulations, our subsidiaries fashion and enforce their own management system for sewage disposal, and strictly control the disposal and discharge of industrial wastewater through innovation of production processes, on-line monitoring, upgrading of sewage-purification apparatus. In 2022, we reduced sewage discharge from the source by means of process optimization and material replacement, and set a goal of less sewage discharge, which is to reduce chemical oxygen demand and ammonia nitrogen discharge per million revenue by 8% respectively with 2021 as a base year. In 2022, the discharge concentration of chemical oxygen demand was 0.92 kg per million revenue, a year-on-year decrease of 58.21%, while ammonia nitrogen discharge concentration was 0.04 kg per million revenue, an decrease of 65.27%, which has realized the goal.



In-depth governance of paint alternatives from the source in SANY Heavy Industry Special Purpose Vehicle Co., Ltd. as a subsidiary of SANY Heavy Industry

In 2022, SANY Heavy Industry Special Purpose Vehicle Co., Ltd. improved its processes from the source, which dismantled the original spraying line and equipment, and instead built the pre-treatment + powder-spraying line. In the selection of raw and auxiliary materials, it used the powder-based coating material (thermosetting plastic powder) rather than the oil-based coating material (oil-based paint), further reducing the VOCs content and wastewater production. In this project, the COD was reduced by 1.19 tons/year, yielding a rate of 50.4%; ammonia nitrogen emission decreased by 0.05 tons/year at a rate of 20%; and suspended substance by 0.734 tons/year, at a rate of 84.4%. With a total investment of RMB 41.78 million, it was granted RMB 7.47 million from the central government as the pollution prevention and control fund.

Waste Management

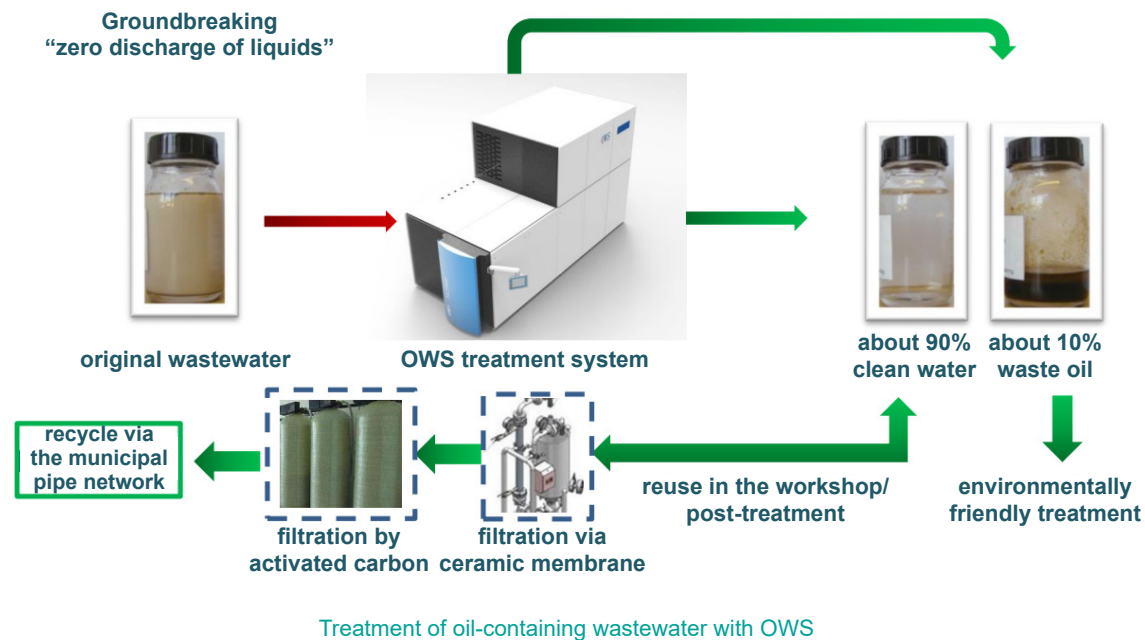
As per the *Law of the People's Republic of China on Environmental Protection*, *Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste* and other relevant regulations, SANY Heavy Industry establishes a special system to manage waste in a normalized way, including *Waste Management Guideline*, which is to ensure that waste of all kinds are well disposed of and keep at bay impact of waste discharge on the surrounding environment.

Taking into consideration their own production characteristics, each subsidiary of SANY Heavy Industry takes measures for waste management and control that satisfy the actual production need, involving waste reduction and recycling in links of waste generation, material use and recovery, so as to reduce the pressure of waste disposal and improve the efficiency of resource utilization. The Company logically prepares the reuse of residual materials, recycles iron fillings formed during cutting to reduce industrial solid waste, and continuously promotes the switch from the oil-based paint to the water-based paint, and from paint-spraying to powder-spraying, in order to reduce hazardous solid waste such as paint slags and paint barrels. Hazardous waste incurred shall be stored in a closed container to prevent recontamination before being handed over to a certified third party for disposal.



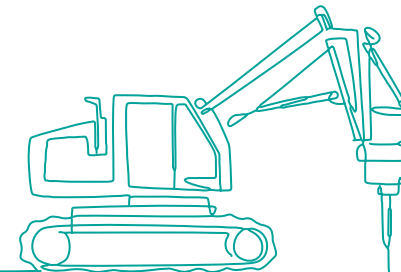
Vacuum distillation of emulsion

In 2022, Sauter Transmission began to purify the emulsion from the production and manufacturing process through vacuum distillation technology provided with the OWS vacuum distillation system. As a result, the distilled water was recycled and reused, and produced residues were handed over to a certified third party for disposal. Since the project was put into practice, the volume of hazardous emulsion waste has been reduced by 377.1 tons/year from 418.96 tons/year to 41.9 tons/year, with a reduction rate of 90%.



Biodiversity Conservation

SANY Heavy Industry focuses on biodiversity conservation. We carry out surveys and evaluations on natural environment in the preparation stage where we build or upgrade projects; we normally classify and evaluate potential sensitive targets, with a particular emphasis on nature reserves, critical wetlands, natural concentrations of endangered wildlife, spawning and feeding grounds for important aquatic organisms, wintering passages for important aquatic organisms, coastal wetland ecosystems such as coral reefs, and other critical conservation areas. We only move on with the project if we get confirmation that it will have no serious impacts on ecological resources and habitats, because we focus on preventing development from destroying biodiversity.



Pollutant Emission Data in 2022

Indicator		Unit	Value
Exhaust gas emissions	Total exhaust gas emissions	Cubic meter	13,812,566,369.63
	SO ₂ emissions	Tonne	2.00
	NO _x emissions	Tonne	33.48
	VOCs (volatile organic compound) emissions	Tonne	85.03
	Total soot emissions	Tonne	94.09
Wastewater discharges	Total water discharge	Tonne	469,424.75
	Biochemical oxygen demand (BOD) discharge	kilogram	7,772.61
	Chemical oxygen demand (COD) discharge	kilogram	73,647.94
	Suspended solids (SS) discharge	kilogram	5,989.63
	Ammonia nitrogen (NH ₃) discharge	kilogram	3,209.22
Waste	Total hazardous waste discharge	kilogram	4,946,538.00
	Total general industrial solid waste discharge	Tonne	194,814.02

In 2022

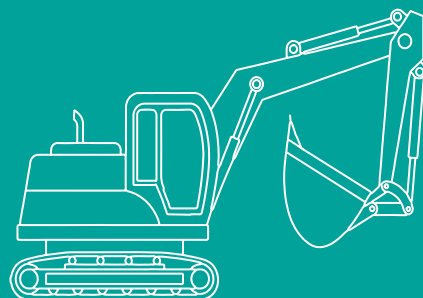


11 subsidiaries

installed photovoltaic equipment

clean energy consumption reaching
16.013 million kWh

clean energy utilization⁷
accounting for
1.88%



Stick to Green Development

SANY Heavy Industry continuously improves the low-carbon operation and the construction of green industrial parks. We provide support for carbon reduction in production and operation by means of energy structure adjustment and technological improvement, and promotes that all kinds of resources and energies are economically used in the park through digital and intelligent transformation, devoting ourselves to the green and sustainable development mode in an all-round way.

Low-carbon Operation

With a focus on the transformation to green and low-carbon development, the Company builds a chain of whole-process green production on the basis of carbon reduction from the source, carbon reduction via the inter-connectivity system and in-process carbon reduction.

Carbon reduction from the source

The Company keeps to its efforts in optimizing the resource and energy structure. We improve the utilization rate of clean energy by using alternative clean energy, constructing solar power generation projects, purchasing green electricity and others, which works to reduce the carbon footprint of energy from the source.



Photovoltaic mixing station of SANY Heavy Industry put into service

SANY Heavy Industry built China's first intelligent industrial park for mixing station in Qingdao. In 2022, the distributed photovoltaic system in the park was put into service, which uses the intelligent management platform as the core, and operates in an unmanned way. The photovoltaic project was invested with a total of 3.22 million, and it can generate 0.9 million kWh power in one year. Having been put into use, the park can reduce carbon emissions by 887 tons, dust emissions by 242 tons, sulphide emissions by 26.7 tons and nitrogen oxide emissions by 13.4 tons annually, realizing the coordinated development of intelligent manufacturing and environmental protection.



SANY Heavy Industry Kaiye green industrial park, Qingdao

⁷ Clean energy utilization = Photovoltaic energy consumption/combined energy consumption.

