



# SANY HEAVY EQUIPMENT INTERNATIONAL HOLDINGS COMPANY LIMITED

(Incorporated in the Cayman Islands with limited liability)

Stock Code : 631



# 2019

Environmental,  
Social and  
Governance Report



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## ABOUT THIS REPORT

### Preparation Basis

This report has been prepared in accordance with the Environmental, Social and Governance Reporting Guide (the “Guide”) set out in Appendix 27 to the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited. The disclosure in this report follows the disclosure principles of importance, quantification, balance and consistency disclosed in the Guide.

### Reporting Scope

The scope of operations covered in this report includes the business sectors generating majority revenue of the Group, including mining equipment sector and logistics equipment sector. Unless otherwise specified, this report discloses the Group’s management methods and performance from 1 January 2019 to 31 December 2019 (“during the year”, with certain contents covering period before 2019) in environmental, social and governance aspects. For further information on corporate governance, please refer to the section headed Corporate Governance Report on pages 57 to 69 of the Group’s 2019 Annual Report.

### Sources of information disclosed

The information disclosed in this report is collected through various channels, including official documents, data from the Company or public information, and internal questionnaire based on this report. We promise to be responsible for the authenticity, accuracy and completeness of the content of the report.

### Reference

For ease of presentation, in this report, Sany Heavy Equipment International Holdings Company Limited is hereinafter referred to as “Sany International” or the “Company”. Sany Heavy Equipment Co., Ltd. is hereinafter referred to as “Sany Heavy Equipment”, while Sany Marine Heavy Industry Co., Ltd. is hereinafter referred to as “Sany Marine”, both of which is a major subsidiary of the Company. The Company together with its subsidiaries are hereinafter referred to as the “Group”.

### Report access

This report is prepared in both Chinese and English. If there is any discrepancy between the Chinese and English versions, the Chinese version shall prevail.

The electronic version of this report can be downloaded from the Company’s official website [www.sanyhe.com](http://www.sanyhe.com) and the Hong Kong Stock Exchange website [www.hkexnews.hk](http://www.hkexnews.hk).

### Feedback

If you have any questions or suggestions about the content of this report, please call or write to inquire. Our contact information is as follows:

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## STATEMENT OF THE BOARD

2019 is the 70<sup>th</sup> anniversary of the People's Republic of China, and is also a year in which Sany International continues to forge ahead and achieve extraordinary development. Under the macro environment of overall steady growth of China's economy, Sany International's operating performance is stable and improving, internal management operating efficiency and profitability have been greatly improved, and the market share of each main product has gradually increased. While optimizing our asset structure and improving our business performance, we continue to pay attention to the sustainable development performance of the Company, actively communicate with stakeholders, listen to their opinions and suggestions, and continue to strengthen our own management in the environmental, social and governance (ESG) aspects.

We sincerely produce high-quality products for our customers. With the original concept of "Quality changes the world", we always regard product quality and safety as the core of product responsibility. In 2019, we continued to strictly control product design, procurement, manufacturing, inspection and other processes, and further improved product quality through a series of measures such as equipment structure optimization, mechanical process optimization, and robot automated production. We continued to increase investment in technological R&D and innovation, successfully developed new products such as pure electric widebody mining vehicles, and strive to provide customers with safe, high-quality and efficient products and service experience in terms of manufacturing level, process innovation, and intelligent digitalization.

We adhere to the philosophy of responsible operation, strictly control the internal management system, improve the internal management procedures, and adhere to the corporate style of integrity. We always keep in mind the service concept of "All for customers", establish the "Sany Customer Cloud Platform", continue to carry out global activities of value services, and continuously enhance customer service satisfaction and gain customer's trust. Adhering to the principles of fairness, justice and openness, we have established a sustainable development cooperation relationship with suppliers, continuously improved supplier online management, and are committed to achieve mutual prosperity with all parties.

We are committed to cultivating first-class talents, and regard employees as our most valuable assets. In 2019, we recruited more than 200 new employees, increasing the Company's internal momentum. We always insist on moving forward with employees, respecting and protecting the legitimate rights and interests of employees, and creating an equal and diversified working atmosphere for employees. We respect the development needs of employees, establish a comprehensive training system, and start customized talent training and selection models such as "Potential Talent" and "Young Eagle Plan" to help employees achieve rapid growth. We pay great attention to the physical and mental health of employees, and ensure work safety by improving safety production management systems and other measures, and reduce occupational health risks by reducing employee exposure to dust, noise, vibration and other hazards.





We are determined to protect environment, implement a green development strategy, comprehensively increase investment in environmental protection, and actively develop and provide green products and services. In 2019, our newly developed pure water hydraulic supports and dry dust removal equipment and other green products were put into production and use, which is a major practice of Sany International's "Green mining & Clean production". We actively implemented energy-saving and consumption-reducing measures, carried out various intelligent transformations on electricity meters and pumping stations, and advocated the conservation and recycling of water, paper, and packaging materials to improve resource utilization efficiency. We clearly stipulated the regulations on environmental protection compliance management, pollution control and emission compliance. We reduced pollutant emissions and lessened damage to the environment through measures such as welding fume rectification actions, promotion of electrostatic spraying, and replacement of water-based paint with oil-based paint in order to achieve sustainable development goals.

We insist on making first-class contribution, prospering along with the society, actively integrating into the local community, organizing community building activities, and continuing to move forward to the vision of "Giving back to society & Building a beautiful community". We promote the integrated development both inside and outside China, and concern about the infrastructure construction for the "Belt and Road" Initiative. We support the construction of public utilities and actively export industrial resources to society, bearing the social responsibility of "Contributing to China and striving for improvements".

Looking forward to 2020, we will firmly seize the opportunity of intelligent upgrading of the industry, with the main focus on improving operational capabilities, continuously raise the ESG governance standards, and promote the corporate sustainable development.

**Liang Zaizhong**

*Chairman*

23 June 2020

## ABOUT US

The Group is a large-scale equipment manufacturing enterprise specialized in R&D, manufacturing and sales of coal tunneling, coal mining, transportation equipment, mining equipment, port equipment, and offshore heavy machinery. On 25 November 2009, Sany International (stock code: 631) was successfully listed on the Main Board of the Hong Kong Stock Exchange. Sany International has become one of the world's top mining and logistics equipment manufacturing enterprises, and is moving towards becoming the best complete equipment supplier and an iconic enterprise in the domestic mining and logistics equipment industry.

The Group has manufacturing bases in Shenyang, Zhuhai and Changsha. The Group actively promotes intelligent manufacturing and achieves "real-time, on-site" remote monitoring through production equipment and intelligent monitoring networking; allocates resources reasonably according to production needs through intelligent assignment platforms; provides basic data for production management and energy consumption management through energy management platform in order to optimize process and reduce energy consumption. The Group adheres to its service philosophy of "All for customers, All from innovations", by providing first-class service and highly efficient response to meet customers' needs and addressing any concerns of our customers.

### SANY VISION

Build a first-class enterprise, Foster first-class talent, Make first-class contributions to society

### MANAGEMENT PHILOSOPHY

All for customers, All from innovation

### ENTERPRISE SPIRIT

Striving to be Stronger, serving the Country through Industrial Development

### ENTERPRISE ETHICS

Justice, honesty, gratitude

### SANY STYLE

Striving for excellency and efficiency

### SANY MOTTO

Money tempts people but career bonds us together

Dream enlightens humankind

All for Sany, Sany for All



## BOARD ENGAGEMENT

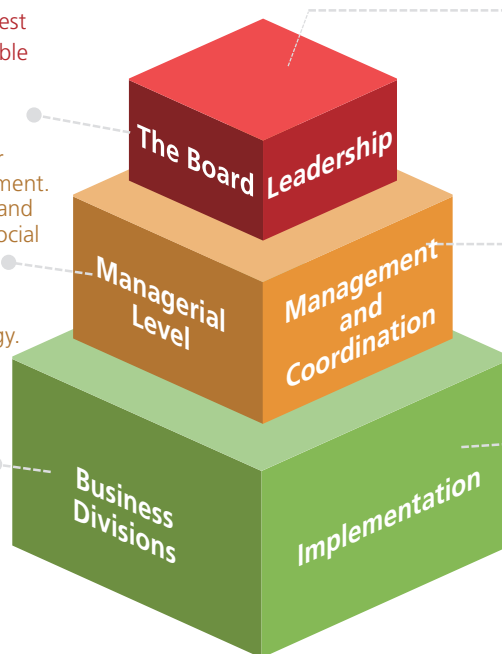
In order to manage sustainable development issues more effectively, the Group has established an ESG governance structure with the Board as the leader, the management personnel responsible for managing and coordinating, and the business divisions responsible for implementation, to ensure that, during the process of the Company's management of ESG, the instructions of the Board can be conveyed to the whole company effectively; the intended objectives can be realized within the specified time; the difficulties and challenges faced in the daily operation process can be promptly reported and be resolved effectively; the responsibilities are undertaken by the individual/department/team on an organized and orderly manner; and the important proposals, regulations and missions in relation to ESG issues can be realized and be integrated into the major business strategies of all subsidiaries. In 2019, the Group also organized ESG training for management to comprehensively enhance the Company's ESG management capabilities.

### Governance Structure for ESG

Consisting of 9 directors, the highest decision making body for sustainable development management of the Group.

Consisting of the general manager and the managers of each department. They are responsible for handling and coordinating the environmental, social and governance issues, providing information needed for decision making and supporting the implementation of the ESG strategy.

Consisting of employees from each business module, who are responsible for carrying out the instructions of the Company's ESG matters, and implementing the concept of ESG into specific businesses.



- Decide on the strategic direction of the Group's ESG.
- Decide on and approve the Group's ESG strategic plans and objectives, important systems, annual work plans and annual work reports.
- Decide on and approve major matters of the ESG work of the Group.
- Prepare and promote the implementation of the Group's ESG strategic plan and objectives, and annual work plan.
- Guide, monitor and supervise the implementation of the ESG strategy in this business module.
- Organize the preparation of the Group's annual ESG report.
- Regularly report the ESG work to the board of directors.
- Take responsibility for ESG special work in accordance with the functional positioning of its business department.
- Timely report on ESG work.
- Participate in the preparation of the Group's annual ESG report.



## SUSTAINABLE DEVELOPMENT STRATEGY

We have consistently advocated and adopted a philosophy of pursuing development in a responsible way, strived to balance environmental, social, and economic benefits across development. Thus, the Group has formulated a five-year sustainable development strategy – the sustainable development 2025 strategy. Our sustainable development 2025 strategy is based on five strategic pillars, which includes: Quality First, Responsible Operation, People-oriented, Environmental Benefit and Social Benefit.



**Quality First:** Quality is the core of our long-term development.

**Objectives:** To provide customers with a full range of high-quality products with stable performance and reliable quality that fulfills the needs of industry development.  
In response to the above objectives, we determined the key areas are: quality production and technological innovation.

**Responsible Operation:** Responsible development is our most basic business philosophy.

**Objectives:** To operate legally and compliantly, and become an excellent enterprise that entrusted by employees, with satisfied customers and achieved win-win development with partners.  
In response to the above objectives, we will adhere to honest operation, provide customers with first-class services, and join hands with suppliers to achieve mutually beneficial partnership.

**People-oriented:** Employees is the source of the Company's development, and it is our vision to foster first-class employees.

**Objectives:** To create a working environment that allows employees to pleasantly work with high efficiency and utilize their full potential, and to strive to provide a good career development platform that achieves mutual development of employees and the enterprise.  
In response to the above objectives, we determined to focus on the management of these areas: recruiting and cultivating employees, and caring for employees' health.



**Environmental Benefit:** Protecting the environment and green development has been our consistent policy for sustainable development.

**Objectives:** To contribute green, energy-saving and high-efficient products to the industry, and promote the production and construction of enterprises with the principle of sustainable development. In response to the above objectives, we will accelerate the implementation of green technology application, energy-consumption saving and emission reduction.

**Social Benefit:** As an enterprise with social responsibility, the Group is committed to promote local economic development and to make contribution for the local people's livelihood and harmony.

**Objectives:** To create a first-class enterprise, make first-class contribution, and achieve the unity of economic and social benefits. In response to the above objectives, we will actively promote the industry development and commit to community building and voluntary services.

## STAKEHOLDERS ENGAGEMENT

Stakeholders of the Group include customers, governments and regulatory agencies, investment institutions/shareholders/analysts, suppliers/partners, employees, academic/research institutions, industry associations/professional institutions, media, non-governmental institutions/non-profit organizations and local communities. We have established a good and efficient stakeholder communication mechanism to collect and respond to the demands of all parties in a normalized and targeted manner.



