

# 2016

## Corporate Social Responsibility Report

H Share Code: 323

A Share Code: 600808



MAANSHAN IRON & STEEL COMPANY LIMITED

## IMPORTANT NOTES

The Board of Directors and all directors of the Company guarantee that the report is free from any misrepresentation, misleading statement or major omission and accept joint and several responsibility for the truthfulness, accuracy and completeness of the content herein.

The report has been prepared in accordance with the *Circular on Enforcement of Social Responsibility of Listed Companies and Release of Shanghai Stock Exchange Guidelines for Environmental Protection Information Disclosure of Listed Companies* issued by Shanghai Stock Exchange and *Appendix 27. Environmental, Social and Governance Reporting Guide of Listing Rules* promulgated by The Stock Exchange of Hong Kong Ltd, and is supposed to be read in conjunction with the Company's Annual Report 2016.

The report has been prepared in Chinese and English. Where there is any discrepancy between the Chinese version and the English version, the Chinese version shall prevail.



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## SECTION I DEFINITIONS

All references to the words listed in the table below have the following meanings throughout the report unless otherwise specified:

|  |  |
|--|--|
| The Company, Magang, Magang Company Ltd                    | Maanshan Iron & Steel Company Ltd  |
| The Group, Magang Group                                    | Magang (Group) Holding Company Ltd                                       |
| Board of Directors   | The Board of Directors of the Company                                    |
| Directors  | Directors of the Company   |
| The Review Committee under the Board, the Review Committee | The Review (Audit) Committee under the Board of Directors of the Company |
| Board of Supervisors                                       | The Board of Supervisors of the Company                                  |
| Supervisors  | Supervisors of the Company   |
| HKEx   | The Stock Exchange of Hong Kong Ltd                                      |
| SSE  | Shanghai Stock Exchange  |
| PRC  | The People's Republic of China   |
| Yuan   | Chinese Yuan   |
| The Labor Law  | The Labor Law of the People's Republic of China                          |
| The Law on Employment Contracts                            | The Law of the People's Republic of China on Employment Contracts        |
| Reporting Period   | From January 1 to December 31, 2016                                      |

## SECTION II COMPANY PROFILE



### I. BASIC FACTS

The Company was formerly known as Maanshan Iron Mill, which started up its business in 1953. Maanshan Iron & Steel Company then came into being in 1958 and was restructured as a joint-stock business in 1993. On September 1 in the same year, Maanshan Iron & Steel Company was demerged into Magang Head Office and Maanshan Iron & Steel Company Ltd. Magang Head Office, the controlling shareholder, was reorganized as Magang (Group) Holding Company Ltd in 1998.

### II. OFFERING AND LISTING

The Company offered its H shares offshore between October 20 and 26, 1993, and was listed on the Stock Exchange of Hong Kong Ltd on November 3 in the same year; it then offered Renminbi common shares in mainland China between November 6 and December 25, 1993 and was listed on Shanghai Stock Exchange in three phases on January 6, April 4 and September 6 in the next year.

### III. MAIN BUSINESS ACTIVITIES AND PRODUCTS

As one of the largest iron & steel producers and distributors in the PRC, the company's main business are production and sales of Iron and Steel products. Its production activities include iron smelting, steel smelting and rolling. It mainly produces steel products, including steel plates, long products as well as train wheels and shafts.



## SECTION III SHARE CAPITAL AND SHAREHOLDERS

### I. SHARE CAPITAL

There was no change in the Company's share capital in 2016 when compared with that in 2015.

Unit: share

|  | Before              |       | Change During<br>the Reporting Period (+, -) |                |                                 |        |           | After               |       |
|--|---------------------|-------|--|----------------|---------------------------------|--------|-----------|---------------------|-------|
|  | Number<br>of Shares | (%)   | New<br>Issue                                 | Bonus<br>Issue | Capital<br>Surplus<br>to Shares | Others | Sub-total | Number<br>of Shares | (%)   |
| I. Restricted shares                           | -                   | -     | -  | -              | -                               | -      | -         | -                   | -     |
| II. Non-restricted shares                      | 7,700,681,186       | 100   | -  | -              | -                               | -      | -         | 7,700,681,186       | 100   |
| 1. RMB common shares                           | 5,967,751,186       | 77.50 | -  | -              | -                               | -      | -         | 5,967,751,186       | 77.50 |
| 2. Mainland-listed foreign-<br>invested shares | -                   | -     | -  | -              | -                               | -      | -         | -                   | -     |
| 3. Overseas-listed foreign-<br>invested shares | 1,732,930,000       | 22.50 | -  | -              | -                               | -      | -         | 1,732,930,000       | 22.50 |
| III. Total number of common<br>shares          | 7,700,681,186       | 100   | -  | -              | -                               | -      | -         | 7,700,681,186       | 100   |