Carbon reduction via the inter-connectivity system

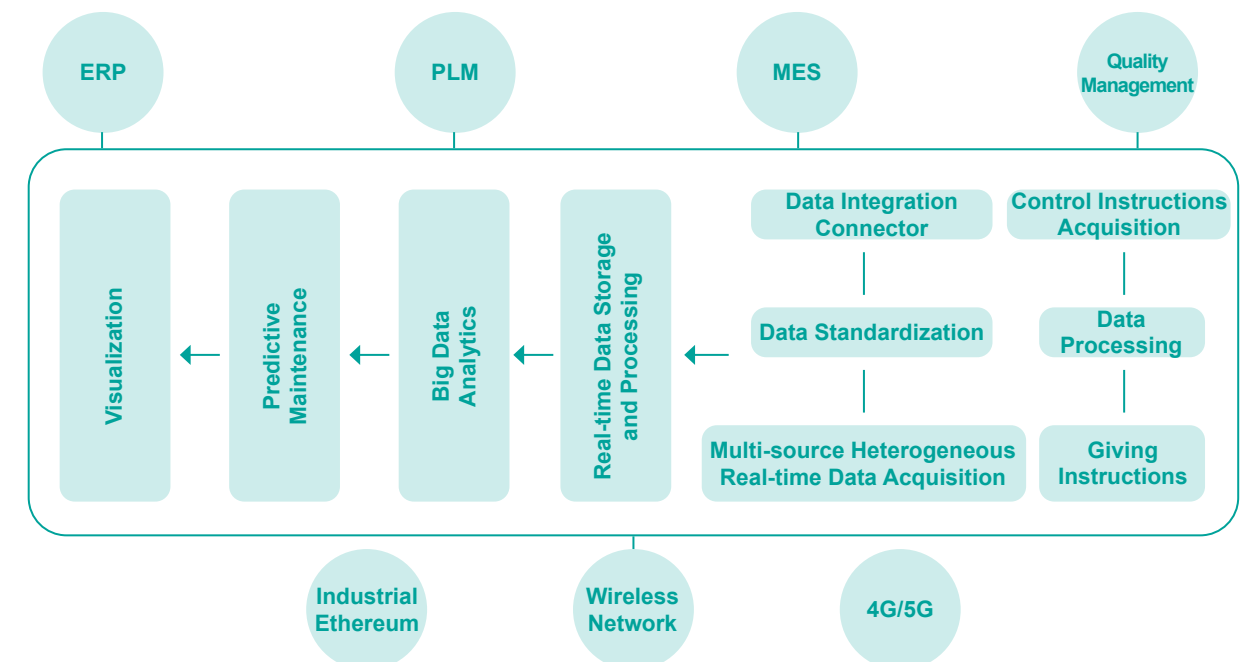
SANY Heavy Industry follows standards like the *Code for Construction and Acceptance of Industrial Automated Meter Engineering* and the *Engineering Technical Specifications for Energy Consumption Measuring System of Large Public Buildings* to establish its equipment inter-connectivity system, with the purpose of continuously promoting the digital and intelligent platform in factories, improving production efficiency and reducing energy and resource consumption. In addition, we make gradual efforts in the construction of energy and carbon emission monitoring platform, and continues to reduce carbon emissions with lean energy management. In 2022, over 3,000 energy measuring devices connected to our system. As of the end of the reporting period, we achieved a cumulative connection of 23,000 devices, the compliance rate was 96%.

In 2022, over

3,000

energy measuring devices
were connected to the
Company's system

Structure of SANY's Equipment Inter-connectivity System



Industrial Network Communication Protocol

Dimensional
Database

AGV

Robot

CNC

Heat Treatment
Furnace

Testing
Equipment

Automatic
Production Line

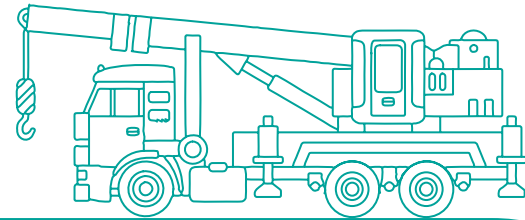
Other
Equipment

In 2022, the energy
conservation and emissions
reduction projects saved RMB

57.776 million

In-process carbon reduction

SANY Heavy Industry designs production processes with energy conservation in mind, such as using digital welding machines in the welding process, which save 20% more energy than traditional analog welding machines and using high-efficiency digital equipment for automatic control and management, which improves the operational efficiency of machining equipment dramatically. In 2022, the energy conservation and emissions reduction projects saved RMB 57.776 million, a year-on-year improvement of 20.11%.



Energy conservation of mechanical processing

Energy cost RMB 5.2538 million is saved with the application of numerical control equipment inter-connectivity parameters.



Fan energy conservation

Energy cost RMB 2.1879 million is saved by shortening the working time of the ventilation system to 2 hours on the premise that the dust removal effect was ensured;

Energy cost RMB 1.5166 million is saved with daily electricity conservation of 11,088 kWh, achieved by optimizing the roof fan control cabinet mode, and adding automatic timing control.



Energy conservation of degreasing process

Energy cost RMB 1.1811 million is saved due to the degreasing agent with low degreasing temperature of 35-40°C used as an alternative of existing degreasing agent.



Energy conservation of heat treatment process

Energy cost RMB 0.8866 million is saved by increasing the lingering temperature and adjusting the tempering load mode to reduce the power output.



Energy conservation of coating process

Energy cost RMB 0.4034 million is saved by optimizing the mode of initiating the coating line for strong cold and hot air drying that is to change the manual operation to the program-controlling switch, and the transformation reduces the gas consumption by 48.72%.



Energy conservation of quenching process

Energy cost RMB 0.2378 million is saved with the optimized mode in which the cooling tower of quenching machine is used, providing full-range centralized refrigeration via water pipes.



Energy conservation of lamps

Energy cost RMB 66,400 is saved as LED lamps were used to replace metal halide lamps in the new workshop, which are brighter and consume less energy.



The Company's Energy resource Usage and Carbon Emissions in 2022

	Indicator	Unit	Value
Energy use	Purchased electricity	kWh	517,468,826.71
	Gas	Cubic meter	22,968,641.39
	Gasoline	Liter	19,291.41
	Clean energy	kWh	16,013,025.53
	Diesel	Liter	8,536,665.79
	Combined energy consumption ⁸	tce	104,614.50
Water use	Municipal water supply	Tonne	5,318,636.75
Packaging material use	Packaging material	Tonne	3,272.34
Greenhouse gas emissions	Scope 1 ⁹	tCO ₂ e	71,903.88
	Scope 2 ¹⁰	tCO ₂ e	295,112.47
	Total of Scope 1 and Scope 2	tCO ₂ e	367,016.35

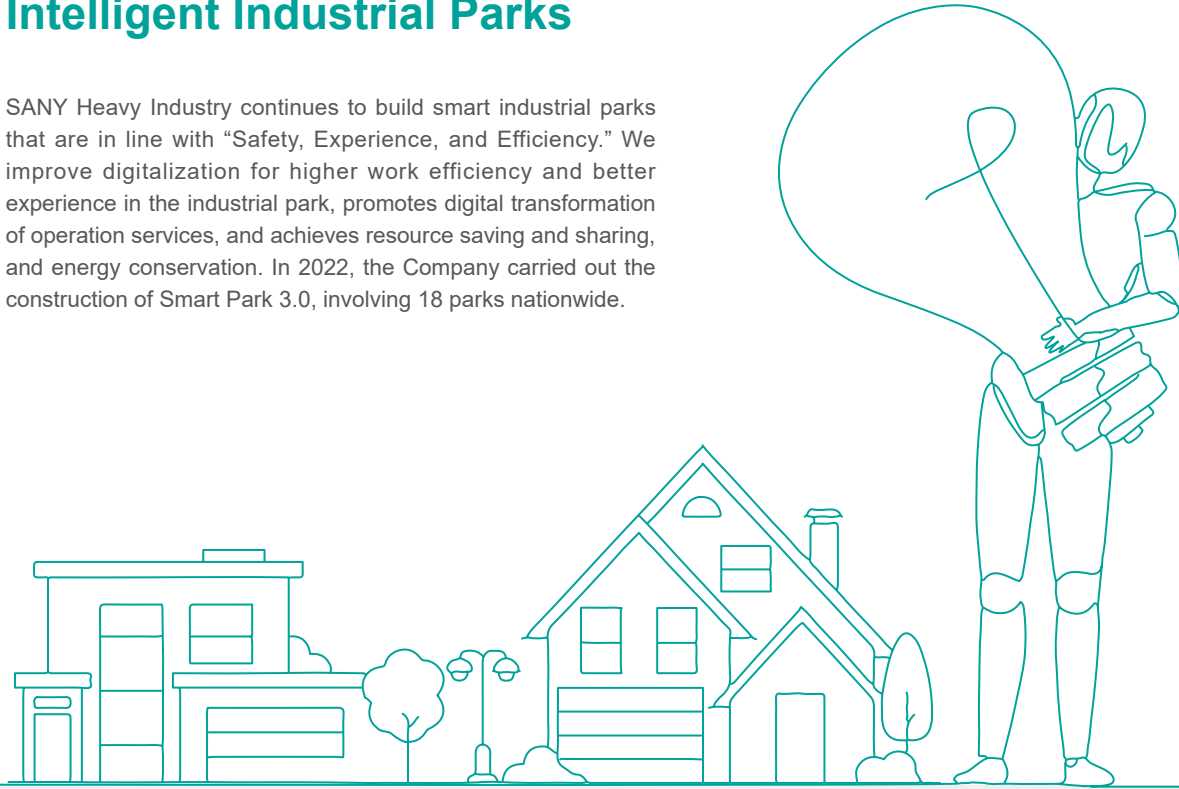
⁸ Combined consumption: The sum of all kinds of energy actually consumed in the production of a product or provision of a service during the statistical reporting period, as converted according to the corresponding prescribed calculation methods and units. Calculation basis: *General Principles for Calculation of Combined Energy Consumption* (GB/T 2589-2020).

⁹ Direct GHG emissions (Scope 1) mainly include emissions from the combustion of gasoline and diesel fuel in administrative vehicles and transportation vehicles, and emissions from the use of natural gas. Calculations are as per the *Greenhouse Gas Emissions Accounting Methodology and Reporting Guidelines for Machinery and Equipment Manufacturers (Trial Implementation)*. Fuel intensity is based on the *Energy Statistics Workbook* (Energy Division, National Bureau of Statistics, 2010).