**Table 1 Stakeholder communication mechanism**

Stakeholder	Expectations for the Company	Communication channel
Customers	<ul style="list-style-type: none"> <li>• Provide cost-effective services and products</li> <li>• Improve product quality and service level</li> <li>• Product after-sales service and guarantee</li> <li>• Low carbon and environmental friendly products</li> </ul>	<ul style="list-style-type: none"> <li>• Customer satisfaction survey</li> <li>• Questionnaire survey</li> <li>• New product introduction meeting</li> <li>• Regular visits</li> </ul>
Governments and Regulatory agencies	<ul style="list-style-type: none"> <li>• Pay taxes according to law</li> <li>• Operation compliance</li> <li>• Compliance with laws and regulations</li> <li>• Support local development</li> <li>• Promote local employment</li> <li>• Protect local environment</li> </ul>	<ul style="list-style-type: none"> <li>• Daily mail and telephone communication</li> <li>• Work meeting and training</li> <li>• Unscheduled visits, supervision and inspection</li> </ul>
Investment institutions/ Shareholders/ Analysts	<ul style="list-style-type: none"> <li>• Open and transparent information</li> <li>• Business operation status</li> <li>• Strengthen risk control</li> <li>• Create economic value</li> </ul>	<ul style="list-style-type: none"> <li>• Paper version report (such as annual report and ESG report) posted by the Company</li> <li>• Annual general meeting</li> <li>• Performance conference</li> <li>• Announcement</li> <li>• Investor hotline and mailbox</li> <li>• Investor relations roadshow</li> </ul>
Suppliers/Business partners	<ul style="list-style-type: none"> <li>• Transparent and honest cooperation</li> <li>• Mutual benefit</li> <li>• Continuing operation</li> <li>• Fair trade</li> </ul>	<ul style="list-style-type: none"> <li>• Regular communication</li> <li>• Regular visits</li> <li>• Supplier training</li> <li>• Supplier audit</li> </ul>
Employees	<ul style="list-style-type: none"> <li>• Protect the rights of employees</li> <li>• Safe and healthy working environment</li> <li>• Good career development platform</li> <li>• Competitive salary package</li> <li>• Internal communication channels</li> </ul>	<ul style="list-style-type: none"> <li>• Direct communication</li> <li>• Employee mailbox</li> <li>• Employee satisfaction survey</li> <li>• Employee training</li> <li>• Annual meeting/Team building activities</li> </ul>
Academic/ Research institutions	<ul style="list-style-type: none"> <li>• Carry out research cooperation</li> <li>• Provide employment opportunities</li> <li>• Technical exchange</li> </ul>	<ul style="list-style-type: none"> <li>• Visit</li> <li>• Daily mail and telephone communication</li> </ul>
Trade associations/ Professional institutions	<ul style="list-style-type: none"> <li>• Promote industry development</li> <li>• Improve product quality</li> <li>• Corporate social responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>• Visit</li> <li>• Feature conference</li> <li>• Training</li> </ul>

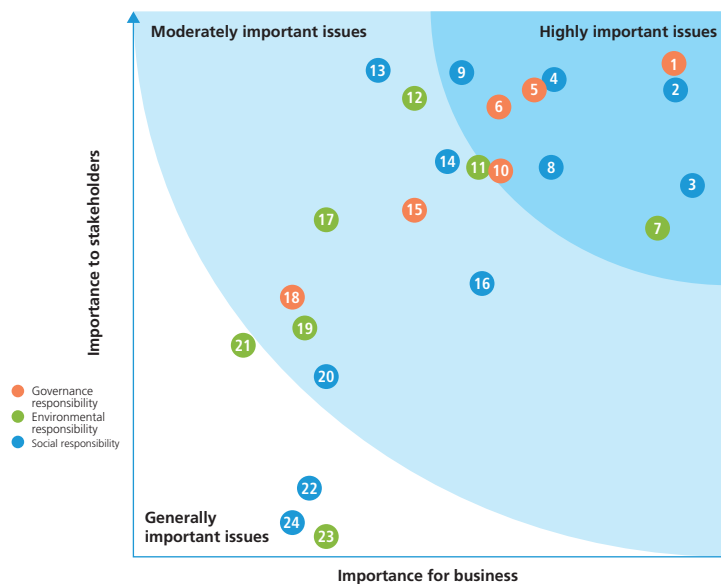




Stakeholder	Expectations for the Company	Communication channel
Media	<ul style="list-style-type: none"> <li>Services and products</li> <li>Future development trends</li> <li>Corporate social responsibilities</li> <li>Financial performance</li> </ul>	<ul style="list-style-type: none"> <li>Public reporting</li> <li>Interview related personnel</li> </ul>
Non-governmental institutions/ Non-profit organizations	<ul style="list-style-type: none"> <li>Support social welfare</li> <li>Perform social responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>Organize charity activities</li> <li>Feature conference</li> </ul>
Local communities	<ul style="list-style-type: none"> <li>Promote employment</li> <li>Enhance community value</li> <li>Promote local development</li> </ul>	<ul style="list-style-type: none"> <li>Charity activities</li> <li>Media public reporting</li> <li>Daily mail and telephone communication</li> </ul>

The Group has selected key issues for sustainable development from 7 main aspects including company management, internal and external expert analysis, multimedia information analysis, benchmarking research at home and abroad, social responsibility standard guidelines, supplier feedback and community opinion solicitation. In 2019, through executive interviews and online survey questionnaires, we fully understood the judgment of stakeholders on the importance of issues, and analyzed the importance of the sustainable development issues from two dimensions of corporate development and stakeholders, combining with the Company's focus on materiality content, and finally drew a materiality matrix for sustainable development issues. Among them, "Technological Innovation", "Customer Service and Satisfaction", "Protection of Employee Rights", "Product Quality and Safety", "Integrity and Honest Operation", "Intellectual Property Protection", "Energy Conservation and Consumption Reduction", "Employee Training and Development", "Employee Safety and Health" and "Compliant Operation and Risk Management" are the highly important issues, which would be fully elaborated in this report to respond to the concerns of stakeholders.

**Materiality matrix for sustainability issues**



**Figure 1 Materiality issue matrix**

### ESG issues of Sany International in 2019

Ranking	Importance	Issues	Category
1	★★★★★ Highly important	Technological innovation	Governance responsibility
2		Customer service and satisfaction	Social responsibility
3		Protection of employee rights	Social responsibility
4		Product quality and safety	Social responsibility
5		Integrity and honesty operation	Governance responsibility
6		Intellectual property protection	Governance responsibility
7		Energy conservation and consumption reduction	Environmental responsibility
8		Staff training and development	Social responsibility
9		Employee safety and health	Social responsibility
10		Compliance operation and risk management	Governance responsibility
11	★★★★ Moderately important	Water resource consumption and water saving	Environmental responsibility
12		Management of air pollutant emissions	Environmental responsibility
13		Guarantee customer privacy and information security	Social responsibility
14		Employee diversity and equal opportunities	Social responsibility
15		Promote industrial development	Governance responsibility
16		Employee communication and complain mechanism	Social responsibility
17		Waste management	Environmental responsibility
18		Corporate social responsibility management	Governance responsibility
19		Sewage treatment	Environmental responsibility
20		Supply chain management	Social responsibility
21	★★ Generally important	Climate change	Environmental responsibility
22		Local community communication	Social responsibility
23		Green office	Environmental responsibility
24		Community charity activities	Social responsibility



## 1 ENHANCING QUALITY

Adhering to the original concept of “Quality changes the world”, Sany International takes the mission of providing high-quality and reliable equipment and services, and always regards product quality and safety as the core of product responsibility. We adhere to technological innovation, continue to increase investment in scientific R&D and technological innovation, and strive to make progress and breakthroughs in manufacturing level, process innovation and intelligent digitalization. We actively respond to the 9<sup>th</sup> and 12<sup>th</sup> sustainable development goals of the United Nations, and strive to provide safe, high-quality and efficient products and services.



### 1.1 High-quality products and craftsmanship spirit

As a practitioner of “Quality changes the world”, Sany International keeps in mind the “Craftsmanship Spirit”, constantly polishes its products, and has a persistent insistence and pursuit of product excellence. We continue to deepen quality management and provide the society with a wealth of products such as mining equipment and logistics equipment.

#### 1.1.1 Provision of a wide range of products

In recent years, the supply-side reform of the coal industry has achieved remarkable results, fixed assets investment increased substantially and the coal industry accelerated its intelligent development. On the other hand, automated terminal has become the main development direction of the terminal in the future. The relevant equipment is upgraded and replaced towards automation, unmanned and motorization, and the demand for logistics equipment upgrade has also increased significantly. In order to meet the needs of the market, Sany International has seized the opportunities of the times and developed into a leading equipment manufacturer in the field of domestic mining equipment and logistics equipment.

- *Mining equipment manufacturing*

The mining equipment of Sany International mainly covers coal mining machinery products, non-coal mining machinery products and mining transport equipment. Coal mining machinery products include roadheaders (all types of soft rock, hard rock roadheaders and integrated excavation, bolting and self-protection machinery) and mining equipment (shearers, hydraulic supports, scraper conveyors, etc); non-coal mining machinery products include tunnel roadheader and mining machine; mining transport equipment include mechanical drive off-highway dump truck and electric drive off-highway dump truck and widebody vehicle and other relevant products.



As the first company in China that can provide integrated mining equipment, transportation equipment and a full set of solutions, the coal and rock tunneling machine, integrated drilling and anchoring equipment, combined coal mining units and mining transportation vehicles that we have vigorously promoted have fundamentally changed the mode of single-machine purchase of manufacturing equipment by Chinese coal enterprises, which has led the products in the industry to accelerate development towards the complete set, unmanned and intelligent direction.

#### Products overview – Mining equipment



widebody vehicles

roadheaders



integrated coal mining products

- Logistics equipment manufacturing

Sany International mainly covers technologically advanced port machinery complete equipment in the field of logistics equipment. We are a large-scale logistics equipment manufacturing enterprise that researches, develops, manufactures and sells port equipment and offshore heavy machinery, and is one of the domestic port machinery complete equipment suppliers with the largest tonnage, the most complete series and the most advanced technology. We provide products including container equipment such as front cranes, stacker cranes and shore gantry cranes, bulk materials such as grabs and overhead cranes, and general equipment such as heavy forklifts and telescopic forklifts.



## Products – Logistics equipment



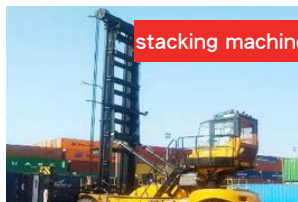
quayside crane



transtainers



gripper



stacking machines



front loaders

### 1.1.2 In-depth quality management

The Group strictly abides by the laws and regulations such as *the Product Quality Law of the People's Republic of China* and formulates internal management systems such as *the Quality Management System*. Sany Heavy Equipment and Sany Marine, being the subsidiaries of the Group, have been reviewed and certified by professional third-party companies, and their design and manufacturing of product equipment have met the requirements of the ISO 9001:2015 quality management system standard.



The Group has an extensive range of products aiming at the global market, with strict requirements on safety and reliability. Despite the wide variety of products and the different production processes, we strictly abide by the laws and regulations on product liability in the country or place where we are located, and strictly control all aspects of the entire value chain of product design, procurement, manufacturing, inspection, market and service, and through measures such as optimizing the training system, improving personnel qualification management, strengthening quality responsibility subjects, enhancing team construction and promoting production self/cross/special inspections, to ensure that products and services are fully compliant.

We have developed quality management system evaluation standards, covering 44 modules including product quality improvement, management review procedures, process standard management, and key process management. Every year, we formulate a quality improvement plan, set corresponding goals and measurement standards for quality data such as the pass rate and failure rate, and regularly track, supervise and manage the specific work items of the quality improvement plan, and have progress summary and abnormal explanations and adjustments. At the same time, we prepare annual inspection plans according to product categories, covering the whole process of incoming materials, blanking materials, cold work, welding, partial assembly, final assembly, commissioning and delivery. The technology department is required to formulate a self-inspection plan for key control points. The manufacturing department is supposed to maintain complete self-inspection records at the key control points. The quality assurance department needs to keep the patrol inspection and special inspection records corresponding to the self-inspection plan.

We have formulated management systems such as *Parts Access (Approval) Procedure* to implement strict management and control of new product parts, and retain detailed information such as sample size and performance test results. In addition, we conduct physical and chemical tests such as tensile, impact and chemical analysis on raw materials such as steel plates, and sample test reports are issued by third-party testing companies.

To pursue the goal of excellent quality system, we have established an operation standardization system based on engineering drawings, and a quality inspection system with non-conforming product control and corrective action control procedures as the core to prevent non-conforming products from flowing into the next manufacturing process. Our total quality management and preventive control measures, as well as automation technology and error prevention system, can effectively avoid the occurrence of non-conforming products.

We also strongly support research and investment in the field of product safety technology, and actively apply safety concepts and technologies with international advanced levels to raise the quality and safety performance of products to a higher level. In 2019, the Company improved product quality and safety performance through a series of measures such as column, jack and structural optimization design, robot crowdsourcing, mechanical processing process optimization, and formation of supplier alliance.





We also attach importance to strengthening the culture of construction quality. Through quality meetings, we create an atmosphere where all employees create quality projects, set off a quality revolution, and coordinately improve the quality management level. In addition, we continue to carry out quality special training in accordance with business needs through the combination of theoretical learning, academic exchanges and practical exercises to improve the overall quality of the Company's quality personnel.

We actively collect product quality suggestions from customers, and arrange customers and supervisors to follow up on quality management to promote product quality improvement. We have formulated a standardized and effective *Product Recall Management Procedure* to promptly investigate problematic products, eliminate product defects in an open, transparent and rigorous manner, and take corrective and preventive measures to minimize the harm or hidden dangers caused by products to customers.

In 2019, the Group did not have any product recalls due to product quality issues. The percentage of total products sold or shipped that had to be recovered due to safety and health reasons was 0.

## 1.2 Innovative technology for future development

Sany International continuously develops and improves the technological innovation system, carries out innovation strategy upgrade and business transformation, promotes the R&D of patent and industrialization of achievements, improves the maintenance and management of intellectual property rights, and brings long-term driving force for the sustainable development of the enterprise and the industry through innovation.

### 1.2.1 Adhering to technological innovation

Sany International regards technological R&D and product innovation as one of the most important competitive strengths, actively improves the enterprise's subjective initiative, adheres to technological innovation, and persists in taking the path of digital and intelligent transformation.

#### *Product technological innovation*

In 2019, Sany International invested a total of RMB380 million in R&D, accounting for 6.8% of sales revenue, which is at the international leading level.