## II. TOP 10 SHAREHOLDER AND ACTUAL CONTROLLER

### 1. Top 10 Shareholders as at the end of report period

| Name of Shareholder   | Number of shares held |
|---|-----------------------|
| Magang (Group) Holding Company Ltd                                      | 3,506,467,456         |
| Hong Kong Securities Clearing Company Ltd                               | 1,710,814,900         |
| Central Huijin Asset Management Co., Ltd.                               | 142,155,000           |
| China Securities Finance Co., Ltd                                       | 88,096,538            |
| Bosera Fund—ABC—Bosera China Securities Finance Asset Management Plan   | 33,609,200            |
| E Fund—ABC—E Fund China Securities Finance Asset Management Plan        | 33,609,200            |
| Dacheng Fund—ABC—Dacheng China Securities Finance Asset Management Plan | 33,609,200            |
| Harvest Fund—ABC—Harvest China Securities Finance Asset Management Plan | 33,609,200            |
| GF Fund—ABC—GF China Securities Finance Asset Management Plan           | 33,609,200            |
| Zhong Ou—ABC—Zhong Ou China Securities Finance Asset Management Plan    | 33,609,200            |

Remarks: As at the end of reporting period, the Group holds 3,506,467,456 shares of the Company, among which the number of accumulated pledged shares is 800 million shares.

## 2. Controlling Shareholder and Actual Controller

The controlling shareholder and actual controller of the Company remained unchanged during the reporting period.

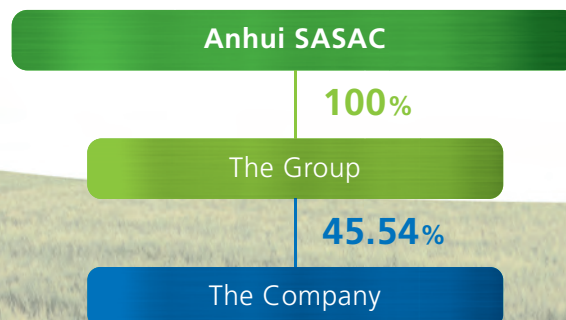
### ➤ Controlling Shareholder

|  |   |
|--|---|
| Name   | Magang (Group) Holding Company Ltd  |
| Head or Legal Representative   | Gao Haijian   |
| Date of Incorporation  | September 1, 1993   |
| Main Activities  | Mining and ore dressing; construction contract; building materials, machinery manufacturing, servicing and design; foreign trade; domestic trade; distribution and warehousing of materials; property management; consulting; lease; agriculture and forestry |
| Controlling interest or minority interest held in any other company listed in or outside the PRC during the reporting period | With no controlling interest or minority interest held in any other company listed in or outside the PRC during the reporting period  |

### ➤ Actual Controller

The actual controller of the Company is the State-owned Assets Supervision and Administration Commission of Anhui provincial government (Anhui SASAC).