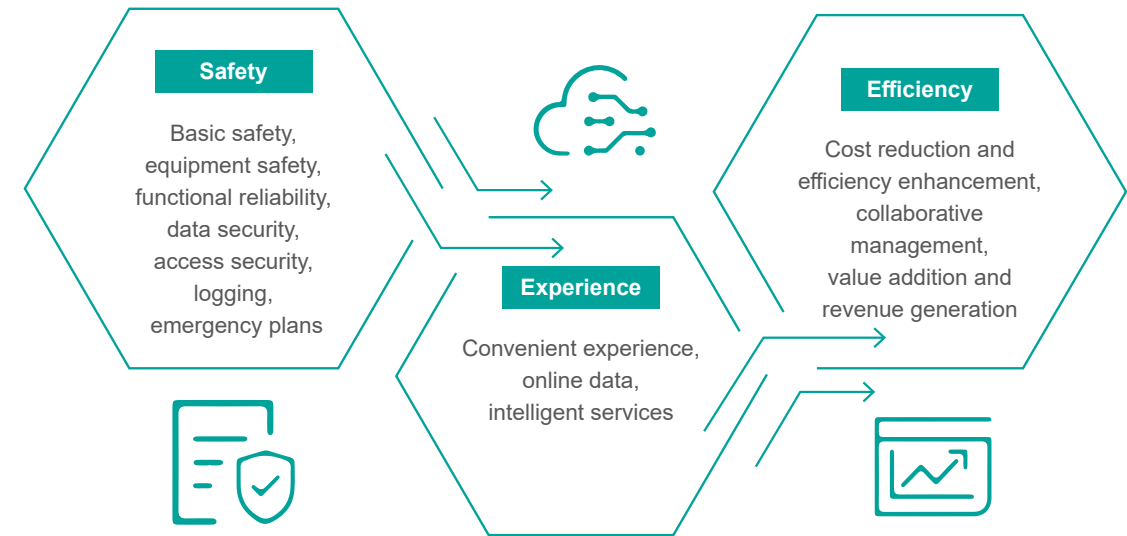
¹⁰ Indirect GHG emissions (Scope 2) mainly include emissions from purchased electricity and purchased heating. The national grid emission factors are based on the *Notice on the 2023-2025 Work Related to the Management of Corporate Greenhouse Gas Emissions Reporting in the Power Industry*.

Intelligent Industrial Parks

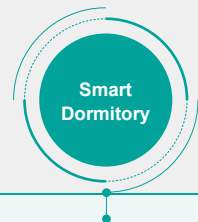
SANY Heavy Industry continues to build smart industrial parks that are in line with "Safety, Experience, and Efficiency." We improve digitalization for higher work efficiency and better experience in the industrial park, promotes digital transformation of operation services, and achieves resource saving and sharing, and energy conservation. In 2022, the Company carried out the construction of Smart Park 3.0, involving 18 parks nationwide.



Goals Developing Intelligent Industrial Parks



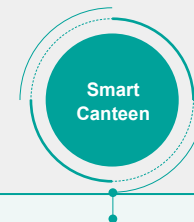
Achievements of Smart Park Development in 2022



- Transparent dormitory and hostel resources, accurate occupancy data, online e-contracts, and full online processing from booking to check-in that reduces use of paper;
- Smart door locks and smart water and electricity meters capable of analysis of abnormal data for timely response and reduced consumption;
- Online program developed to pay fees capable of 95% payments automatically for reduced human and energy efficiency costs;
- In 2022, dormitories in 18 industrial parks across the country had access to the system.



- 2.5D visualization of workstation resources with significantly improved resource utilization in the office area;
- SANY Heavy Industry+ and Lark Suite online services that collect and process repair requests in a closed loop. SANY Heavy Industry+ has been applied in 18 industrial parks nationwide, used by more than 30,000 times;
- In 2022, 18 industrial parks established the online smart office system.



- A white list mechanism for suppliers based on submission of qualification and health certificates and on-line monitoring of purchase, sales, inventory, pesticide residue detection results, food sample retention, and operating data for reducing food waste due to over-supply;
- Synchronization of sHR (system of Human Resource) data for cross-park dining for employees;
- An online approval OA process for visitor-diners, with comprehensive functions such as QR code payment, online top-up and real-time notification of payment information;
- In 2022, 15.91 million orders were completed, with 25,399 employees and 18,366 visitor-diners served daily.

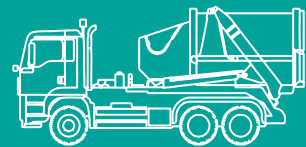


- Face recognition access control for employees across parks and smart NFC (near-field communication) based patrol to ensure security and improve passage efficiency;
- A self-service visitor system shortens visitor passage time from 1 minute to 10 seconds, improving the passage efficiency;
- Abnormal vehicle traveling is analyzed on the basis of GPS data to lower carbon emissions caused by unlimited vehicles usage for personal purposes;
- Uploading vehicle fuel consumption data, helpful to control vehicle use according to fuel consumption.



Occupational Health and Safety

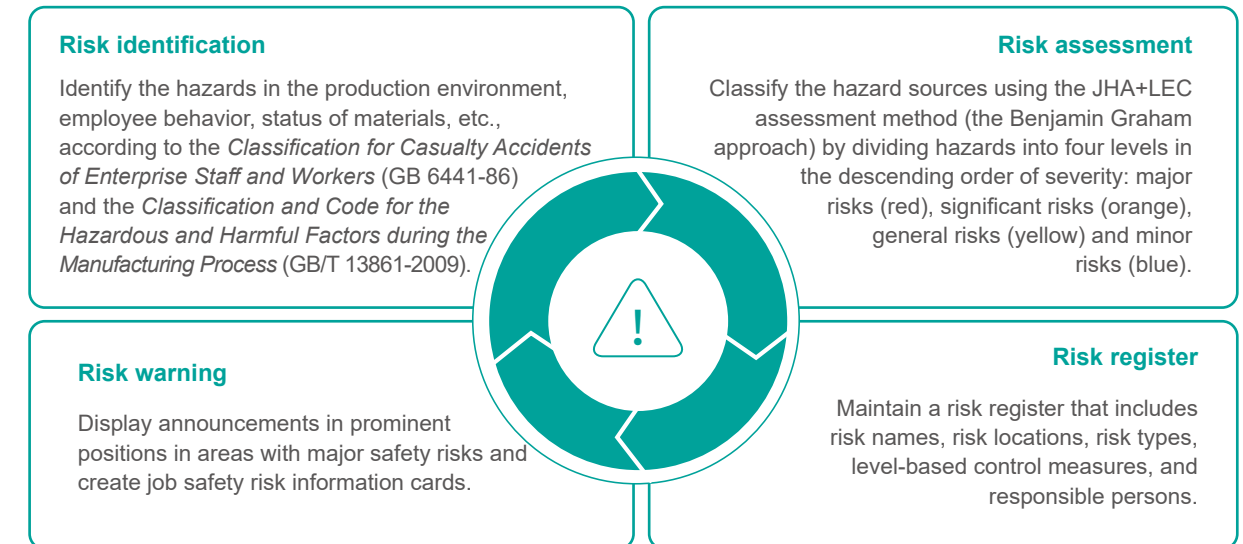
SANY Heavy Industry strictly complies with the *Law of the People's Republic of China on Work Safety*, the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, the *Provisions on Safety Training of Production and Operation Entities*, the *Guideline of China Occupational Safety and Health Management System* and other laws and regulations to put into effect the safety confirmation, training and warning. We make every effort to enhance health and safety of our staff, suppliers and other stakeholders.



Work Safety and Training

The Company understands the reality at the production site, guided by 3R (Real Site, Real Object, Reality) principle, to formulate the *3R Management System* and *6S Management of 3R Data*, and establishes a three-level management system featuring "Company-Business Division/Subsidiary/Industrial Park Administration-Operation Site". It is to improve the 3R management and 6S management levels involving safe production. We installed surveillance cameras in industrial parks, implemented a grid-based management model to select a person specifically responsible for management in the working area, and carried out self-inspection activities every month to ensure safety, which is intended to find and exclude potential issues and improve 3R management. In 2022, by managing the 3R data, we carried out 38 cost reduction and efficiency improvement projects, achieving cost savings of RMB 70 million and a 6S violation rate decrease from 0.407‰ to 0.13‰, a year-on-year decrease of 68.05%.

To enhance the Company's safety risk management and control, we carry out scientific safety risk management through the use of information technology and standard operating procedures in accordance with the *Guideline of China Occupational Safety and Health Management System* (GB/T 33000-2016). We identify and analyze potential safety risk, classify the risk, maintain a risk register, and display on-site announcements for risk warning, to help prevent safety issues from occurring.



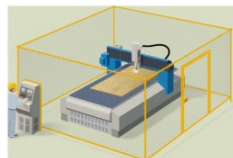
The Company formulates a *HSE Training System for Employees*, acting positively in safety culture development. We carry out a series of work safety trainings, including three-level work safety training, thematic HSE training, pre-shift work safety meeting, safety training on "new equipment, new materials, new technologies, and new processes," work safety training upon production resumption, and work safety training for job transfers, and encourages our staff with incentives to actively take part in safety trainings. In 2022, we developed thematic trainings on fire protection, mechanical safeguarding and special equipment safety. The trainings were attended by approximately 268,190 person-times with 418,920.5 hours in total.



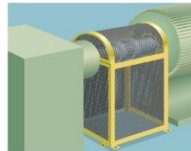
Thematic training on mechanical safeguarding

In 2022, SANY Heavy Industry provided a training on mechanical safeguarding for its business division and subsidiaries in a comprehensive manner that types of mechanical injuries, protective measures, protective devices and application of mechanical safety technologies were included. The training was attended by approximately 20,000 people with a pass rate up to 92%, which effectively improved the safety awareness of the Company's employees.