We have formulated R&D and innovation strategies for "Smart Mines" and "Smart Ports" to accelerate the transformation of intelligent equipment and industrial upgrading. The Group and Sany Group Co., Ltd.\* (三一集团有限公司) ("Sany Group") established a joint venture, Sany Robot Technology Co., Ltd. (三一机器人科技有限公司), to accelerate the R&D of equipment with intelligent technologies such as sensory perception, analysis, autonomous decision and automatic control, thereby accelerating the R&D and application of our intelligent, unmanned and electrical technologies. We actively develop intelligent products, realize green, efficient, safe and intensive mining in the mine, realize a shift from labor-intensive to technology-intensive, realize intelligent fully mechanized mining surface and remote unmanned mining, and provide reliable, economical, safe and efficient automated yard integrated solutions for ports.

To create an atmosphere of innovation, the Group has formulated *the Patent Work Reward Measures*, which grants patent inventors, patent engineers and related patent workers annual patent work rewards. Our R&D team takes the core concept of “Safety, High efficiency, Reliability & Humanization”, and catches up with the benchmark enterprises as the design goal, and constantly exceeds the industry standards.

### Technological Innovation Highlights of Sany International in 2019

Intelligent technologies such as advanced detection, coal identification and fault diagnosis have been fully verified practically and highly recognized by customers.

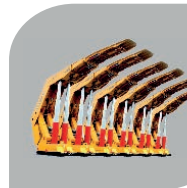


Mining equipment



Intelligent roadheader obtained breakthroughs in remote intelligent control technology, realizes over-the-horizon intelligent cutting, tunnel 3D molding, precise positioning with less labour.

Pure water hydraulic support system is optimized and upgraded with mature technology and the total cycle cost is more advantageous than the traditional support.



Electric widebody vehicles with excellent mobility reduced energy consumption by more than 70%, greatly reducing customer operating costs.

The 10K and 12K telescopic forklifts developed for the European and American markets have been highly recognized by customers.

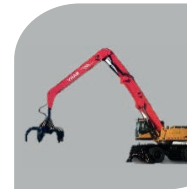


Logistic equipment



New products such as double-lift, large front-stretching distance, river port and other quayside crane were developed to achieve independent integration of electronic control systems and enhance product competitiveness.

A variety of grippers such as 50T electric and 40T electric tires were developed to fully meet the diversified needs of customers.



Completed the development of multiple spreaders such as single/double box hydraulic, electro-hydraulic, etc., with improved performance and reduced cost.



### *Digital upgrade*

We conform to the development trend of the industry, seize the window period of the combination of big data and the real economy, open up the flow of information and material object, establish the Sany International Digital Ecosystem, through the application of digital platforms such as Customer Relationship Management (CRM), integrated production and sales Supply Chain Management (SCM) and Product Lifecycle Management (PLM) in R&D, marketing, aftermarket, supply chain, finance and other business areas in order to comprehensively improve the capabilities of R&D innovation and collaboration, marketing management, supply chain management, business and financial integration, and data forecasting.

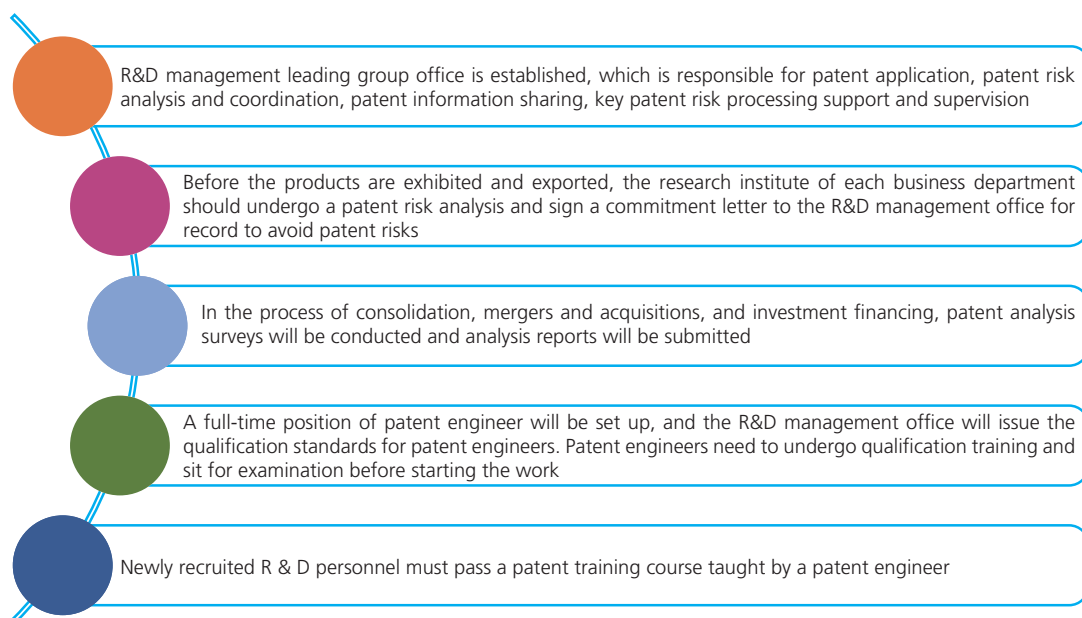
We have established an intelligent monitoring and data analysis platform, the Enterprise Command Center (ECC), to achieve the “On-site, Realistic and Present” remote monitoring through production equipment and intelligent monitoring networking, and has achieved total coverage of production area, increased the operating rate by 10%, increased the utilization rate by more than 50%, and reduced the defective rate by 14%.

In 2019, in order to solve the problems of high manual welding manufacturing cost and unstable welding quality, Sany International cooperated with professional companies to carry out welding robot projects, which quickly realized the improvement of welding automation rate, reduced manufacturing costs, and optimized the design structure. As of the end of the reporting period, a total of 27 welding robots were put into use in Sany International Shenyang Manufacturing base, and the overall welding automation rate of hydraulic supports increased from 0 to 40%.

### 1.2.2 Intellectual property rights protection

The Group fully understands that intellectual property rights are critical to the Company's sustainable business growth. Protecting intellectual property rights is a must choice for us to take the path towards an innovative enterprise and achieve leapfrog development, and is also a strong support for us to maintain our competitive advantage and achieve sustainable development.

Sany International strictly abides by relevant laws and regulations such as *the Patent Law of the People's Republic of China*, *the Intellectual Property Law of the People's Republic of China*, *the Law on Tort Liability of the People's Republic of China* and *the Regulations on the Management of Enterprise Intellectual Property Rights*. In order to standardize product patent management, protect inventions and creations, and avoid the risk of patent infringement, we have formulated *the R&D Patent Work and Management Regulations* to make clear requirements for personnel responsibilities and capabilities.



In addition, Sany International also submits international patent applications through the Patent Cooperation Treaty (PCT). Our overseas patents cover countries and regions such as Russia, Australia and South Africa.

In 2019, the Group is newly granted 50 patents, including 18 invention patents, 21 utility model patents, 2 design patents, and 9 copyrights. As of the end of the reporting period, the Group has accumulated 422 invention patents, 962 utility model patents, 83 design patents, and 39 copyrights.



## 2 RESPONSIBLE OPERATION

Sany International insists on operating in compliance with laws and regulations, strengthening honest and self-disciplined operations, improving internal control mechanisms and comprehensive risk management systems, so as to ensure the Company's orderly and stable operation. We always keep in mind the service philosophy of "All for customers". At the same time, we uphold the principle of fairness, justice and openness, and work together with all parties to achieve win-win results, to help our partners to achieve supply with responsibility. We actively respond to the 12<sup>th</sup> and 16<sup>th</sup> goals of sustainable development of the United Nations and strive to provide services that satisfy our customers based on compliant operations.

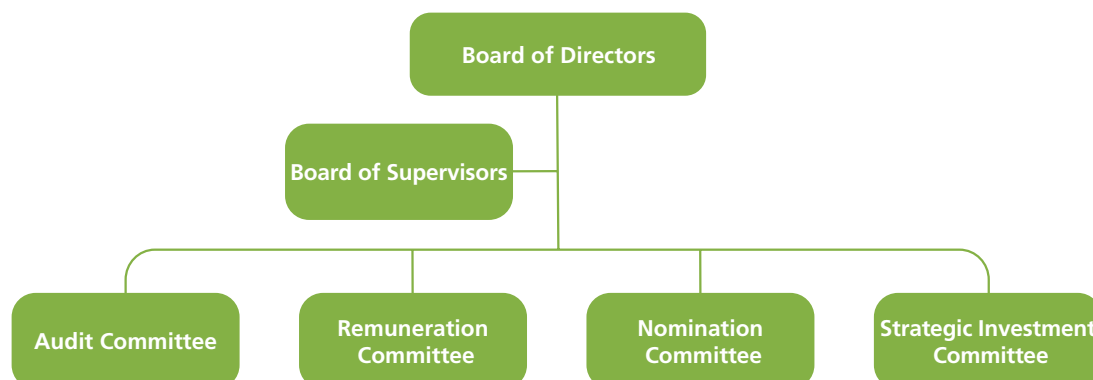


### 2.1 Integrity and compliant operation

Sany International has established a standardized corporate governance structure, continuously improved its risk management system, raised the awareness of all employees on anti-corruption and integrity, and adhered to legal and compliant operations to lay the foundation for the Group's comprehensive and sustainable development.

#### 2.1.1 Abiding by compliant operation

The Group strictly abides by the laws and regulations such as *the Company Law of the People's Republic of China*, *Securities Law of the People's Republic of China*, *the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited* and *Securities and Futures Ordinance*, promotes the standard operation of the general meeting, the Board of Directors and the Board of Supervisors in accordance with regulatory requirements, improves the system of corporate governance, enhances corporate governance and ensures corporate's compliant operation.





The Company's Board of Directors strictly abides by the principles of corporate governance and has adopted good corporate governance practices, focusing on areas such as internal control, fair disclosure and accountability to all shareholders to ensure the transparency of the Company's business. The Board of Directors reviews and improves governance practices from time to time. In 2019, the Group convened 1 general meeting, 25 meetings of the Board of Directors, 6 meetings of the Board of Supervisors, 3 meetings of the Audit Committee, 2 meetings of the Remuneration Committee and 2 meetings of the Nomination Committee.

In order to comprehensively strengthen risk management and control and ensure compliant operation, the Group has established procedures for identifying, evaluating and managing major risks, established and improved internal control systems and working mechanisms, improved the efficiency of internal control, and actively accepted supervision from all parties, in order to provide a strong guarantee for the continuous creation of the value for the Company. In 2019, with the assistance of the risk management and internal audit departments, the Company's Board of Directors and Audit Committee reviewed the effectiveness of the Company's risk management and internal control systems, and no major issues were found.

#### 2.1.2 Adhering to integrity

In order to establish a fair, honest and efficient working environment, the Group strictly abides by the laws and regulations of *the Criminal Law of the People's Republic of China*, *the Anti-Unfair Competition Law of the People's Republic of China* and *the Interim Provisions on Prohibition of Commercial Bribery*, and implements a series of measures within the Company to establish a good atmosphere and ensure legal and compliant operation.

**Improve the management system.** The Group has formulated and strictly implemented internal systems such as *the Business Personnel Behavior Management Regulations*, requiring all employees to perform their duties in good faith and self-discipline, and to refrain from any activities related to bribery, extortion, fraud and money laundering. At the same time, the Group has formulated corresponding internal procedures for assessment, consultation, investigation and punishment to prevent any illegal acts from occurring.

**Improve management functions.** The responsibilities of the Company's Board of Supervisors, finance department and human resources department are clear, whose division and cooperation have built up the Company's "sword" and three lines of risk defense for anti-fraud. They are responsible for investigating any suspicious or illegal behaviors related to bribery, extortion, fraud and money laundering to ensure the good operation of the Group.

**Establish a monitoring mechanism.** The Group has set up a suggestion box and a hotline so that employees or external personnel can report any improper behavior to us in a timely manner. At the same time, we set up a confidentiality mechanism to protect whistleblowers, who can report and provide evidence to department heads and management orally or by letter in an anonymous manner. The Group guarantees that the whistleblower's personal information and all the materials provided by the whistleblower will be kept strictly confidential, and makes every effort to protect the whistleblower's legal rights from infringement.



**Join the Anti-Fraud Alliance.** Under the guidance of Sany Group, Sany International has joined the Anti-Fraud Alliance of Chinese Enterprises since 2015. It has always adhered to the conventions of the alliance, avoided any frauds, and jointly created a clean and good business environment to promote the healthy development of the industry.

During the reporting period, the Group had no major litigation cases due to bribery, extortion, fraud and money laundering and other frauds. The number of corruption litigation cases filed or concluded was 0.

## 2.2 Dedicated service for customer satisfaction

Sany International adheres to the concept of “Create customer value”, so that everything is customer-centric, customer demand being our centre of work and customer satisfaction being our guiding principle. We abide by customer commitments, protect customer privacy, and win customer trust with sincere service.

### 2.2.1 Customer service priority

With the vision of “Creating maximum value for customers”, Sany International strictly abides by the laws and regulations such as *the Consumer Rights Protection Law of the People’s Republic of China*, insists on providing the best solutions for customers from their perspective and taking advantage of smart services for speedy and convenient response to customer needs, resolutely eliminates misleading advertising, and protects customer rights.

In order to ensure the quality of products and services, we fully consider customer needs in the product design process; perform preventive maintenance and repairs to avoid the occurrence of product failures; and continuously conduct global tour service activities, customer training and on-site inspections at the same time. We have 26 service branches, 43 offices, 95 parts warehouses, more than 20,000 kinds of component inventory, more than 310 service engineers and 210 service cars with complete tools and accessories in China, and we provide service within a radius of 150 kilometers for our mining equipment, and a radius of 200 kilometers for our logistics equipment so that we can quickly respond to customer service needs.