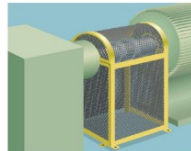
Protective Devices for Mechanical Hazard



Distance-based guard: the guard used in not completely closed danger area, which is capable of preventing the operator entering the danger area or reducing the need to enter the danger area according to its size and distance from the danger area, such as the barrier-guard or channel-guard



Enclosed guard: a device preventing the operator entering the danger area in any direction



Fixed guard: a permanent part of the machine, working independently of any other part, permanently fixed (eg. welded); or fixed by the fastener (screw, bolt, etc.), unremovable or unopenable without a tool

Training on mechanical safeguarding

Occupational Health and Safety

We have developed measurable health and safety performance and adopted several occupational health and safety protection initiatives to continuously improve health and safety management effectiveness in accordance with our internal systems such as the *HSE Management Manual*, *HSE Incentives and Punishment System*, *HSE Performance Incentives and Punishment Manual*, and *Protective Equipment Management System*. We conduct monthly HSE performance assessments on injury rate per thousand people, accident incident rates, injury rates in a thousand workers, incidence rates of occupational diseases, allowing the HSE management system goals to be incorporated in the annual performance evaluation of executives and other responsible persons. We adjust salaries based on results of the annual environmental, health and safety performance assessment, and require lower executive compensation as a decrease in relevant HSE performance occurs.



In 2022

Health and safety goal:

- To reach an injury rate in a thousand workers¹¹ of **3‰**

Health and safety performance:

- Injury rate in a thousand workers of **1.5‰**
- The number of occupational disease was **0**
- The number of occupational health and safety accident was **0**
- Occupational physical examination rate reached **100%**

Occupational Health and Safety Initiatives

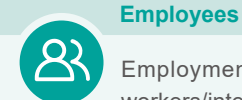
Occupational Disease Prevention and Control	Strictly follow the regulatory requirements on occupational disease prevention in implementing new, upgrading and expansion projects.
Standard Operation Requirements	Require employees to strictly observe labor discipline and work safety rules, regulations and standard operating procedures.
Health and Safety Risk Assessment	Assign well-trained teams to conduct health and safety assessments with the attendance of employees or employee representatives and make it clear that employees have the right to refuse to perform work that endangers their life or health.
Workplace Safety	Provide employees with a healthy and safe working and living environment, ensure that the workplace complies with the requirements of laws and regulations in terms of drinking water, sanitation, fire safety, lighting and ventilation, and take appropriate measures to minimize the hazards in the working environment on the basis of compliance with laws and regulations.
Personal Protective Equipment	Provide employees with personal protective equipment required by their work.
Health Check	Value the health of employees and organize health checks for them on a regular basis, in addition to providing pre-entry and preexit occupational health examinations required in the <i>Technical Specifications for Occupational Health Surveillance</i> .

¹¹ An injury rate in a thousand workers(‰) = Number of staff injured by the work/total number of staff×1000, number of staff injured by work is the sum of deaths and staff with slight or severe injuries.

Stakeholders Health and Safety

The Company has formulated the *Safety, Fire Protection, Public Security and Environmental Management Policy for Stakeholders* whose safety is also our concern, and continues to take measures to ensure health and safety of stakeholders, including the safety of their life and property.

Measures Taken to Protect Safety and Health of Stakeholders



Employees

Employment contracts are signed with all short-term contract workers/temporary workers/interns, three-level safety training is provided for them, and all posts are held by persons with the required qualifications who are engaged in special work and special equipment operation.



Suppliers

All suppliers are subject to qualification review in terms of business license, corporate certification, professional certification, transportation certification, and business permits; their operators are provided with safety training and personal protective equipment; and they are required to sign the *Safety, Fire Protection, Public Security and Environmental Management Policy for Stakeholders*.



Project Contractors

All contractors are subject to review in terms of required certifications and credentials for persons who are engaged in special work and special equipment operation and required to strictly comply with the Company's safety, environmental protection, fire control, occupational hazard and public security rules.



Lessees

All lessees are subject to review in terms of required certifications and informed of the safety hazards present in the leased premises and the Company's safety, environmental, fire control and other systems.



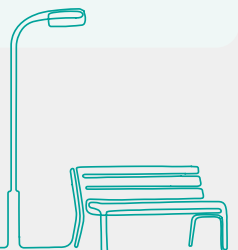
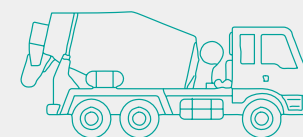
Resident Stakeholders

All resident stakeholders are included in safety management, receive regular safety training, and are subject to regular safety inspections.



Public Service/Government Personnel

They are subject to safety training and informed of safety protocols by the respective competent government departments.



04

Workplace and Employees

We regard employees as the cornerstone of our long-term development. SANY Heavy Industry protects employees' legitimate rights and interests, continues to carry out talent training plans, and continuously improves the salary and benefit system. With sufficient and meticulous care, we are committed to creating mutual benefit and win-win results with employees.



Protect Rights and
Interests of
Employees



Focus on Talent
Growth



Employee Care

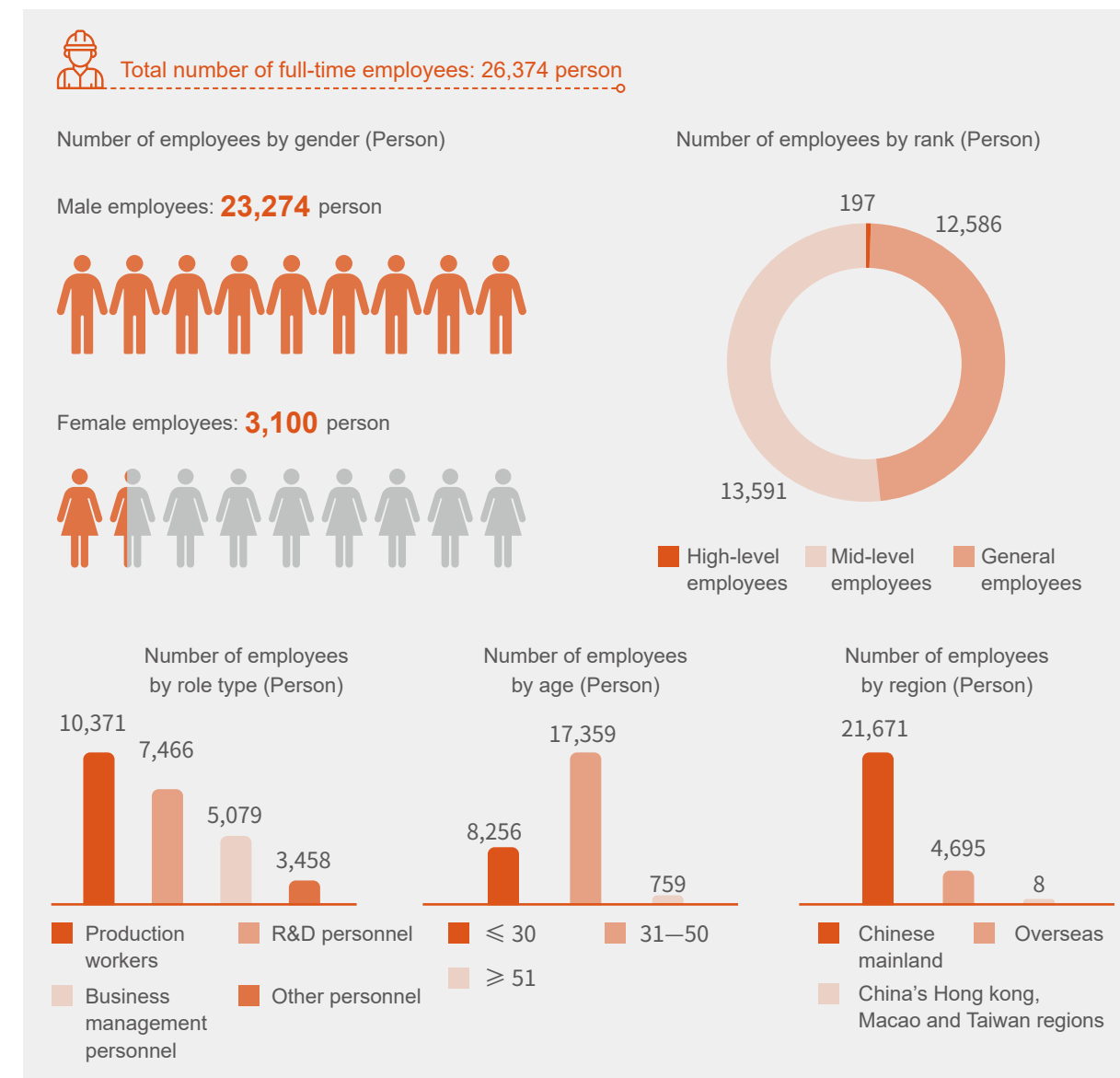


Protect Rights and Interests of Employees

SANY Heavy Industry has arranged relevant recruitment and employment policies according to the actual conditions rigorously following the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, the *Regulation on the Implementation of the Employment Contract Law of the People's Republic of China* and other national laws and regulations to comprehensively safeguard the legitimate rights and interests of employees. In accordance with *Provisions on Prohibition of Child Labor* and other relevant laws and regulations, we strongly prohibit child labor and any form of forced labor, and verify the identity of new employees before they join the Company. We are committed to avoiding child labor in any situation. The human resources department of the Company will seriously deal with the employment violation, if any, according to the internal labor management regulations. At the end of the reporting period, no forced labor or child labor has occurred in the Company.

We adhere to the principle of diversity and equal opportunity and ensure that discrimination against employees for the gender, region, race, age, marriage, disability, political stance is eliminated in recruitment, remuneration, trainings, promotion, etc. We continue to enhance the availability of employment information at the recruitment stage, and expand recruitment channels to attract talents through online sessions, public information platforms, offline two-way job fair and others. At the end of 2022, the Company hired 26,374 employees, and females accounted for 12.5% of executives.