In order to allow customers to call for service with one simple click, we have established the “Sany Customer Cloud Platform”, which automatically matches the most suitable service engineer to realize the visualization of the entire service process. The cloud platform seamlessly connects upstream and downstream equipment agents, users, repairers, operators and other industries, and builds a fully digital, networked and intelligent Zhihui Ecological Cloud to provide customers and partners with performance management solutions covering the entire life cycle of equipment.

In addition, to ensure that the correct product information is provided to customers, all the Company’s advertising plans must be reviewed by our legal consultant and signed by the executive vice president before authorizing the media to publish, in order to prevent contents from being untrue and exaggerated. In addition, we formulated *the Administrative Measures on Marketing Competition without Exaggeration and Degrading*, which strictly requires that all business units, subsidiaries, agents to strictly observe the bottom line of fair competition in market competition. Unfair competition is strictly prohibited to protect the legitimate rights and interests of customers. Individuals and units violating regulations will face administrative penalties ranging from economic punishment to demotion/suspension or even dismissal, and will be hand over to judicial bodies if the violation constitutes crime.

## Case study

## “Wisdom in Heart for Win-win Future” – our value serves the world

To thank customers for their long-term trust and support, in 2019, Sany International held a value-serving global activity with the theme of “Wisdom in Heart for Win-win Future”. Our frontline service staff, with their professional skills and humility, visited nearly 200 customers, inspected 1,887 equipment, organized 101 training sessions (1,656 participants) and 89 seminars (1,443 participants), while the coverage rate of registered value equipment from our intelligent housekeeper E.Vision is 100%. We are customer-centric and serve our customers sincerely, and have been highly recognized by our customers. We have received recognition letters and pennants from many customers, and comprehensively improved our customers’ recognition of Sany brand and service satisfaction.





### 2.2.2 Customer privacy protection

Sany International strictly abides by law and regulations such as *the Law on the Protection of Consumer Rights of the People's Republic of China* and *the Personal Data (Privacy) Ordinance and the Consumer Council Ordinance* in the Hong Kong Special Administrative Region to ensure that the privacy and rights of customers are fully protected. All customer information of the Company is strictly confidential, and only authorized personnel can access restricted information. At the same time, the Company's *Business Personnel Behavior Management Regulations* requires relevant staff to be responsible for keeping business secrets, and it is strictly forbidden to provide customer personal information to third parties without customer authorization. We grant clients the right to review and modify their data and reserve their right to exit any direct marketing activities.

For internal information security management of the Company, in accordance with internal systems such as *the Information Security Management System* and *the Employee Information Security Management Regulations*, we take necessary precautions during the information management and transfer process to prevent the leakage of confidential information and control information security. We regularly inspect the documents sent by mail and will notify and evaluate the person in charge if any confidential document is leaked. All employees must participate in information security training activities and examinations as required. The Company will punish those who miss or fail the exams, as well as those who have incurred an information security incident.

During the reporting period, the Group did not have any accident customer privacy infringement and customer data leakage.

### 2.2.3 Win customer satisfaction

The Group has established a comprehensive customer satisfaction survey mechanism. It conducts satisfaction surveys with value customers via SMS and WeChat. Customers can make online evaluations of Sany products and after-sales services. Customer satisfaction questionnaires are issued monthly, and no questionnaire will be sent to customers who have responded within half a year. The customer evaluation method adopts five levels of Likert scale, of which 10 points are very satisfied, 8 points satisfied, 5 points neutral, 3 points dissatisfied and 1 point very dissatisfied. The opinions and suggestions put forward by the customers are all implemented and responded to in accordance with the process standards in *the Guidance Documents on the Handling of Follow-up Work on Customer Satisfaction Investigations*. In 2019, we sent out a total of 4,042 questionnaires, with 1,380 customer responses, representing an average response rate of 34%, and our customer service satisfaction score was 97 points, exceeding the target score of 95 points.

To effectively handle customer complaints, the Group has formulated *the Customer Complaint Management Rules*. Customers can make complaints through various channels such as telephone, SMS, email, customer cloud, official website and WeChat. The complaint handling process is circulated online by the Business Process Management (BPM) system. The service staff spots the complaint reason within 1 hour and responds with handling plan within 4 hours. After the complaint has been dealt with, the Company requires the receiver to return to the customer and report the issue.

During the reporting period, the Group received a total of 4 complaints, including 1 for marketing and 3 for services. No complaint for product quality was received. All complaints have been dealt with in time and were held accountable.

### 2.3 Responsible suppliers are our partners

A stable supply chain is prerequisite for the Group to maintain normal operations. In order to further ensure the stability of the supply chain system, standardize cooperation with suppliers, and ensure that supplier quality, cost, delivery, service, environment, and social responsibility meet the requirements of the Group, the Group has formulated internal systems such as *the Global Supplier Portal Management Regulations*, *the Production Suppliers' Full Lifecycle Management System*, *the Production Suppliers Management System* and *the Production Suppliers Access Process* in accordance with *the Company Law of the People's Republic of China*, *the Contract Law of the People's Republic of China* and *the E-commerce Law of the People's Republic of China*, and implemented supplier selection procedures and standards, in order to select suppliers in a fair, just and open manner and conduct supplier management.

#### Supplier classification

The Group helps and nurtures suppliers through activities such as performance evaluation, inspection, management movement, training and relationship research, and establishes a long-term cooperative relationship with them.

Suppliers by channel



Suppliers by product/service

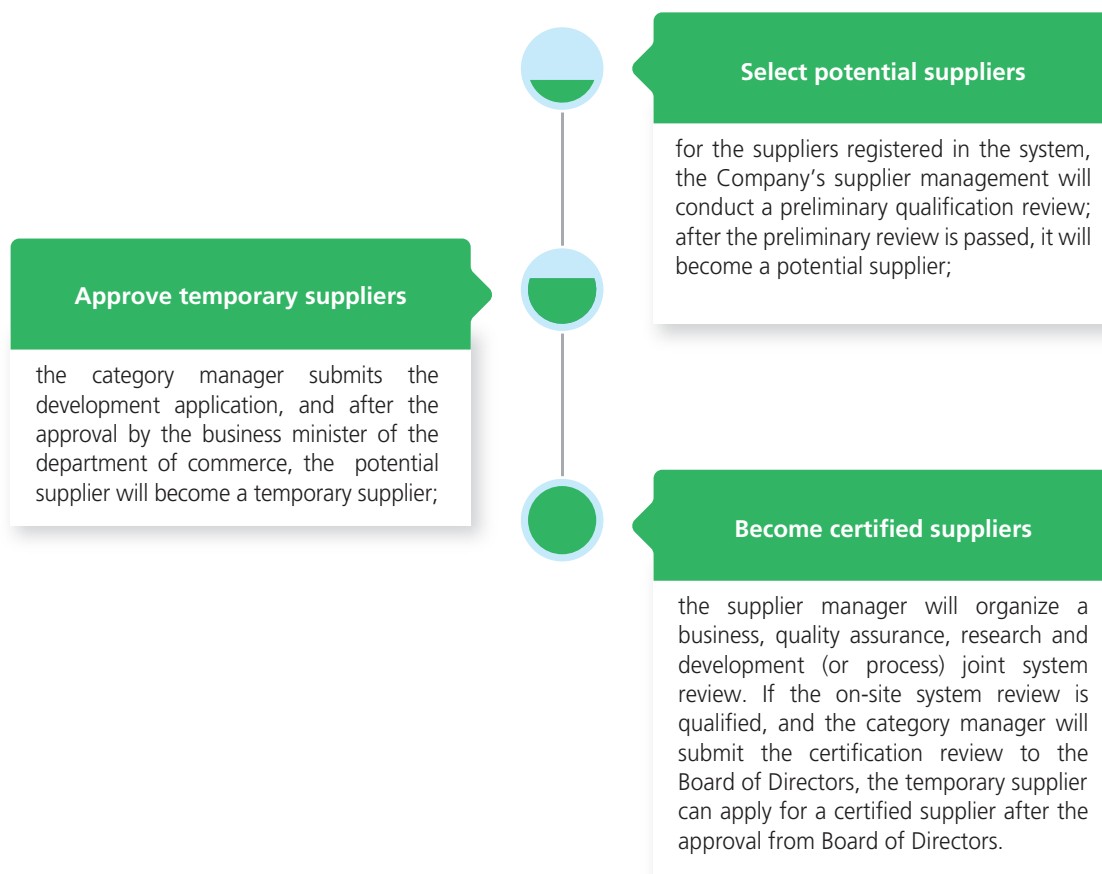






### Supplier Management

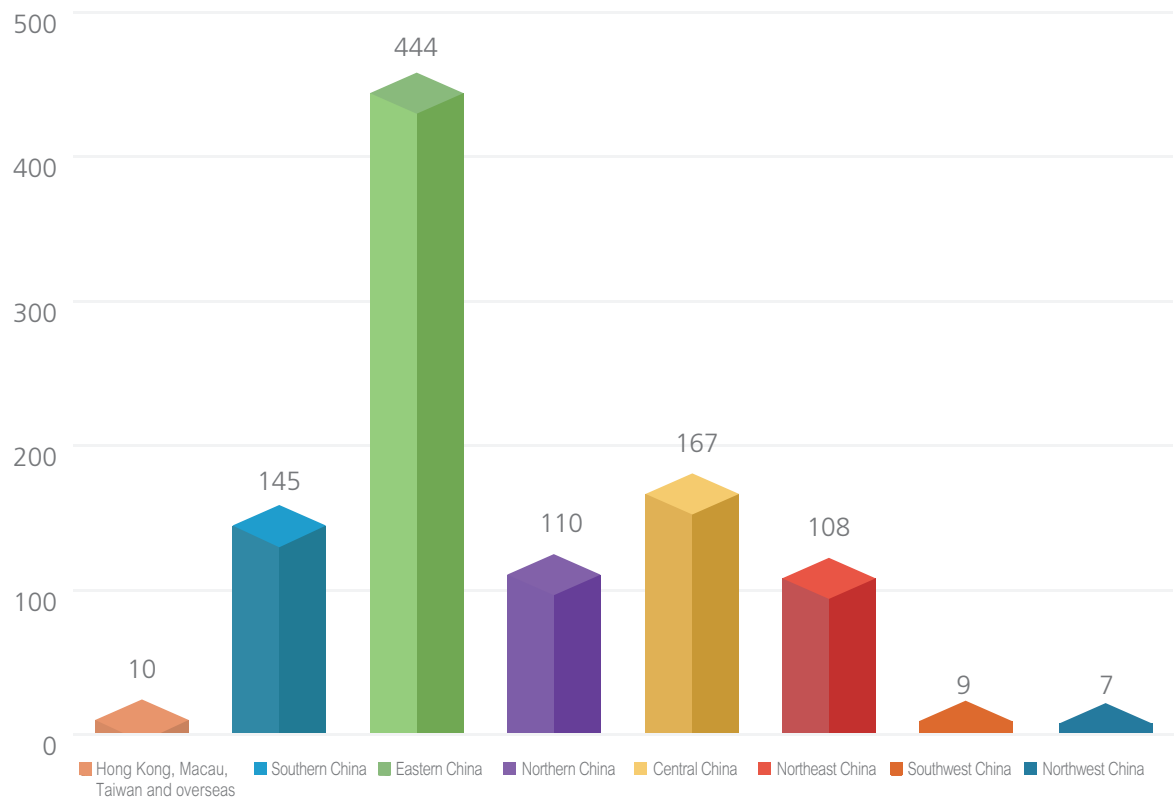
The Group implements online supplier management through the integration of information systems such as Good Supply Practice (GSP). We require merchants who are willing to cooperate with the Company to upload and update relevant information and qualification files (including business license, tax registration certificate, organization code certificate, mandatory product certification, quality, environment and occupational health and other certificates) on the system platform. We advocate survival of the fittest and fair competition. Through multi-dimensional evaluation and assessment of the qualification, capability, equipment, operations, and certification systems of registered merchants, we conduct supplier development certification and management according to the following process:



For new suppliers, the Company's department of commerce will organize a GSP online operation guide training, and the quality assurance department will organize personnel to go to the supplier's site to guide the quality requirements and standards for smooth cooperation. For certified suppliers, in the process of cooperation, the Company's department of commerce and department of quality assurance will organize each supplier's docking positions to perform supplier performance evaluation and inspect. For the suppliers that failed in the evaluation, the department of commerce will organize and provide training and help rectification for them; those who seriously violated the cooperation principle will be blacklisted.

During the reporting period, the Group had a total of 990 qualified suppliers in Mainland China and a total of 10 suppliers in overseas and Hong Kong, Macau and Taiwan regions.

Number of suppliers by region (unit: number)





### 3 CULTIVATING TALENTS

The success of Sany International depends on the talents and efforts of employees. Through diversified and humanized management, the Group has established a close relationship of mutual trust and support with employees, creating a positive corporate culture and a safe and healthy working environment for employees. We actively abide by the 3<sup>rd</sup>, 5<sup>th</sup> and 8<sup>th</sup> goals of sustainable development of the United Nations, improve our own employment system, commit to cultivating first-class teams, and strive to realize the corporate vision of “Cultivating first-class talents”.



#### 3.1 Equality, diversity and inclusion

Sany International is committed to creating a fair, respectful and diversified working environment, strictly abide by international labor standards and related national labor laws and regulations, maintain and practice fair and just employment regulations, and respect and protect employees' rights and interests.