The Company's Employee data in 2022



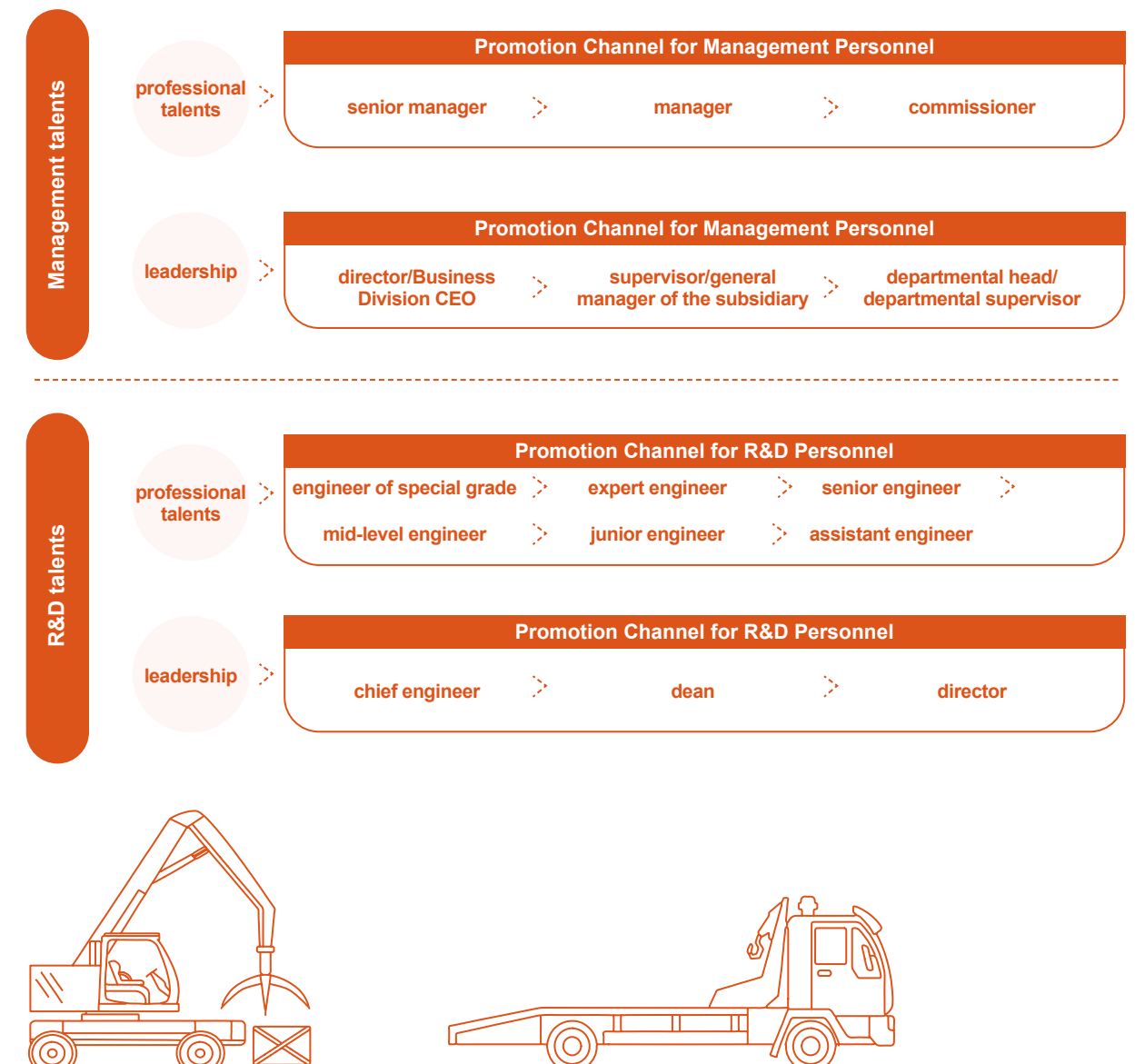
Focus on Talent Growth

SANY Heavy Industry adheres to the core value of "Fostering First-class Talents" and attaches great importance to employee growth. We have implemented a promotion system providing employees with multiple career plans, and constructed diversified compensation and welfare mechanisms, striving to maximize the initiative of employees and empower their development.

Promotion Assessment

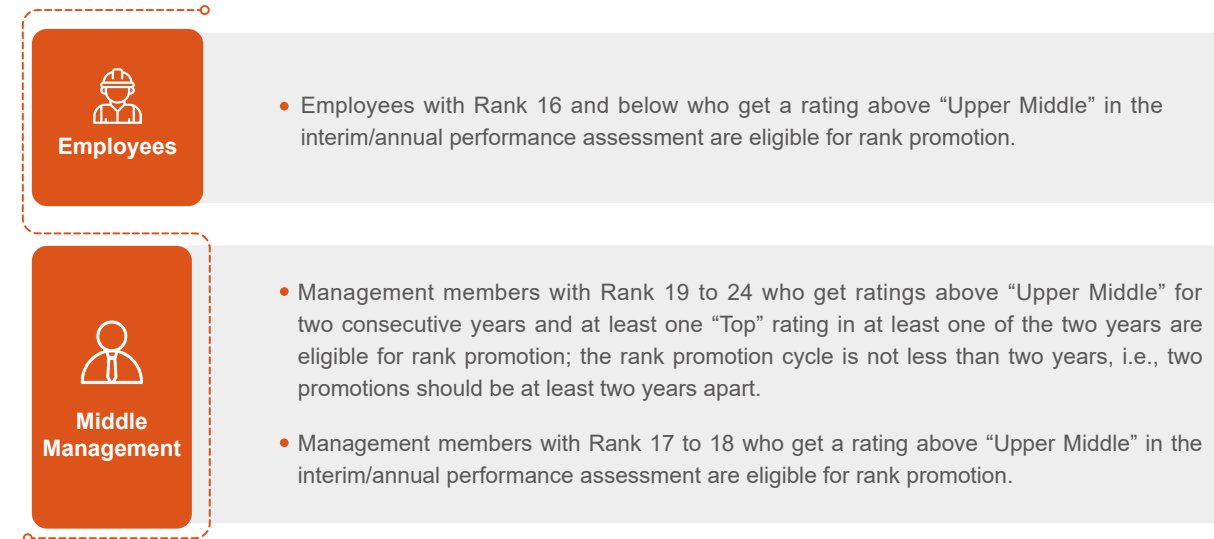
We have established a system of promotion in management and R&D to satisfy employees in career plans and development and assure the Company of talent sources in management and R&D. Putting emphasis on the selection of talents, SANY Heavy Industry formulated the *Employee Promotion Policy*, and announces promotions based on professional ability and personal inclinations.

Promotion System in SANY Heavy Industry



To ensure fair and just promotion, we stick to performance-driven policy that relates assessments with the promotion. We have established performance evaluation standards and incentive and restraint mechanisms for senior management, as well as a performance management system for all regular employees for work reporting and performance evaluation hierarchically. Effective incentive is given to employees.

Performance Assessment Mechanism



Employee Training

Taking into consideration our own business characteristics, SANY Heavy Industry has established a training system to support our business development, providing employees with trainings that meet their professional needs and development plans. In 2022, we optimized the training system with training activities onboarding, professional skill improvement, internal sharing, etc., and deeply tap the potential of employees through training courses. The provided trainings cover 20,683 employees, occupying 78.42% of the total, with an average of 96.80 training hours per employee.

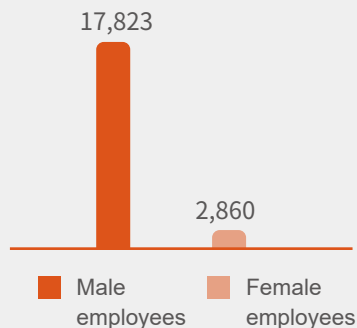
SANY Heavy Industry Training Plan in 2022



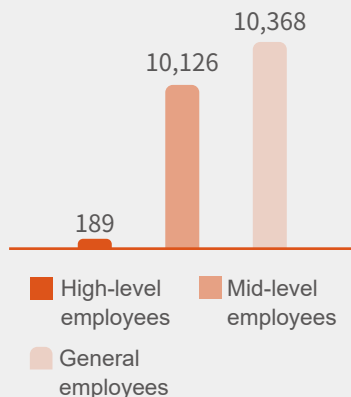
SANY Heavy Industry Employee Training Data in 2022

Number of employees trained: **20,683 person**

Number of employees trained by gender (Person)

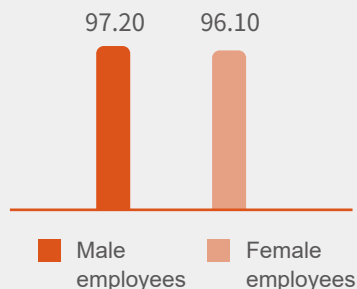


Number of employees trained by rank (Person)

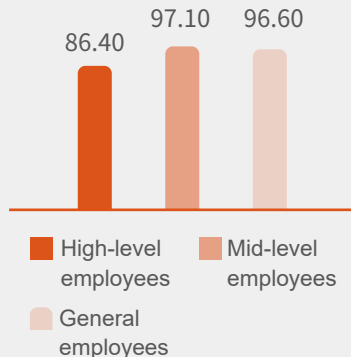


Number of hours of training for per employee: **96.80 hours**

Number of hours of training for per employee by gender (Hour)



Number of hours of training for per employee by rank (Hour)



SANY Heavy Industry Holding “Digitalization and Intelligence” Learning Activity

In 2022, SANY Heavy Industry carried out the “Digitalization and Intelligence” learning activity, in which all employees read *Guidance to DAMA Data Management Knowledge System*, *Smart Business*, *Online* and other books. The Company thoroughly examined learners’ understanding of relevant books by organizing offline examinations, reading sharing meetings, Feynman speech competitions and other activities as ways for learners to effectively consolidate learning fruits, further laying a theoretical foundation for the Company’s digital and intelligent transformation.



On-site reading sharing meeting

Compensation and Benefits

Besides providing employees with competitive basic wages, the Company has multiple incentive schemes, such as annual performance bonus, medium- and long-term equity incentive plans, profit-sharing plan, out-performance bonus, special bonuses and interim (annual) salary raise. The Company continues to put into practice the employee stock ownership plan. In 2022, the Company granted shares to a total of 7,000 employees, amounting to RMB 485 million.

We developed a comprehensive welfare system, and established our *Employee Welfare Management System* that further clarifies the benefits available to employees. In addition to statutory benefits, the Company provides extensive supplemental benefits, including supplemental insurance, holiday supplies, meal subsidies, paid annual leave, family open days, dating activities, and schooling for employees’ children. Moreover, the Company continues its sponsored education program for outperforming employees by sending them to various study and training programs in cooperation with leading domestic and overseas universities.