##### 3.1.1 Recruitment of outstanding talents

The Group strictly abides by *the Labor Law of the People's Republic of China*, *the Contract Law of the People's Republic of China* and *the Regulations on the Prohibition of the Use of Child Labor*, and has formulated *the Recruitment Management System* to clarify recruitment responsibilities, standardize employment standards and procedures, and strictly prohibits employment of child labor. The Company's human resources department is responsible for recruitment procedures such as job posting and recruitment, initial interview, and coordinating the employment department for professional interviews, final interview, and background investigation. At the same time, the Group strictly prohibits any unfair or unreasonable dismissal. Any termination of employment contract must be based on reasonable and lawful grounds.

Sany International strictly prohibits all kinds of discriminatory behaviors and regulations to ensure a fair and equal employment environment. The Group respects every employee and does not allow any judgment during the recruitment, training, KPIs assessment, promotion and review procedures regarding their race, religion, colour, gender, nationality, age, disability and any other factors. We continue to follow the latest national and regional labor laws and regulations, conduct risk analysis on the Company's labor situation, adjust labor policies in a timely manner, and prohibit forced labor.

The Group continuously optimizes and perfects its recruitment system by replenishing talents through various channels such as internal recruitment, open recruitment and campus recruitment. The Group supports local employment and campus recruitment. In 2019, we recruited more than 200 persons, most of whom are from the local city, so we made big contribution to solve the local employment problem. At the same time, according to internal systems such as *the Joint School Management System*, *the Recruitment Channel Optimization Management Method* and *the Recruitment Channel Optimization Management Process*, we cooperate with colleges and universities to conduct campus recruitment job fairs, and introduce new students in batches every year.



Strictly implement the recruitment process, information review, and resolutely prohibit child labor and other illegal behaviour



Improve the employment management system, prohibit discrimination and forced employment

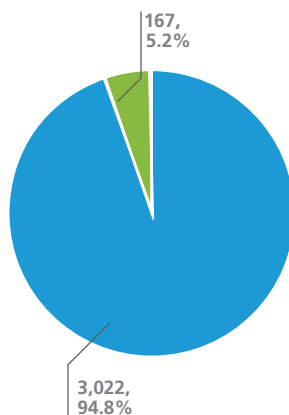


Improve the supervision system, establish complaint channels for employees, deal with violations of laws and regulations, no tolerance for violations of laws and regulations once discovered

As of the end of the reporting period, the total number of employees recruited by the Group worldwide was 3,189, including 3,102 in Mainland China and 87 overseas and in Hong Kong, Macau, and Taiwan, with 3,022 male employees and 167 female employees. The overall turnover rate was 18.2%, in which the turnover rate for employees in Mainland China was 18.5% while that for overseas, Hong Kong, Macau, and Taiwan employees was 3.6%. The turnover rate for male employees was 18.2% while that for female employees was 18.3%. The distribution of all employees according to age, gender, and function is illustrated below.

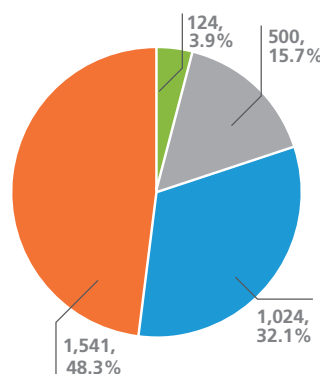
Total number of employees by gender in 2019  
(unit: person)

Male Female



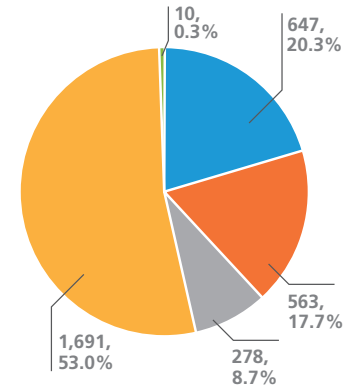
Total number of employees by age in 2019  
(unit: person)

30 and below 31-40  
41-50 Over 50



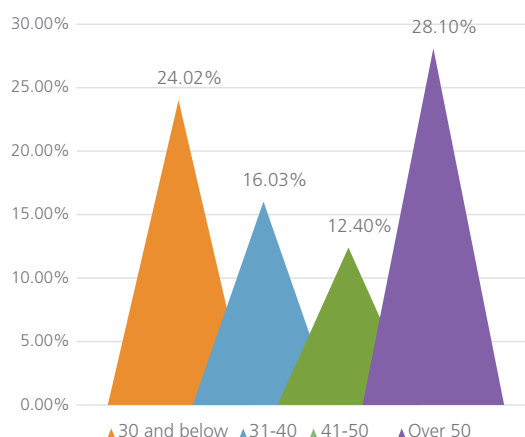
Total number of employees by employee type in 2019  
(unit: person)

Marketing services R&D technology  
Operation management Manufacturing  
Others





Employee turnover rate by age in 2019  
(unit: %)



### 3.1.2 Preferential treatment of remunerations and benefits

Sany International has formulated internal regulations such as *the Employee Welfare Management Regulations*, *the Paid Annual Leave Management Process*, *the Striver Management Process* and *the Reward and Penalty Management Process* to ensure the rationality and fairness of the Company's remuneration and welfare system. In accordance with *the Performance Management Process* and *the Performance Management System*, we implement a mechanism that links performance and remuneration so that employee income is linked to company performance and individual performance. We actively explore diversified salary incentive mechanisms, strive to provide employees with more competitive remunerations and benefits, and increase employees' sense of mission, accomplishment and belonging.

Share option scheme and restricted share award scheme were adopted so that outstanding employees may be awarded with shares of the Company to share the growth of the Company.

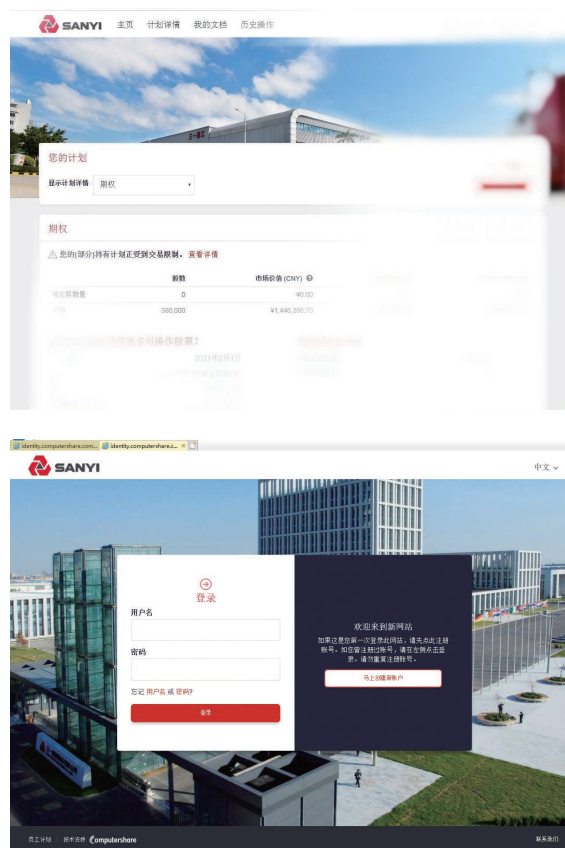
In an effort to create a comprehensive welfare protection system, we provide employees in mainland China with five insurances and a housing provident fund, employees in Hong Kong, China with medical insurance, mandatory provident fund and year-end bonuses, interns with employer liability insurance, foreign experts with foreign expert health insurance, and employees going abroad for business with overseas personnel accident insurance. We also provide employees with a variety of benefits including housing benefits, holiday benefits in-kind, birthday benefits, clothing benefits, heatstroke and cooling benefits, catering benefits, transportation benefits, special paid vacations, health checkups, and schooling for children of employees.



## Case study

## Sany International Share Option Scheme and Share Award Scheme

Sany International has adopted the share option scheme on 16 February 2013 and the restricted share award scheme on 3 December 2019. Pursuant to the share option scheme, 151,700,000 options in aggregate were granted to 183 employees on 15 December 2017, 29 December 2017 and 14 November 2018, and 59,737,500 options were exercised during 2019.





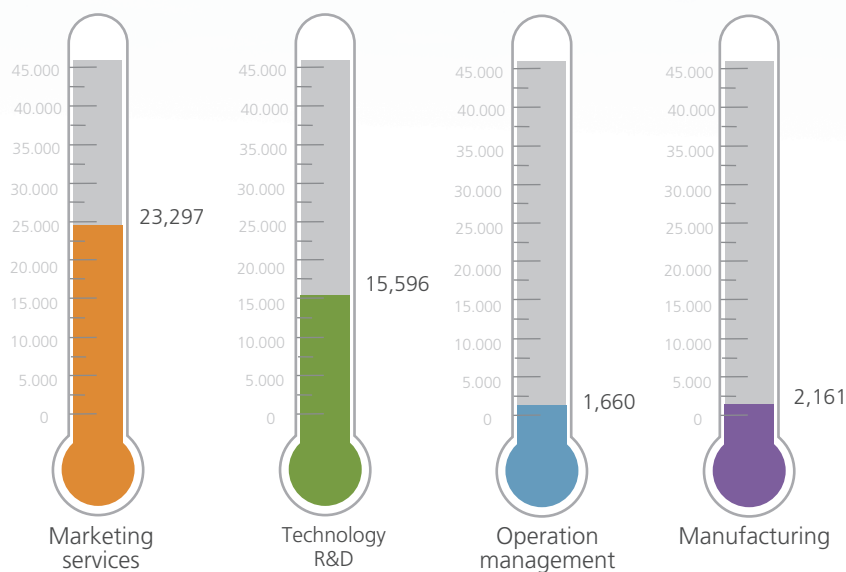
### 3.2 Talent training and growth

Sany International regards employees as partners for mutual growth and is committed to improving the Company's internal training programs and promotion channels, creating opportunities for employees, and helping employees achieve their self-worth.

#### 3.2.1 Comprehensive staff training

Sany International attaches great importance to the cultivation of employees and combines the Company's development strategy and business objectives to formulate training systems such as *the Training Management Process*, *the Training Management System* and *the Talent Development Management System* to implement the Company's talent training program to promote the common development between employees and the Company. In 2019, the total number of trained employees was 42,714.

Trainings of employees in 2019 by types of employees  
(unit: persons)



### Comprehensive training system

We respect the development needs of employees, and each department determines the annual training goals of employees in accordance with *the Training Demand Analysis and Management Methods* and *the Training Demand Analysis and Management Process*. We provide employees with ample training resources, including professional training and general training. Courses of different systems can be studied via the Company's SHR system. At the same time, the system can count the employee's learning content and learning duration, so that the department can understand the employee's learning situation.

2019 training system for Sany Marine





#### *Implementation of training management*

For newly recruited employees, the Group has formulated regulations such as *the Management Process for New Employees*, *the Management Process for Joining the Company* and *the Management Measures for Joining the Company* to ensure that new employees can receive comprehensive orientation training to help them quickly integrate into the new family. For experienced staff, in accordance with *the Credit System Training Management System*, each employee must obtain certain credits in elective and compulsory courses.

To ensure the training effect, according to *the Training Effectiveness Assessment Management Method* and *the Training Effectiveness Assessment Management Process*, after the training is completed, we communicate with the training staff in a timely manner and obtain the employee's feedback and suggestions on the training through various methods such as sample interviews in order to improve the Company's training mechanism and clarify the future direction of improvement.

In addition, we conduct performance appraisals on the lecturers in accordance with management methods such as *the Lecturer Title Evaluation Management Method*, *the Lecturer Title Evaluation Management Process*, *the Excellent Lecturer Selection Management Method* and *the Excellent Lecturer Evaluation Management Process*, and monitor the lecturers to complete training tasks in a better way.

#### *Utilization of external resources*

In terms of hiring external lecturers, we strictly follow *the Lecturer Management Measures* and *the Lecturer Management Process*, and appoint a special person in charge to develop training plans with the hired senior lecturers, and require the lecturers to abide by *the Tutorial System Management Measures*. At the same time, we select excellent employees to go out for further education in accordance with *the Management Methods for Sending Out Excellent Employees for Education* and *the Management Process for Sending Out Excellent Employees for Education*, and regularly carry out cooperation with external high-quality educational resources to further accelerate talent cultivation.

#### *3.2.2 Diverse promotion channels*

To strengthen the development and training of talents, the Group sets up a multi-dimensional and diversified development path. According to the principle of matching employees' personal development with their job capabilities, it provides employees with professional, technical, and management development channels, and is committed to providing a broad platform for the growth of employees.



We have established a series of customized talent training and selection including “Potential Talent”, “Elite Training Camp”, “Young Eagle Plan” and “Reserve Echelon Cadre” to help employees achieve rapid growth, thereby creating a diversified and high-quality talent echelon. Among them, the “Young Eagle Program” is for young students who are competing within the Company. It is the most effective way for middle and lower level employees to step into the management. Intentional young employees can first sign up to join the training class of the “Young Eagle Plan” for full time learning. We select candidates based on training achievements and other factors, and then conduct a new round of interviews. Once the candidates are selected, they will be directly appointed to the corresponding leader positions, or will be promoted to one level higher than the original position. Through the selection of young and promising talents to enter the management team, we can inject new vitality into the development of Sany International, and realize the win-win development of employees and the enterprise.

### **3.3 Health care and safety security**

Sany International takes “Safety First” as its operating principle, continuously improves work safety, process safety and environmental safety, guarantees production safety, guards employees’ health, creates a safety culture throughout the Company, and minimizes safety risks.

#### *3.3.1 Production safety guarantee*

The Group strictly abides by the requirements of the laws and regulations such as *the Law on Safety in Production of the People’s Republic of China*, upholds the belief of “Safety first, Prevention first & Comprehensive governance”, attaches great importance to safety production management, continuously improves the safety production management system, and implements various measures of safety production.