SANY Heavy Industry Welfare and Benefit System for Employees

Statutory benefits	<ul style="list-style-type: none">The Company contributes and maintains various social security insurances for employees such as pension insurance, medical insurance, work injury insurance, maternity insurance and unemployment insurance and pays housing fund contributions in accordance with national regulations.Employees’ rights to enjoy holidays (including wedding, bereavement, birth, illness, etc.) are protected.
Other commercial insurance	<ul style="list-style-type: none">The Company insures interns, foreign experts and workers going abroad on business with corresponding commercial insurances according to <i>Policy for Employee Commercial Insurances</i> and other documents.
Housing benefits	<ul style="list-style-type: none">The Company provides accommodation for all employees in accordance with the <i>Staff Accommodation Management Measures</i> to help its employees deal with the housing issue.
Transportation benefits	<ul style="list-style-type: none">There are employee shuttle transportation services between the industrial parks and chartered bus services transferring employees to and from home on weekends and holidays.
Holiday gift benefits	<ul style="list-style-type: none">The Company distributes supplies to all employees on the occasion of traditional holidays such as the Spring Festival, Dragon Boat Festival and Mid-Autumn Festival according to <i>Holiday Supplies Distribution Standards</i>.
Clothing benefits	<ul style="list-style-type: none">The Company provides free working clothes for all employees, as specified in <i>Management of Working Clothes</i>.
Hot weather benefits	<ul style="list-style-type: none">Every summer from June to August, the Human Resources Department counts the number of employees and the Administrative Department purchases and distributes heat protection items. The standard of heat protection budget is RMB 100 per person for production workers and RMB 15 per person for other employees.
Life event benefits	<ul style="list-style-type: none">The Company provides congratulations and condolences allowances for employees at prescribed rates for major life events such as wedding, bereavement, birth, and serious disease.
Catering benefits	<ul style="list-style-type: none">Contract employees are entitled to a monthly allowance for working meals, with rice, porridge, soup, etc., provided free of charge by the CompanyThe Company provides senior employees with meals in working time according to <i>Management of Senior Employees Dining in Cafeteria</i>.
Education of employees’ children	<ul style="list-style-type: none">The Company helps employees deal with school issues for their children.

Employee Care

As a people-oriented company, SANY Heavy Industry strengthens employee communication, provides more humanistic care, and performs diversified activities, creating a warm and comfortable working and living environment for employees and enhancing their sense of well-being and belonging.

Employee Communication

The Company has established a perfect staff congress system and trade union as a solid basis on which it effectively safeguards employees' rights to know, to participate, to express and to supervise, and it can deepen democratic management. We understand and respond to hopes and needs of employees via various employee engagement channels such as HRSSC service platform¹², routine seminar, staff congress, employee coordination meeting, employee interview. In 2022, we got the iSany application online, providing employees with 35 most common working scenarios as one-stop service based on their needs to further improve our efficiency of handling employee comments.

The Company highly values to the satisfaction of employees in life and work, for which it holds survey on team atmosphere and listens to employees on a regular basis. According to the results, it finds out, identifies and solves problems to provide support for employee management system and level improvement. In 2022, the Company collected 20,262 useful questionnaires of team atmosphere, showing the employee satisfaction of 87%.

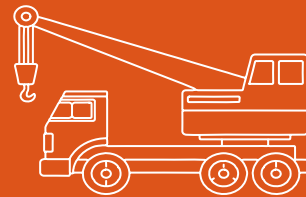
Providing employees with

35 most common

working scenarios as one-stop service based on their needs

Employee satisfaction of

87%



Employee Care

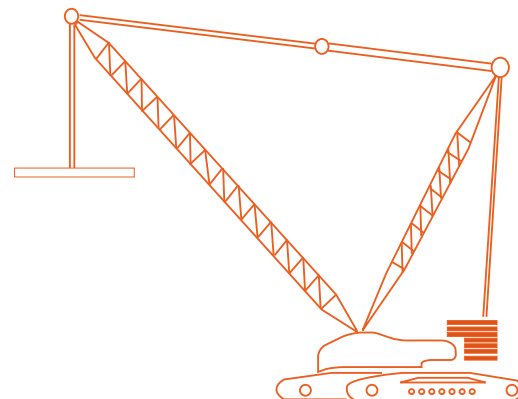
We take all kinds of measures to provide humanistic care for employees, for example, free professional psychological counseling that is to help them relieve emotions and pressure in work and life; maternal and infant rooms; flexible working hours; a special system to help employees in need with subsidies and allowances so that they can feel the timely care of the Company. In 2022, the Company granted a total assistance of RMB 428,700 to help 32 employees in need.

At the same time, we actively carry out diversified employee activities to energize employees in an effective way, which can not only enrich the work and life of employees but enhances the cohesion of the staff.

the Company granted a total assistance of RMB

428,700

to help **32**
employees in need



¹² Human Resources Sharing Service Center platform.



Care "Little Migratory Birds", the Parent-child Activity

In August 2022, the Company organized the annual parent-child activity of caring "Little Migratory Birds" in the way of "factory visit plus outward development". It attracted more than 60 employee families to participate. During the activity, the "Little Migratory Birds" visited the SANY Heavy Industry Industrial Park, Underwater World, Sports Park, Longping Rice Museum, Hunan CPC History Museum and other places, learning social science knowledge when understanding their parents' daily work, and expanding their visions, which greatly enhances the relationship between children and parents.



"Little Migratory Birds" in the on-site activity



"SANY Heavy Industry Love" Developing Fellowship for Employees

On May 14, 2022, the Company held a fellowship activity for single employees to help them meet a partner. Workers from Changsha educational and medical systems were invited, a total of 78 males and females who were present. At the end of the event, a total of 9 couples successfully developed a romantic relationship, effectively enhancing the sense of gain and happiness of the Company's single employees.



Employees in the fellowship activity

05

Giving Back to Society

SANY Heavy Industry adheres to the sentiment of "responsibility for the state before corporate interests", continuously devotes itself to various social welfare activities, striving to practice the concept of sustained public welfare and contributing "SANY Heavy Industry" efforts to social progress through participation in public services and voluntary activities, rural revitalization, disaster relief and rescue, and sustainable social innovation. In 2022, the Company's community investment totaled RMB 45.769 million.



Public Services
and Voluntary
Activities



Support Rural
Revitalization



Social Rescue
Improvement



1 NO
POVERTY



2 ZERO
HUNGER



3 GOOD HEALTH
AND WELL-BEING



4 QUALITY
EDUCATION



8 DECENT WORK AND
ECONOMIC GROWTH



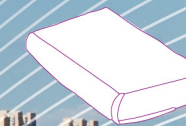
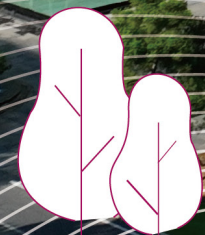
11 SUSTAINABLE CITIES
AND COMMUNITIES



12 RESPONSIBLE
CONSUMPTION
AND PRODUCTION



17 PARTNERSHIPS
FOR THE GOALS





Public Services and Voluntary Activities

SANY Heavy Industry advocates employees and their families to participate in public services and voluntary activities in an in-depth way that they can cooperate with SANY Heavy Industry Foundation. With its services mainly toward low carbon, friendly community, education and innovation, SANY Heavy Industry further expands modes of the community participation and promotes co-construction between the Company and communities in a friendly way. In 2022, the Company's employees totally provided 687.4 hours of volunteer activities.



Hunan Trinity Industrial Vocational and Technical College founded by SANY Heavy Industry taking part in beach cleaning

In September 2022, SANY Heavy Industry Foundation, Party Branch of the International Economic and Trade School in Hunan Trinity Industrial Vocational and Technical College, and Green Hunan worked jointly to carry out the voluntary activity of cleaning Laodao River beach beside Songya Lake National Wetland Park, Changsha. It was engaged by a total of 18 teachers and volunteers, who spent nearly 40 hours of voluntary service picking up 2,489 pieces of garbage weighing 44.85 kilograms. While making contributions to the cleanliness of Ladao River beach, they understood the significance of environmental protection.



Trinity taking part in beach cleaning

It was engaged by a total of 18 teachers and volunteers, who spent nearly

40 hours

of voluntary service

picking up

44.85 kilograms

of garbage

picking up

2,489 pieces

of garbage



"Benefiting A Heart and Creating A Dream"

In 2022, SANY Heavy Industry Foundation, SANY Heavy Machinery, and the Amity Foundation in Kunshan provided joint efforts in the voluntary activity of "Benefiting a Heart and Creating a Dream," leading volunteers to visit Amity bakery where children with Down's syndrome (mentally challenged children) can receive rehabilitation and opportunities to integrate in the society. They gave accompanying, acceptance, affirmation and recognition to those children who can be helped to regain social skills for enhanced life confidence.



Volunteers making cookies with "mentally challenged children"



Hunan Trinity Industrial Vocational and Technical College founded by SANY Heavy Industry taking part in care activity for Slow Angels

"Love House for Slow Angels" is located in Chengxi Community, Xianglong Street, Changsha County, Hunan Province, open for free to families having a child with cerebral palsy who is provided with free accommodation and training site. In July 2022, SANY Heavy Industry Foundation, together with the Party Branch of the School of Engineering Machinery, the Party Branch, the first Administrative Branch and the second Administrative Branch of the School of Building Industry in the College, carried out the voluntary activity in the House. 18 SANY Heavy Industry volunteers were exposed to the power of love and persistence while spending time with 20 families.