#### *Safe management system construction*

The Group established the HSE (Occupational Health, Safety, and Environment) management department, which is responsible for overall planning, coordination and guidance of the Group’s production safety, including the formulation of annual HSE goals and management plans in accordance with *the Safe Production Responsibility System*, research on the Group’s HSE issues and perform major deployment. In 2019, both Sany Heavy Equipment and Sany Marine, subsidiaries of the Group, passed the certification of OHSAS18001:2007 Occupational Health and Safety Management System.



### Safe production risk control

In order to control safety risks and ensure the safety of operations, the Company regularly checks for hidden safety hazards in various areas according to *the Hazard Identification and Risk Assessment and Control Procedures*. According to the requirements, we select the hazard evaluation method (scoring evaluation method), Job Hazard Analysis (JHA) method and Safety Checklist Analysis (SCL) as the hazard identification methods. Hazard identification and risk assessment control procedures are coordinated by the Company's business departments, environmental safety management departments and lean quality headquarters. Each business department is responsible for raising risk factor identification requirements, and a team is established for the identification, evaluation and verification; each environmental safety management department plans, integrates, grades and identifies risks, and formulates measures; lean quality headquarters is responsible for approving, filing, and monitoring major accident hazards, progressing from the hazard identification stage to the risk assessment stage.

At the same time, we conduct a safety review of all production equipment, including checking whether the equipment meets the requirements of relevant national standards, whether there are safety protection measures, and whether there are equipment safety operating procedures. According to *the Equipment Installation and Acceptance Management System*, the equipment must have safety verification as required before entering the field; during equipment installation and acceptance, HSE personnel is responsible for acceptance of safety and environmental requirements raised by the equipment project. In the process of using the equipment, a regular inspection by the commissioner is arranged, and mechanics are required to perform preventive maintenance regularly to reduce the safety risk of the equipment.

In 2019, we also actively carried out safety risk investigation and treatment activities in accordance with *the Safety Inspection System*, focusing on inspecting the work site of each plant, fire protection in the office area and electricity safety, etc. During the inspection process, the inspection team found more than 30 different safety problems but no major safety hazards. Since then, departments have carefully analyzed the problems, actively implemented rectification, and effectively prevented the occurrence of safety accidents.

In addition, in order to ensure the safety of the contractor's construction and production, avoid and reduce accidents as much as possible, we have formulated *the Contractor Safety Management System* to strictly supervise the contractor's qualification preview, operation supervision and safety measures during operation.

#### *Creating an atmosphere of safety culture*

The Group carries out "Safety Month" activity every year, strengthens safety education, raises awareness of safety in production, and is committed to building a "Safe Sany". In order to stimulate the enthusiasm of the majority of employees to participate in safety production, the Company also launches a rationalized proposal collection activity of safety production called "I offer a suggestion for safety".

In 2019, the Company organized two safety knowledge contests, and more than 1,000 people participated in safety knowledge contests activities, which enhanced the safety awareness of employees; two fire drills were organized, including emergency evacuation drills in the R&D building and on-site fire disposal drills, which strengthened the employees' awareness of risk prevention and emergency response capabilities, and also further improved the Company's emergency rescue level.

During the reporting period, the Group did not have any major work-related injuries or deaths due to work. The number of employees who died due to work was 0, and the number of work-related injuries was 23, and the total number of days lost due to work-related injuries was 2,648.

#### **Case study**

#### **Safety production fire drill**

On 27 December 2019, Sany International Shenyang Production Base organized a fire evacuation drill for the production plant. During the drill, personnel evacuation, safety rescue, and fire source extinguishment were conducted. Through the exercise, the employees' emergency response ability has been improved, and the employees also learned and grasped how to correctly use fire fighting equipment.





### 3.3.2 Focusing on employee health

We always put the health and safety of employees in an important position in the operation process, and strive to reduce the operational risks of the enterprise and protect the safety of employees. The Group strictly abides by relevant laws and regulations such as *the Occupational Disease Prevention Law of the People's Republic of China* and *the Work Injury Insurance Regulations*, and has formulated internal systems such as *the Occupational Health Management System*, *the Occupational Disease Hazard Prevention Management System*, *the Occupational Health Monitoring and Archives Management System*, in order to protect the physical, mental and occupational health of employees.

The Group actively reduces the occupational hazard factors such as onsite dust, noise and vibration or the chance of exposure to hazards through technological innovation, equipment upgrades and process substitution in order to improve the working environment of employees. At the same time, in strict accordance with relevant national and local regulations, we provide employees with personal protective equipment that meets safety and health standards, grant special job allowances, establish and keep employee occupational health records, regularly carry out occupational health checks, timely adjust job positions, and post warnings and publicity signs and take other multiple measures to minimize the occurrence of occupational diseases and ensure a healthy and safe working environment.

During the reporting period, the Group had no occupational disease cases.

## 4 PROTECTING ENVIRONMENT

Sany International takes the “Green Development” as its core principal to practice clean production, and adheres to the green development path of low input, low consumption, low emissions and high efficiency. We actively respond to the 6<sup>th</sup>, 7<sup>th</sup>, 13<sup>th</sup> and 14<sup>th</sup> goals of sustainable development of the United Nations and integrate environmental protection into business development and production processes to contribute to environmental protection and resource conservation.



### 4.1 Clean technology and green products

The Group introduces energy conservation, green environmental protection, resources recycling and other concepts into its own products and business development, actively promotes clean and environmentally friendly technologies, develops and produces green products, and strives to achieve a harmonious coexistence of economic growth and the ecological environment.

#### *Green products development*

Coal mining companies in China consume approximately 3 to 4 million tons of emulsion each year. In the past ten years, tens of millions of tons of waste emulsion have been discharged directly into coal mines, causing serious permanent large-scale water pollution. Starting from environmental protection needs, Sany International organized 4 research groups, and spent 3 months visiting more than 120 mines and environmental protection departments, interviewing 350 persons and conducting detailed research on emulsion discharge and water pollution across the country.

According to the investigation, Sany International R&D personnel innovatively proposed to use pure water instead of emulsion as the hydraulic medium as an attempt to solve the problem of underground mining pollution. Through in-depth research on pure water hydraulic technology, the Company's research and development team has developed sealing components and new materials suitable for pure water transmission. It has undergone 30,000 loading tests and 40,000 endurance tests under rated pressure. Pure water hydraulic technology was tested on the hydraulic support, and its successful test has filled the gap in the use of pure water medium for hydraulic supports in fully mechanized mining face domestically and abroad.

This green and environmentally-friendly product not only reduced impact to ecosystem from coal mining, achieved zero consumption of emulsion and zero pollution to underground water resources, but also reduced coal mining costs, controlled the failure rate of spare parts, extended the useful lives of hydraulic supports and enhanced production efficiency.





#### Advantages of pure water hydraulic support:

- Green and environmental protection: tap water, groundwater and mine water can be used as water sources to produce pure water. Pure water replaces emulsion as working medium, with zero pollution discharge and no ecological impact on underground water and soil.
- Low operating cost: the cost of ultra-pure water production is low, accounting for approximately 10% to 15% of the cost of preparation liquid for traditional emulsion, and the emulsion also is required to be manually tested, replaced, proportioned and recycled in a regular manner.
- Low failure rate: the pure water medium is extremely clean and non-corrosive; the hydraulic parts are in good working condition; the failure rate of column, jack, valves and seals is low, and the maintenance work and the consumption of spare parts are reduced.



In 2019, Sany International's automated yard and electrification strategy will be comprehensively developed to provide customers with customized, reliable, economical, safe and efficient automated yard integrated solutions. New electric products, such as electric stacking machine, electric steel and material grippers, second generation electric truck and unmanned electric truck, have been put into use in mainstream ports such as Qingdao Port and Xiamen Port to help the construction of green ports.

#### Case study

#### Pure electric port tractor is put into operation in Xiamen Port

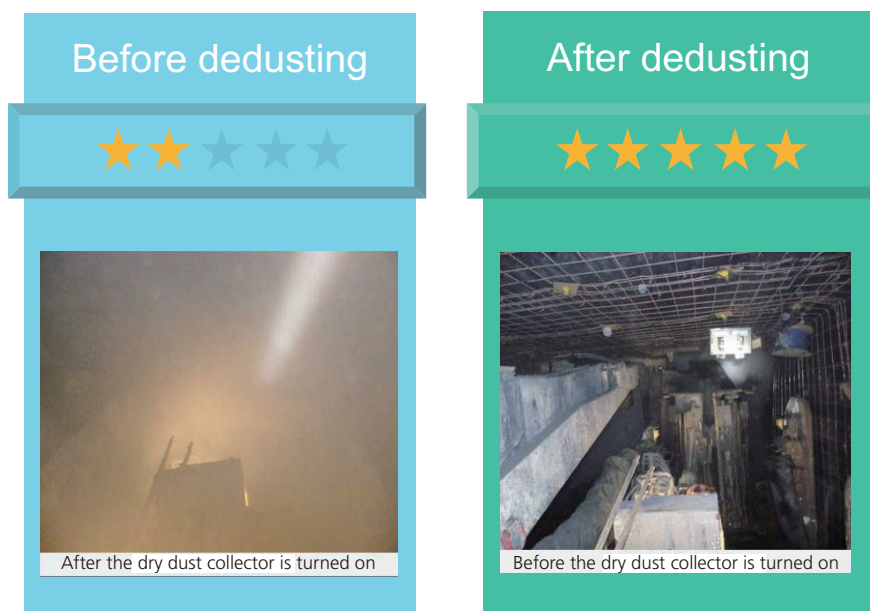
Based on rich port equipment production experience and excellent technical level, Sany International launched pure electric tractor, where the safety performance, load capacity, power device, and endurance are greatly improved compared with traditional fuel vehicles. In 2019, Sany Marine and Xiamen Port Holding Group Co., Ltd. will adopt the use of new energy tractors, focusing on green energy saving, digitization and intelligence, and constantly promote the intelligent and green development of port terminals.



### *Clean technology development*

Coal intelligent green mining and ecological construction are not only related to the sustainable development of the coal industry, but also to the overall situation of accelerating ecological civilization and mine construction. A large amount of dust is generated during the operation of a coal mine roadheader, especially when the hard rock roadheader is under operation. According to statistics, the dust concentration of the broken roadway when the roadheader is working is as high as 100 to 500mg/m<sup>3</sup>. The high concentration of dust not only directly affects the sight of miners, resulting in low work efficiency and high accident rate, the dust particles also directly threaten the health of coal miners. The annual incidence of pneumoconiosis in coal mines directly exposed to dust is 9.7%.

In order to reduce the dust concentration in the tunnel and increase the permeability in the tunnel, Sany International has cooperated with scientific research institutes to conduct years of research on the tunnel boring machine and dust removal technology, optimized the matching relationship between the dust intake and exhaust air for the tunnel flow field, and designed and developed dry dust removal equipment. This kind of equipment removes the limitation of industry dust removal water, improves the roadway dust removal effect without consuming water resources; and the unique pleated filter cartridge structure effectively increases the dust adsorption efficiency, lifting the filtration efficiency up to 99%, and extends the life of filter material.



### **4.2 Energy conservation and resource utilization**

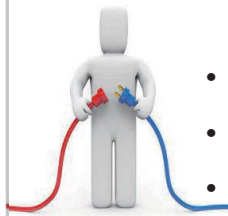
The Group strictly abides by the laws and regulations such as *the Energy Conservation Law of the People's Republic of China*, continuously improves the efficiency of energy use and energy performance. At the same time, the Group advocates resource conservation, improves resource utilization efficiency, and turns itself into a resource-saving enterprise.



### Energy management

The Group has formulated management systems such as *the Environmental Management Regulations* and *the Power Saving Management Regulations* to regulate energy use and management. We establish an energy management platform through intelligent means, upload data in real time, and monitor various energy usage in real time to minimize waste. In 2019, the Company completed the installation of 520 production equipment digital tables, realized automatic data collection, automatic upload, and implemented monitoring. Through monitoring indicators of all production equipment, the production equipment online rate and utilization rate have been comprehensively improved, and bottleneck equipment and redundant equipment are processed to reduce energy consumption when the equipment is idle.

#### Electricity conservation



- Adopt the management and control method of hierarchical meters, and install electric meters at the equipment terminals to monitor the working rate and operating rate of the equipment in real time to avoid waste of electricity.
- Arrange high-power equipment processing as much as possible to reduce peak time electricity consumption according to the task requirements.
- Replace the lighting of plants and administrative offices with energy-saving products.
- Strictly manage electricity consumption in offices, divide office lighting into three categories as turn off the lights, turn on at work, and turn on at special occasions, and post reminders.
- The desktop of the office computer is automatically locked, and the screens is turned off after 10 minutes of inactivity.

#### Natural gas conservation



- Adopt the management and control method of hierarchical table, and monitor and upload usage data in real time to prevent energy waste.
- Hire professional operation and maintenance company to inspect the pipelines and pressure regulating stations in the park 24 hours a day in 3 shifts to prevent the risk of leakage.
- Windproof doors are added to office administrative areas and dormitories in winter to reduce heat loss and reduce the amount of natural gas used for heating.

### Case study Energy optimization project

In 2019, Sany International's Shenyang production base further reduced energy consumption by optimizing the intelligent transformation of heating pumping stations and the transformation of LED lighting:

- Invested approximately RMB800,000 to carry out intelligent transformation of heating pumping stations, which automatically adjusts the high-temperature water flow according to the indoor and outdoor temperature conditions in a time-divisional manner, reducing the high-temperature water supply heat by 13,943 gigajoules after the transformation;
- Invested RMB3 million to transform the LED lighting in the plant, replacing the old 400-watt metal halide lamp with the 120-watt energy-saving LED lamp.