SANY Heavy Industry volunteers spending time with Slow Angels



"Bookcrossing in Summer"

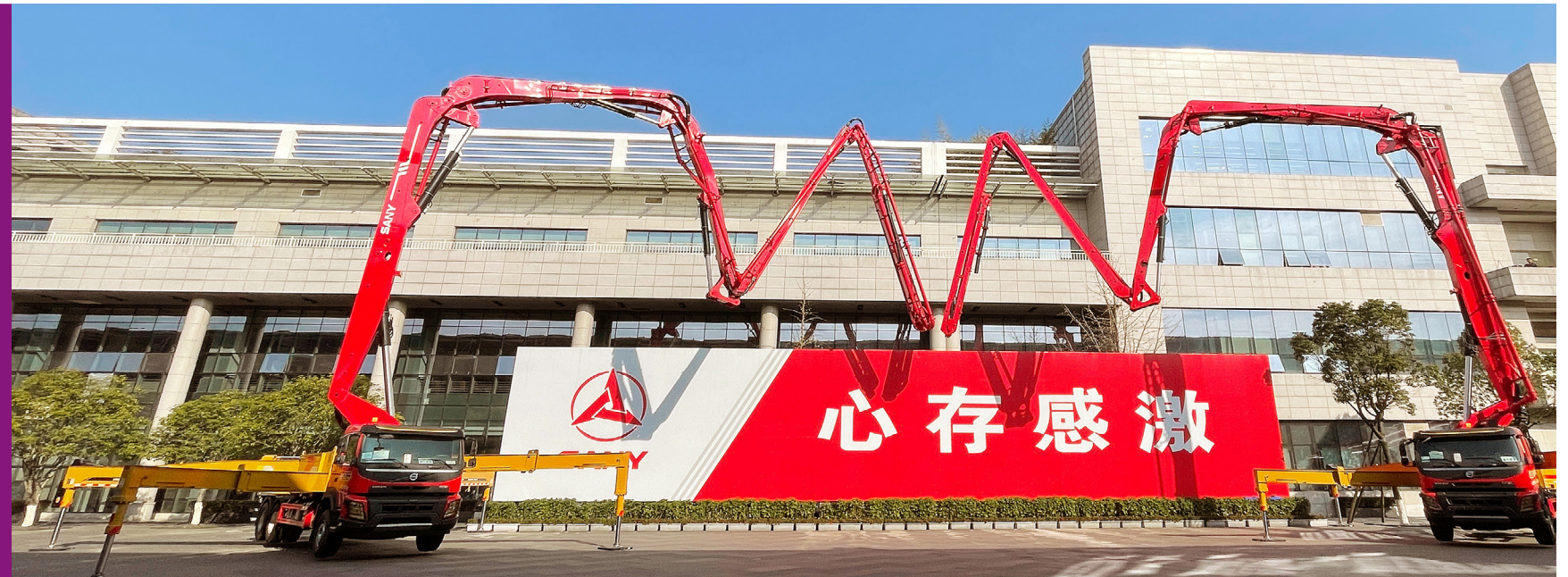
In August 2022, SANY Heavy Industry Foundation, the First Branch, and Huaxing Branch of Party Committee of SANY Heavy Machinery jointly launched the "Bookcrossing in Summer" activity with Datong Social Work Service Center in Kunshan City. More than 300 children's books and toys were donated by 40 volunteers who are CPC members to children in need as extracurricular reading resources.



"Bookcrossing in Summer" donation ceremony

Support Rural Revitalization

To implement "Industrial Revitalization, Talent Revitalization, Cultural Revitalization, Ecological Revitalization, and Organizational Revitalization," the Company collaborates with SANY Heavy Industry Foundation to help and support Daotong Village in Lianyuan City, Hunan Province with its Rural Revitalization on a full range of dimensions, which focuses on infrastructure, medical health, co-construction with villagers, industrial development and educational revitalization and develops with a scientific concept. In 2022, we invested a total of RMB 9.75 million in funding 4 integrated support projects, 2 infrastructure projects, 4 education projects, 4 healthcare projects and 1 industrial development project, all achieving fruitful results.



Infrastructure Revitalization

It is a key link to strengthen rural public infrastructure construction in the course of Rural Revitalization. For a long time, the imperfect infrastructure in rural areas remains as a great obstacle to the promotion of comprehensive Rural Revitalization, as well as to the improvement of farmers' living standards and living conditions. To improve the situation, we have been committed to improving the infrastructure in Daotong Village for a long time by implementing a series of projects, including water network renovation, installation of streetlights, medical and health care center, and rural lodging service studies learning center, which has removed important obstacles to the revitalization of Daotong Village and brought practical convenience to the villagers.

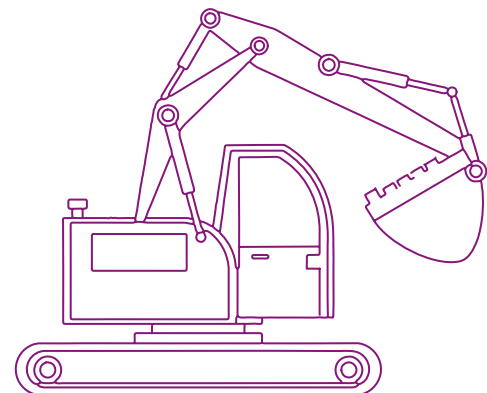
In 2022, 530 streetlights had been installed for 3,818 residents in 1,147 households across the whole village; we completed the project to improve the water quality in Longtang Lake and water network renovation, assuring villagers of safe drinking water; the medical and health care center is being built, which will provide 608 elderly residents with basic medical care service.

The number of streetlights that had been installed in Daotong Village is

530

provide basic medical care service to

608 elderly residents



Longtang Lake with improved water quality

Elderly Care

The rural comprehensive revitalization cannot be conducted independently of rural elderly care, whose improvement is related to vital interests of the elderly in rural areas and can also improve their happiness and satisfaction. In Daotong Village, we adhere to the mode of integrating medical care with elderly care. We have trained a local professional service team with social workers as the core, rural nursing staff as the basis, and professional medical team as the support, conducting the comprehensive diagnosis and management of hypertension and other diseases, and making key elderly people in the Village fully covered by the health monitoring. We help Daotong elderly people to live a life "being greeted, being helped when in need, being treated when sick, being responded to when in emergency, and being accompanied when lonely."

In 2022, we had provided home elderly support to 5,611 recipients, self-conducted elderly engagement services to 871 recipients, medical visit services to 937 recipients and home life care services to 2,930 recipients, with an overall satisfaction of 96.8%.

We had provided home elderly support to

5,611 recipients
in Daotong Village

with an overall satisfaction of

96.8%



Social workers helping the elderly with haircut



Social workers helping the elderly to go out

Community Engagement

The community development concept of “putting people first” is the basic principle that guides our Rural Revitalization work in Daotong Village. The Company has created a local volunteer team, which is actively engaged in various public services, for example, improving the living environment in the village, caring vulnerable groups, and organizing cultural activities. It greatly enhanced the villagers’ sense of gain and happiness. In addition, we discussed with the villagers about mechanisms such as village rules and regulations, points management to enhance the villagers’ awareness of rules and autonomy. “Daotong School” and various community activities have been initiated in the village that enrich the spiritual and cultural life of the villagers.

In 2022, we had 18 more volunteers, leading to a team of 75 volunteers, who conducted 92 village activities for all villagers, serving a total of 2,801 people with 1,743 hours. The comprehensive satisfaction of voluntary activities reached 97.6%.



Daotong School for villages

Industrial Revitalization

The key to Rural Revitalization is industrial revitalization, a focus on which we can promote rural development. We have built the demonstrative modern agricultural base in the village, where a philosophy is used to guide agricultural development that is ecologically and environmentally friendly for earth protection, which can work as our development goal to help us create first-class agricultural products. In the base, we plant special products, including rice, melon, pumpkin, cabbage and strawberry, and sell for gains that are invested in rural and industrial revitalization. As of the end of 2022, we have established 180-mu demonstrative modern agricultural base, with an accumulative investment of millions in soil improvement, purchase of modern agricultural equipment, introduction and development of new crops, formulation of technological regulations, etc.

Educational Revitalization

The key to Rural Revitalization is education that plays an underlying and leading role in the course. We are committed to investing in improving the rural education environment to provide solid human resource support for agricultural modernization and rural development. In 2022, we offered RMB 4.65 million to support education charity projects and digital transformation of charity organizations in several provinces and municipalities.

Promote Education Equality

We have made active efforts to promote education equity and education charities. We together with the China Development Research Foundation and local education departments provided funding and training support for various rural middle and primary school, pre-school education and child care projects to strengthen rural basic education infrastructure.

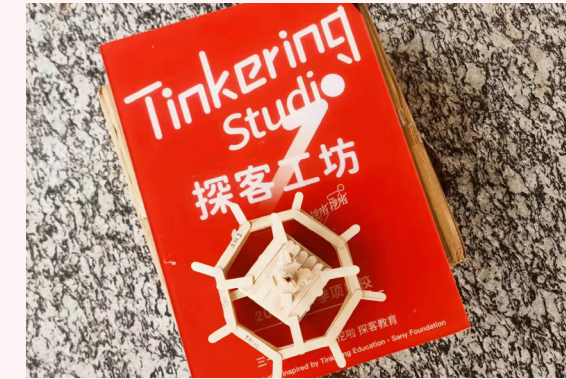
In 2022, the Company continued to develop the education project in Wenshan Prefecture in Hainan with an investment of RMB 1.3 million, covering 134 kindergarten classes in Xichou County. As a result, the kindergarten support and teacher training programs cumulatively benefited a total of 5,725 persons, with the local pre-school education enrollment rate increased to 95.65% in 2022, and promoted the local pre-school education development.

Promote Education Innovation

We continued to expand the scope of childhood education and advance education model innovation. In order to foster rural children’s scientific thinking and engineering thinking, we have established the Walawala Tinkering Education program, which also can develop interests and ability. As of the end of 2022, the program had developed a set of tinkering courses to meet needs of primary and secondary schools, and established long-term cooperation with 60 plus rural schools in 18 provinces and autonomous regions, cumulatively provided for 50,000 students.



Students completed the model by design drawing in Tinkering class



Rural Tinkering Studio Tablet and student’ work

Social Rescue Improvement

We give full play to our business advantages. SANY Heavy Industry Engineering Machinery Emergency Rescue Team always provides support in the front line after all kinds of major natural disasters. In order to make the rescue more systematic, professional and efficient, SANY Heavy Industry and SANY Heavy Industry Foundation not only established a rescue coordination mechanism and trained a professional engineering machinery rescue team, but also invested RMB 0.518 million in 2022 to support non-governmental rescue organizations for a disaster relief network system and fund insurance for first-line rescue workers, helping the whole society to improve the disaster relief capacity.

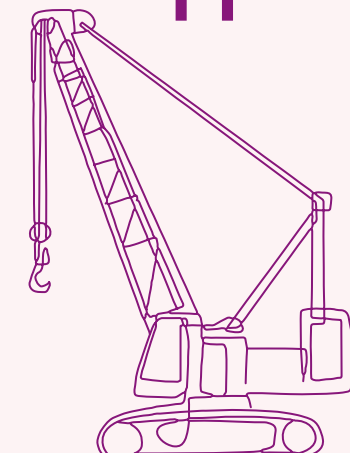
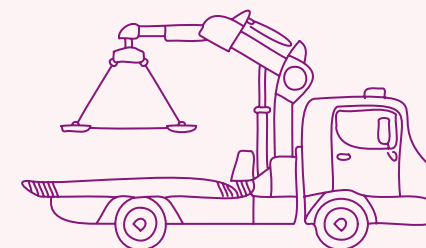
In addition, we achieved sustainable and larger scale social improvement by investing in potential social enterprises and public non-profit organizations, covering education, disability, mental health, new energy, social innovation, sustainability and other issues. In 2022, a total of RMB 11 million were invested in “Power-Solution” clean energy project for the poor and “Yuzhiai” sports training project for special children.

Support for non-governmental rescue organizations amounted to RMB

0.518 million

The overall investment in “Power-Solution” clean energy project for the poor and “Yuzhiai” sports training project for special children reached RMB

11 million



Key Quantitative Performance Indicators

Environmental

Indicator	Unit or description	2022
ISO 14001 certification coverage	%	34.78
Significant environmental incident	Number	0
Atmospheric pollutants		
Total exhaust gas emissions	m³	13,812,566,369.63
SO ₂ emissions	Tonne	2.00
NO _x emissions	Tonne	33.48
VOCs (volatile organic compound) emissions	Tonne	85.03
Total soot emissions	Tonne	94.09
Water contaminants		
Total water discharge	Tonne	469,424.75
Biochemical oxygen demand (BOD) discharge	Kilogram	7,772.61
Chemical oxygen demand (COD) discharge	Kilogram	73,647.94
Suspended solids (SS) discharge	Kilogram	5,989.63
Ammonia (NH ₃) discharge	Kilogram	3,209.22
Solid waste		
Total hazardous waste discharge	Kilogram	4,946,538.00
Total general industrial solid waste discharge	Tonne	194,814.02
Energy/resource consumption		
Purchased electricity	kWh	517,468,826.71
Gas	m³	22,968,641.39
Gasoline	Liter	19,291.41
Clean energy (solar electricity)	kWh	16,013,025.53
Diesel	Liter	8,536,665.79
Combined energy consumption	tce	104,614.50
Municipal water supply	Tonne	5,318,636.75
GHG emissions		
Scope 1: Direct GHG emissions	tCO ₂ e	71,903.88
Scope 2: Indirect GHG emissions	tCO ₂ e	295,112.47
Total GHG emissions	tCO ₂ e	367,016.35
Packaging material consumption		
Packaging material used	Tonne	3,272.34

Social

Indicator	Unit or description	2022
Employees		
Employees	Person	26,374
Number of employees, by gender		
Male	Person	23,274
Female	Person	3,100
Number of employees, by rank		
High-level employees	Person	197
Mid-level employees	Person	12,586
General employees	Person	13,591
Number of employees, by role type		
Production workers	Person	10,371
R&D personnel	Person	7,466
Business management personnel	Person	5,079
Other personnel	Person	3,458
Number of employees, by age group		
30 and below	Person	8,256
31-50	Person	17,359
51 and above	Person	759
Number of employees, by region		
Chinese mainland	Person	21,671
China's Hong Kong, Macao and Taiwan regions	Person	8
Overseas	Person	4,695
Percentage of female senior management	%	12.5
Development and training		
Employees trained	Person	20,683
Number of employees trained, by gender		
Male employees	Person	17,823
Female employees	Person	2,860

Indicator	Unit or description	2022
Number of employees trained, by rank		
High-level employees	Person	189
Mid-level employees	Person	10,126
General employees	Person	10,368
Average number of hours of training for employees	Hour	96.80
Average number of hours of training for employees, by gender		
Male employees	Hour	97.20
Female employees	Hour	96.10
Average number of hours of training for employees, by rank		
High-level employees	Hour	86.40
Mid-level employees	Hour	97.10
General employees	Hour	96.60
Health and safety		
ISO 45001 certification coverage	%	39.13
Injury rate in a thousand workers	‰	1.5
Occupational disease	person	0
Occupationa accidents	Number	0
Coverage of occupational health checkup for those on professional posts	%	100
Attendance of health and safety training	Person-time	268,190
Total health and safety training hours	Hour	418,920.50
Supply chain management		
Suppliers	Number	2,040
Suppliers, by region		
Chinese mainland	Number	1,989
China's Hong Kong, Macao and Taiwan regions	Number	15
Overseas	Number	36
Suppliers, by product category		
Production (procurement of raw and auxiliary materials) suppliers	Number	1,795
Non-production (project procurement) suppliers	Number	614
General suppliers	Number	1,179
Specialized suppliers	Number	1,479

Indicator	Unit or description	2022
Quality management		
ISO 9001 or IATF 16949 certification coverage	%	100
R&D and innovation		
R&D and innovation investment	RMB 100 million	78.26
Patent applications	Number	2,663
Patents granted	Number	1,781
Computer software copyrights granted	Number	397
Customer services		
Customer satisfaction	%	83
Customer complaints	Number	2,367
Community		
Community investment	RMB 10,000	4,576.90

Governance

Indicator	Unit or description	2022
Anti corruption audit coverage	%	100
Employees covered by anti-corruption training	1,000 persons	8.1
Suppliers covered by anti-corruption training	Number	1,538
Percentage of suppliers signing supplier integrity agreement/statement	%	100

GRI Index

Statement of use	SANY Heavy Industry has reported the information cited in this GRI content index for the period of January 1, 2022 to December 31, 2022 with reference to the GRI Standards.
GRI 1 used	GRI 1: Foundation 2021

GRI STANDARD	DISCLOSURE	LOCATION
GRI 2: General Disclosures 2021	2-1 Organizational details	P8-P9
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	2-3 Reporting period, frequency and contact point	P4-P5
	2-4 Restatements of information	P50-P51
	2-6 Activities, value chain and other business relationships	P8-P9
	2-7 Employees	P66
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	2-9 Governance structure and composition	P28
	2-10 Nomination and selection of the highest governance body	P28
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	2-14 Role of the highest governance body in sustainability reporting	P14-P15
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	2-16 Communication of critical concerns	P14-P15
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	2-22 Statement on sustainable development strategy	P14-P15
	2-25 Processes to remediate negative impacts	P33

	2-26 Mechanisms for seeking advice and raising concerns	P33
	2-27 Compliance with laws and regulations	P50
	2-29 Approach to stakeholder engagement	P14-P15
GRI 3: Material Topics 2021	3-1 Process to determine material topics	P14-P15
	3-2 List of material topics	P14-P15
	3-3 Management of material topics	P14-P15
	3-3 Management of material topics	P24-P25, P51, P71
	201-1 Direct economic value generated and distributed	P16-P17, P25
	201-3 Defined benefit plan obligations and other retirement plans	P71
GRI 201: Economic Performance 2016	201-4 Financial assistance received from government	P51
	3-3 Management of material topics	P74-P81
	203-1 Infrastructure investments and services supported	P74-P81
GRI 203: Indirect Economic Impacts 2016	3-3 Management of material topics	P31-P35
	205-1 Operations assessed for risks related to corruption	P31
GRI 205: Anti-corruption 2016	205-2 Communication and training about anti-corruption policies and procedures	P32, P34-P35
	3-3 Management of material topics	P35
	3-3 Management of material topics	P50-P52, P57
GRI 206: Anti-competitive Behavior 2016	301-1 Materials used by weight or volume	P57
	3-3 Management of material topics	P54-P57
GRI 301: Materials 2016	302-1 Energy consumption within the organization	P57
	302-4 Reduction of energy consumption	P54-P56
	302-5 Reductions in energy requirements of products and services	P56, P58-P59
GRI 302: Energy 2016	3-3 Management of material topics	P51, P53, P57
	303-2 Management of water discharge-related impacts	P51
	303-4 Water discharge	P53
	303-5 Water consumption	P57
	3-3 Management of material topics	P53
GRI 303: Water and Effluents 2018	304-3 Habitats protected or restored	P53
GRI 304: Biodiversity 2016		

GRI 305: Emissions 2016	3-3 Management of material topics	P54-P57
	305-1 Direct (Scope 1) GHG emissions	P57
	305-2 Energy indirect (Scope 2) GHG emissions	P57
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	P53
GRI 306: Waste 2020	3-3 Management of material topics	P52-P53
	306-1 Waste generation and significant waste-related impacts	P53
	306-2 Management of significant waste-related impacts	P52
	306-3 Waste generated	P53
GRI 308: Supplier Environmental Assessment 2016	3-3 Management of material topics	P44
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GRI 401: Employment 2016	3-3 Management of material topics	P66-P73
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GRI 403: Occupational Health and Safety 2018	3-3 Management of material topics	P48-49, P60-P63
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	403-8 Workers covered by an occupational health and safety management system	P63
	403-9 Work-related injuries	P62
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GRI 404: Training and Education 2016	3-3 Management of material topics	P67-P70
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	404-2 Programs for upgrading employee skills and transition assistance programs	P69
	404-3 Percentage of employees receiving regular performance and career development reviews	P68
GRI 405: Diversity and Equal Opportunity 2016	3-3 Management of material topics	P28, P66
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GRI 406: Non-discrimination 2016	3-3 Management of material topics	P66
GRI 408: Child Labor 2016	3-3 Management of material topics	P66
GRI 409: Forced or Compulsory Labor 2016	3-3 Management of material topics	P66
GRI 413: Local Communities 2016	3-3 Management of material topics	P50
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GRI 414: Supplier Social Assessment 2016	3-3 Management of material topics	P44
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GRI 416: Customer Health and Safety 2016	3-3 Management of material topics	P41-P42
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