In addition, we control the room temperature and implement intermittent heating to reduce heat consumption; strictly manage the use of commercial vehicles and promote new energy vehicles to reduce gasoline consumption; increase the use of non-fuel-consumption transfer tools and regular maintain fuel-efficient forklifts to reduce diesel consumption.





The energy consumption of the Group is shown in the table below:

Energy	Unit	2019	2018	2017
Natural gas	Cubic meter	1,564,512	1,393,916	1,215,438
Natural gas intensity	Cubic meter/ RMB10,000 of revenue	2.77	3.16	4.90
Heat externally purchased	Gigajoule	40,657	33,912	25,392
Heat intensity	Gigajoule/RMB10,000 of revenue	0.07	0.08	0.10
Petrol	Liter	123,879	153,743	136,339
Petrol intensity	Liter/RMB10,000 of revenue	0.22	0.35	0.55
Diesel	Liter	821,052	659,113	408,436
Diesel intensity	Liter/RMB10,000 of revenue	1.45	1.49	1.65
Electricity externally purchased	Kilowatt-hour	44,293,060	43,244,324	33,082,486
Electricity intensity	Kilowatt-hour/ RMB10,000 of revenue	78.31	97.91	133.32

#### Resource management

##### • Water resources

The Group has formulated *the Water Saving Management Regulations* and has arranged special personnel to monitor the water meter situation every day to monitor the operation in compliance with the system management regulations. During the reporting period, the water used by the Group all came from municipal water supply, and no major risk of water shortage was found in obtaining suitable water sources. We actively promote and guide employees to cultivate water-saving awareness, and brainstorm ideas among employees to obtain more water-saving measures. We have taken a series of water saving measures within the Group:

- Install a hierarchical table on the energy-saving faucet, implement real-time data upload, monitor the phenomenon of running and leaking, and reduce waste.
- Install rainwater collection system to collect rainwater in the plant area for landscape irrigation.
- Post water-saving posters in conspicuous places to remind employees to save water at all times.



- *Office paper*

We also advocate environmental protection and efficient use of paper, choose more environmentally friendly paper suppliers in the office, and choose recycled paper instead of plain paper if conditions permit. We remind employees to consider environmental issues before printing emails, and encourage employees to implement double-sided printing when printing documents and to reuse as much as possible. We have created an electronic system to operate online to replace unnecessary use of paper and directly reduce paper consumption.

- *Raw materials*

In order to standardize the use of raw materials and improve the utilization rate of raw materials, the Group has formulated *the Material Unloading Center Programming Design and Remaining Material Management System*, which allocates the management of raw materials at different stages to the relevant responsible personnel to rationally use and manage the raw materials. We also reward or punish relevant personnel according to their completion of management responsibilities.

- *Packaging materials*

The packaging materials used by the Group are mainly wooden boxes for the packaging of raw materials and components. Without affecting the performance of packaging materials, we actively advocate recycling to reduce wood loss.



The resources consumption of the Group is shown in the table below:

Resources	Unit	2019	2018	2017
Total water consumption	Ton	529,586	508,589	486,394
Intensity of water consumption	Ton/RMB10,000 of revenue	0.94	1.15	1.96
Steel	Ton	133,993.8	/	/
Intensity of steel consumption	Ton/RMB10,000 of revenue	0.24	/	/
Papers	Ton	26.7	13.5	9.3
Intensity of paper consumption	Ton/RMB10,000 of revenue	0.000047	0.000031	0.000037
Packaging wood	Kilogram	1,160,440	299,100	153,540
Intensity of packaging wood consumption	Kilogram/RMB10,000 of revenue	2.05	0.677	0.619

#### Greenhouse gas

Greenhouse gas emissions are an important cause of climate change. The Group's greenhouse gas emissions include direct greenhouse gas emissions and indirect greenhouse gas emissions of energy. Direct emissions of greenhouse gas mainly include petrol and diesel combustion emissions from vehicles, while indirect emissions mainly include emissions from purchased electricity and heat.

Sany International's strict management of energy and resources has effectively reduced greenhouse gas emissions. In addition, we have planted more trees in the factory area to absorb carbon dioxide. As the management of the Group pays more and more attention to energy conservation and mitigation of global climate change, and all employees obey corresponding policies and measures, the Group is expected to lower the greenhouse gas emission intensity in the production process year by year.

The Group's greenhouse gas emissions in 2019 are shown in the table below:

Greenhouse gases	Unit	Emissions
Scope 1	Tons of carbon dioxide equivalent	5,807.64
Scope 2	Tons of carbon dioxide equivalent	49,783.42
Total emission	Tons of carbon dioxide equivalent	55,591.06
Emission intensity	Tons of carbon dioxide equivalent/output value of RMB10,000	0.0983

#### 4.3 Emission control and pollution reduction

Sany International strictly abides by laws and regulations such as *the Environmental Protection Law of the People's Republic of China*, and has formulated *the EHS (Environment, Health, Safety) Management Manual*, *the Environmental Protection Management System*, *the Environmental Protection Responsibility System*, *the Environmental Risk Prevention Management System*, and *the Environmental Emergency Preparedness Plan*, which clearly stipulates the regulations on environmental protection compliance management, environmental protection and supervision, pollution control and emission compliance. The Company has established a comprehensive environmental management system. In 2019, Sany Heavy Equipment and Sany Marine, both subsidiaries of the Group, have passed the certification of ISO14001:2015 Environmental Management System.



In 2019, the Company complied with applicable laws and regulations related to exhaust gas discharge, sewage discharge to water and land, and disposal of hazardous and non-hazardous waste, and effectively operated an environmental management system to ensure the standardized discharge of pollutants such as waste water, exhaust gas, and solid waste.



### Exhaust gas management

The Group strictly follows the requirements under the laws and regulations such as *the Law on the Prevention and Control of Atmospheric Pollution of the People's Republic of China* to process the exhaust gas and ensure that it meets the emission standards.

For the fumes generated from the welding operation, we have set up suction hoods at each welding station in the workshop, and the welding fumes are pumped by the fan to the central fume purification system of the dedusting device for processing and later discharged. For shot blasting dust, we arrange cloth dust collector in the closed shot blasting room for purification treatment. For the spray paint mist produced in different spray booths, we deal with it by setting filtering equipment, activated carbon adsorption and electrocatalytic combustion. At the same time, in accordance with the requirements of *the Emission Standards for Catering Industry Fume* (GB18483-2001), electrostatic fume purifiers are used to process the fume in canteen, so that the fume purification rate is higher than 85%, and the fume emission concentration is less than 2mg/m<sup>3</sup>.

### Case study

### Welding fume remediation actions

Sany International's Shenyang Industrial Base adopted a replacement ventilation dust removal and purification scheme. Through intelligent partition control design and frequency conversion adjustment, the factory welding fume is processed to ensure energy saving and high efficiency, low cost, and good effect under the premise of ensuring the treatment effect. The implementation is simple, and the load on the roof truss is small. Compared with the conventional replacement ventilation scheme, the total installed power distribution capacity of the new replacement ventilation dust removal and purification scheme is reduced by at least 31%, the energy consumption is saved by at least 38%, and the allowable concentration of welding fumes in the working area below 4m in the workshop is at most 4mg/m<sup>3</sup>. The total hydrocarbon emissions of non-methane after exhaust gas treatment can reach below 40mg/m<sup>3</sup>, which is better than national and local standards.



### Case study

### Electrostatic spraying to reduce harmful exhaust emissions

Traditional air spray coating has a lower utilization rate, more disperse paint mist and lower paint rate. Repeated spraying can achieve film thickness, which affects spraying efficiency. From April 2019, Sany International began to implement electrostatic spraying. By improving the spraying method, optimizing the coating process and standardizing the coating management measures, the coating utilization rate was increased, and harmful substance emissions were reduced. By improving the spraying method, the paint utilization rate increased from 31% to 63%, and the accumulated paint cost savings from April 2019 to the end of the reporting period was RMB249,000.

#### Air spraying



Air diaphragm pump



Air spray gun



Electrostatic spray gun



Electrostatic high-pressure pump



Oil-water separation device

The Group's exhaust emissions in 2019 are shown in the table below:

Exhaust emissions	Unit	Emissions
Particulates	Kilogram	19,457
VOCs (volatile organic compounds)	Kilogram	1,568





### *Solid waste management*

The Group strictly abides by the laws and regulations such as *the Law on the Prevention and Control of Solid Waste Pollution of the People's Republic of China* and has formulated *the Hazardous Waste Management System* to regulate management.

- *Non-hazardous solid waste*

The non-hazardous solid waste generated by the Group includes domestic solid waste and industrial solid waste. Domestic solid waste is collected and processed by the hygiene department; industrial solid waste, such as leftovers or metal scraps, is sorted and recycled by the Company's full-time staff, and then sold to a professional recycling company for recycling. We educate employees on environmental protection, enhance their environmental awareness and paper saving, and reduce the generation of domestic waste; by improving the production and cutting process, we reduce the waste of steel in production and the amount of scrap metal produced.

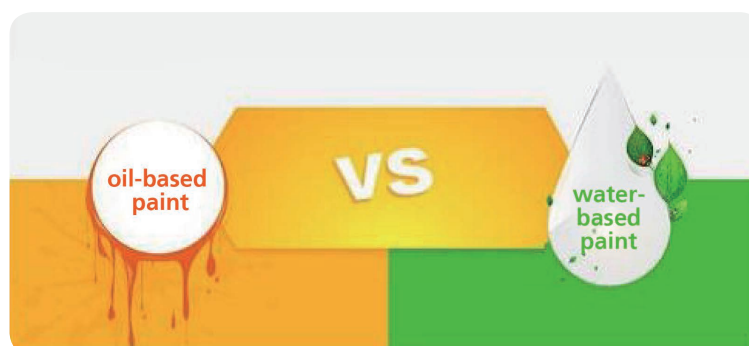
- *Hazardous solid waste*

We have established a strict storage system for hazardous wastes. We classify, collect, and store hazardous solid wastes such as waste oil, waste paint residue, and waste paint buckets in hazardous waste storage warehouses with warning signs, and implement strict declaration and registration management. We also have personnel responsible for the supervision and management of hazardous wastes, and follow the principle of "Unified collection, Classified disposal & Elimination of hidden hazards" to achieve reduction, recycling, and harmlessness of hazardous wastes. We regularly send the hazardous waste generated to a professional company with disposal qualification for disposal. We reduce the generation of hazardous waste from the source by developing water-based paints and high-solids environmentally friendly paints.

### Case study

### Changing oil-based paint to water-based paint

Water-based paint is an environmentally friendly paint that does not contain organic solvents such as formaldehyde and benzene. It uses water as a diluent, which saves a lot of resources, greatly reduces the fire hazard during construction, and also air pollution. Water-based coatings can be applied directly on wet surfaces and in humid environments. The dryness requirement of the material surface is not high, and its adhesion to the layer is very strong. Most of the hydraulic supports and other products produced by Sany International use water-based paint instead of oil-based paint, accounting for 57.11%.



Waste discharge of the Group is shown in the table below:

Hazardous waste	Unit	2019	2018 <sup>1</sup>
Waste paint bucket	Ton	219	151
Paint residue	Ton	70	58
Waste mineral oil	Ton	76	56
Total hazardous waste <sup>2</sup>	Ton	365	265
Intensity of hazardous waste	Ton/RMB10,000 of revenue	0.0006	0.0006

Non-hazardous waste	Unit	2019	2018
Steel and iron scrap	Ton	28,744	30,611
Household garbage	Ton	388	245
Total non-hazardous waste	Ton	29,132	30,856
Intensity of non-hazardous waste	Ton/RMB10,000 of revenue	0.05	0.07

<sup>1</sup> The Company adjusted the relevant data for 2018 based on the actual production of hazardous waste due to the delayed disposal schedule for certain hazardous waste in 2018.

<sup>2</sup> In 2019, due to the significant growth of the Company's output, the improvement of certain facilities and coating processes, testing of water-based paint and the enlarged scope of statistics resulted from continuous improvement of data collection process, the total hazardous waste increased during this year.



### Wastewater management

The Group strictly abides by the requirements under the laws and regulations such as *the Water Pollution Prevention and Control Law of the People's Republic of China*. The domestic wastewater of the Group includes wastewater generated by administrative offices, dormitories and canteens. The wastewater is directly discharged into the municipal drainage system. Since the amount of domestic wastewater depends largely on the water consumption, the Company has taken various measures to reduce the amount of domestic water consumption in offices, dormitories and other places. For specific measures, please refer to the detailed description in the section headed "Resource management - Water resources" of the previous section headed "Energy conservation and resource utilization". The wastewater produced by the Group includes painting wastewater, emulsion-containing wastewater, vehicle-washing wastewater from the paint shop, and wastewater from the finished product warehouse before delivery. The production plant is equipped with a complete set of treatment equipment for waste emulsion and painting wastewater, and strict internal discharge standards have been formulated. The wastewater from production is intermittently discharged to the wastewater treatment station in the plant area for treatment in accordance with *the Comprehensive Wastewater Discharge Standard* (GB8978-1996) and provincial and municipal wastewater discharge standards, and then discharged into the urban sewage pipeline system and finally transported to the municipal sewage treatment plant.

The wastewater discharge of the Group is shown in the table below:

Wastewater discharge	Unit	Discharge volume
Chemical Oxygen Demand	Milligramme	790,000
Ammonia nitrogen	Milligramme	19,300

### Noise

The Group strictly abides by the laws and regulations such as *the Law on Environmental Noise Pollution Control of the People's Republic of China*, and has formulated *the Noise Protection Management Regulations* to strictly control the noise generated by air compressor operations, shot peening operations, various welding machines and machine tool operations, in order to maintain the noise level within the scope of national standards.

The Group has adopted the following noise reduction measures: installing a silencer at the air inlet of the air compressor and a vibration reduction device between the equipment and the foundation; keeping all noise sources within the workshop, opening windows and other unprotected openings as little as possible, and using the greenery outside the workshop to block the propagation of sound.

## 5. CONTRIBUTING TO THE SOCIETY

As a socially responsible company, the Group makes every effort to contribute to the local economy, the people's livelihood and harmony. We actively respond to the 9<sup>th</sup> and 11<sup>th</sup> goals of sustainable development of the United Nations, support various public welfare activities, support regional economic development, and strive to build a harmonious community. In 2019, Sany International invested a total of RMB792,000 in the public domain of the community.



### 5.1 Industry empowerment

Sany International is committed to exploring the machinery and equipment industry, supports the construction and development of smart mine and smart port with its technological advantage, and deploys its own advantages to promote the domestic and overseas integrated development, so as to empower the equipment with intelligence, empower the enterprise with value, and empower the industry with capacity.

#### 5.1.1 Participating in the formulation of standards

The Group actively participates in the drafting and formulation of industry standards for machinery and equipment, strengthened cooperation with other enterprises, and contributes wisdom to promote the development of the entire industry and technological innovation.

Sany International has participated in drafting the national and industry standards such as *the Technical Conditions for Non-Highway Mechanical Transmission Mine Dump Trucks*, *the Technical Conditions for Non-Highway Electric Transmission Mine Dump Trucks*, *the Test Methods for Non-Highway Mechanical Transmission Mine Dump Trucks* and *the Test Methods for Non-Highway Electric Transmission Mine Dump Trucks*, which provides scientific insights into requirements, test methods, inspection rules, signs, packaging, transportation and storage of related equipment. We have also participated in the drafting of the industry standard, *the Drilling and Anchorage Unit for Coal Mine Rock Lane*, which provides a strong guarantee for promoting green mining and intelligent and efficient mining.



### 5.1.2 Cooperation for win-win development

The Group has always adhered to the concept of “Quality changes the world”, striving to be a company model of “Made in China”, providing quality services to society, and driving the domestic and overseas development of the industry.

#### *Facilitating the construction of 5G smart ports*

In order to promote the construction of 5G smart ports in the Guangdong-Hong Kong-Macao Greater Bay Area, Sany Marine, China Merchants Port, Huawei, China Mobile and other companies jointly signed the “5G Smart Port Joint Construction Declaration” in 2019. Sany Marine deployed the single cantilever ARMG (Automated Rail mounted Gantry Crane) to build the Haixing Port smart yard, which enhanced the yard efficiency by 50% and reduced staff cost by 70%. In addition, during the development of the equipment control system, Sany Marine achieved intelligent management through the terminal simulation system to remotely monitor the status and faults of rail crane equipment.





*Promotion of the domestic and overseas integrated development*

Urban infrastructure and industrial development in developing countries were actively promoted to support the “Belt and Road” Initiative. We have participated in major projects in 24 countries and regions overseas by providing high-quality smart equipment to countries such as Saudi Arabia, Algeria, South Africa, Nigeria, Egypt, as well as providing technical support and output to improve the quality and efficiency of project construction and promote the development of industrial equipment manufacturing.

A port is an important window for a region to connect with the rest of the world. Sany International is continuously increasing its support for port construction in order to serve and develop the real economy. In 2019, at Karachi International Transportation Terminal in Pakistan, port equipment of Sany International has greatly eased the pressure of container stacking and unloading due to its efficient operation efficiency and excellent operating performance. Meanwhile, we participated in the promotion of the construction of various domestic ports such as Jiangxi Ganzhou International Land Port and Guangdong Foshan Beijiao Port.

**Case study**

**Sany International supports Ganzhou International Land Port**

Sany International introduced advanced equipment to Ganzhou Port for better operation. It helped the old Soviet area “open the mountain gate”, and promoted many industries in Ganzhou Port to grow “for the port”. In 2019, Sany International's equipment helped Ganzhou Port deliver more than 19,000 standard containers, representing an increase of more than 7,000 standard containers year on year. The CCTV news “70 Years of Magnificence, New Era for Growth – A Tour of the Republic's Development Achievements” showed the great changes brought by Sany International to the southern Jiangsu area by supporting Ganzhou International Land Port.





## **5.2 Community care and harmonious development**

While achieving its own stable development, the Group has not forgotten to contribute love, care for society, and continue to contribute its own strength. We actively participate in community construction, organize employees to send warmth to the community, devote themselves to public welfare, and promote the harmonious development between enterprises and communities.

### *5.2.1 Organizing community activities*

We actively carry out community activities, strengthen interaction with employees' families and community members, and invite them to participate in activities organized by the Company's labor union. In Shenyang Sany Industrial Park, we organized themed activities such as "Family Love", "Hold Hands for One Life" and "Be Grateful" to enrich the spare time of employees' children, partners and parents, feel the vibe of Sany as an international enterprise, promote community harmony, and stimulate community vitality.

We follow the trend of technology and organize online events. By holding the global video creation competition DISCOVER SANY, we provide a large platform for employees, customers and image creation enthusiasts from all over the world to know us. The three major video themes of "Internet-famous Sites", "Passionate Construction Site" and "Center Characters" present us to the public, and at the same time increase the understanding and recognition between the Company and the public, and move both parties towards harmonious development.

### *5.2.2 Volunteering in epidemic prevention and control*

Sany International cares about society, insists on interpreting eternal love with faith, and boundless love with action. At the beginning of the 2020, Sany International fulfilled its social responsibilities and made contributions to the victory in the prevention and control of the pandemic.

Case

Supporting epidemic prevention and control

Since the outbreak of the novel coronavirus pneumonia epidemic, Sany International has always cared for its compatriots and shared concerns for the people. It has urgently purchased medical supplies around the world and joined hands with its compatriots to fight against the epidemic. After the outbreak of the epidemic, understanding the shortage of protective masks in the communities, Sany International immediately purchased protective masks from overseas and donated 25,000 protective masks to the Management Committee of Shenyang Economic and Technological Development Zone in an attempt to fight the epidemic. With mutual help, Sany International actively integrates into the community to overcome difficulties and works with the community to fight the epidemic.



In order to ensure the delivery of protective supplies, Sany International fights against the epidemic, races against time, acts globally, and never delays the loading, unloading and transportation of supplies. On 29 January 2020, Qingdao Port imported more than 800,000 units of protective supplies through shipping channels for the first time. The personnel in charge of Sany Marine Qingdao Port were on duty 24 hours, overhauling the operating equipment in the port to ensure that the supplies can be transported to the front line of epidemic prevention and control as soon as possible.





## 6 FUTURE PROSPECT

Looking forward to 2020, Sany International will continue to promote the industrial upgrading of the mining equipment and logistics equipment manufacturing industry in China and contribute to our wisdom in achieving green, safe, efficient and intelligent mining and logistics port construction.

**Strive for excellence and keep improving.** Sany International will continue to closely follow the plan of Made in China 2025, take “Satisfy customer needs with intelligence” and “All for customers & Create value for customers” as the Company’s development direction, promote sustainable development strategies, lead the transmission in the industry from “Made in China” to “Created in China”, and actively assume the social responsibility as a large equipment manufacturing enterprise.

**Be grateful and give back to society.** Sany International will vigorously advocate and encourage the Group and all employees to actively fulfill their social responsibilities and strengthen community interaction. We will continue to carry out public welfare and charity projects, increase investment in public utilities, promote community prosperity and social development, and contribute our strength to the public welfare in China.

**Be environmentally friendly and be greenly harmonious.** Sany International will continue to improve its own concept of safety, harmony and green development, integrate environmental protection into our products and services, contribute to the protection of the environment and resources-saving, and determined to become a resources-saving and environment-friendly enterprise.

In the future, we will continue to improve the quality of the Group’s environmental, social and governance report and comprehensively promote sustainable development management. The Group will further strengthen the analysis and management of issues related to sustainable development on the basis of the existing management mechanism and work process to achieve the sustainable development goals.

We will continue to fight for the dream of “Contribute to a world-class brand”, and strive to write a more brilliant chapter!

## APPENDIX ESG INDICATOR INDEX

ESG Issues	Indicator	Index Requirement	Corresponding Section
A. Environment A1: Emissions	General disclosure	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	Protecting environment
	A1.1	The types of emissions and respective emissions data.	Protecting environment – Energy conservation and resource utilization Emission control and pollution reduction
	A1.2	Greenhouse gas emissions in total (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Protecting environment – Energy conservation and resource utilization
	A1.3	Total hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Protecting environment – Emission control and pollution reduction
	A1.4	Total non-hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	Protecting environment – Emission control and pollution reduction
	A1.5	Description of measures to mitigate emissions and results achieved.	Protecting environment – Emission control and pollution reduction Clean technology and green products
	A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	Protecting environment – Emission control and pollution reduction
A. Environment A2: Use of Resources	General disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	Protecting environment – Energy conservation and resource utilization
	A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	Protecting environment – Energy conservation and resource utilization





ESG Issues	Indicator	Index Requirement	Corresponding Section
	A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	Protecting environment – Energy conservation and resource utilization
	A2.3	Description of energy use efficiency initiatives and results achieved.	Protecting environment – Energy conservation and resource utilization
	A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	Protecting environment – Energy conservation and resource utilization
	A2.5	Total packaging material used for finished products (in tons) and, if applicable, with reference to per unit produced.	Protecting environment – Energy conservation and resource utilization
A. Environment A3: The Environment and Natural Resources	General disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	Protecting environment – Energy conservation and resource utilization
	A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Protecting environment – Energy conservation and resource utilization
B. Society B1: Employment	General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	Cultivating talents – Equality, diversity and inclusion
	B1.1	Total workforce by gender, employment type, age group and geographical region.	Cultivating talents – Equality, diversity and inclusion
	B1.2	Employee turnover rate by gender, age group and geographical region.	Cultivating talents – Equality, diversity and inclusion

ESG Issues	Indicator	Index Requirement	Corresponding Section
B. Society B2: Health and Safety	General disclosure	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Cultivating talents – Health care and safety security
	B2.1	Number and rate of work-related fatalities.	Cultivating talents – Health care and safety security
	B2.2	Lost days due to work injury.	Cultivating talents – Health care and safety security
	B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	Cultivating talents – Health care and safety security
B. Society B3: Development and Training	General disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	Cultivating talents – Talent training and growth
	B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle Management).	Cultivating talents – Talent training and growth
	B3.2	The average training hours completed per employee by gender and employee category.	The Group plans to make relevant disclosure in the coming year
B. Society B4: Labour Standards	General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	Cultivating talents – Equality, diversity and inclusion
	B4.1	Description of measures to review employment practices to avoid child and forced labour.	Cultivating talents – Equality, diversity and inclusion
	B4.2	Description of steps taken to eliminate such practices when discovered.	Cultivating talents – Equality, diversity and inclusion



ESG Issues	Indicator	Index Requirement	Corresponding Section
B. Society B5: Supply Chain Management	General disclosure	Policies on managing environmental and social risks of the supply chain.	Responsible operation – Responsible suppliers are our partners
	B5.1	Number of suppliers by geographical region.	Responsible operation – Responsible suppliers are our partners
	B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	Responsible operation – Responsible suppliers are our partners
B. Society B6: Product Responsibility	General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labeling and privacy matters relating to products and services provided and methods of redress.	Responsible operation – Dedicated service for customer satisfaction
	B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Enhancing quality-High-quality products and craftsmanship spirit
	B6.2	Number of products and service related complaints received and how they are dealt with.	Enhancing quality – Dedicated service for customer satisfaction
	B6.3	Description of practices relating to observing and protecting intellectual property rights.	Enhancing quality – Innovative technology for future development
	B6.4	Description of quality assurance process and recall procedures.	Enhancing quality – High-quality products and craftsmanship spirit
	B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	Enhancing quality – Dedicated service for customer satisfaction

ESG Issues	Indicator	Index Requirement	Corresponding Section
B. Society B7: Anti-corruption	General disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	Enhancing quality – Integrity and compliant operation
	B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	Enhancing quality – Integrity and compliant operation
	B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	Enhancing quality – Integrity and compliant operation
B. Society B8: Community Investment	General disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	Contributing to the society – Community care and harmonious development
	B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	Contributing to the society – Community care and harmonious development
	B8.2	Resources contributed (e.g. money or time) to the focus area.	Contributing to the society – Community care and harmonious development



## FEEDBACK QUESTIONNAIRE

Dear Readers,

Thank you for reading our 2019 Environmental, Social and Governance Report. We appreciate if you would give us your invaluable comments and opinions on this report. It will help us improve the reporting on an on-going basis.

If you have any comments or suggestions on the Company's sustainable development, please email to [tanglin@sany.com.cn](mailto:tanglin@sany.com.cn)

"Feedback Questionnaire regarding 2019 Environmental, Social and Governance Report of Sany Heavy Equipment International Holdings Company Limited"

Name \_\_\_\_\_

Work Unit \_\_\_\_\_

Position \_\_\_\_\_

Telephone \_\_\_\_\_

E-mail \_\_\_\_\_

Opinions on this report: (please tick the appropriate boxes)

	Very good	Good	Fair	Poor	Very poor
Does the report fully reflect the material information on environment, social and governance issues of the Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Are the information and index disclosed in the report clear, accurate and complete?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do you think the content and layout design of the report easy to read?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Which parts of the report are you most interested in?

\_\_\_\_\_

Is there any other information you need but not reflected in the report?

\_\_\_\_\_

What suggestions do you have for our future Environmental, Social and Governance Report?

\_\_\_\_\_