### ➤ Ownership and Control between the Company and the Actual Controller





## SECTION IV CORPORATE GOVERNANCE

### I. CORPORATE GOVERNANCE FRAMEWORK

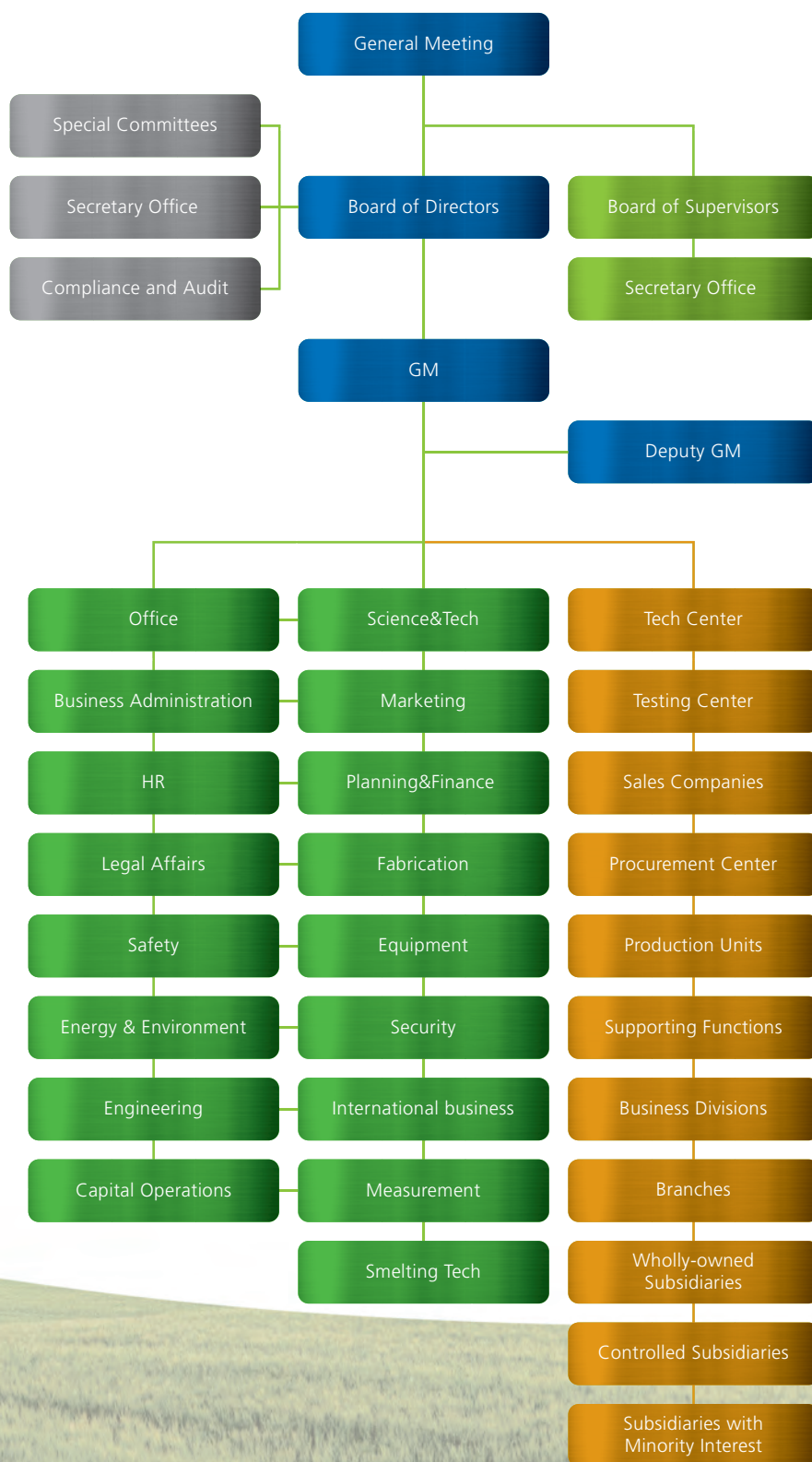
The Company has put in place a well-structured and balanced corporate governance framework, comprised of General Meeting, Board of Directors, Board of Supervisors and senior management, in accordance with the requirements of the applicable laws and regulations, and the roles and duties of each of the aforesaid functions have been clearly defined.

The Company complied with all code provisions set out in Appendix 14 *Code on Corporate Governance Practices, Listing Rules* of the HKEx in 2016.



## II. ORGANIZATION CHART

The Company's organization chart as at the end of the reporting period is depicted as follows:





### III. GENERAL MEETING

The Company held one general meeting, that is, 2015 Annual General Meeting, during the reporting period. It took place in Magang's office building situated at 8 West Jiuhua Road, Maanshan, Anhui province on June 15, 2016. Ding Yi, Chairman of the Board, was present and chaired the meeting. The resolution passed at the meeting was published on the websites of SSE and the HKEx, as well as on *Shanghai Securities News*.

### IV. BOARD OF DIRECTORS AND SPECIAL COMMITTEES

#### 1. Board of Directors

The eighth session of the Board of Directors of the Company has seven members, including, two executive directors and five non-executive directors, of which three are independent directors, representing three-seventh of the headcount. The mix of the Board is fully compliant with the requirements of the applicable domestic and foreign laws, regulations and normative documents.

As acknowledged by all directors in writing, all directors satisfied the requirements set out in Appendix 10 *Model Code for Securities Transactions by Directors of Listed Issuers*, *Listing Rules* of the HKEx during the reporting period.

#### 2. Special Committees

Four special committees report to the Board of Directors, namely, Review Committee, Strategic Development Committee, Remuneration Committee and Nomination Committee.

##### ➤ Review Committee

The Review Committee under the eighth session of the Board of Directors is comprised of Mr. Qin Tongzhou, Independent Director and Chairman of the Committee, Ms. Yang Yada and Mr. Liu Fangduan, two Independent Directors.

##### ➤ Strategic Development Committee

The Strategic Development Committee under the eighth session of the Board of Directors is comprised of Mr. Ding Yi, Chairman of the Board and Chairman of the Committee, Mr. Qin Tongzhou, Ms. Yang Yada and Mr. Liu Fangduan, three Independent Directors.

##### ➤ Remuneration Committee

The Remuneration Committee under the eighth session of the Board of Directors is comprised of Independent Director and Chairman of the Committee, Mr. Qin Tongzhou and Ms. Yang Yada, two Independent Directors.

➤ **Nomination Committee**

The Nomination Committee under the eighth session of the Board of Directors is comprised of Ms. Yang Yada, Independent Director and Chairman of the Committee, Mr. Qin Tongzhou and Mr. Liu Fangduan, two Independent Directors, and Mr. Ding Yi, Chairman of the Board.

## **V. BOARD OF SUPERVISORS**

The eighth session of the Board of Supervisors of the Company has five members, including two supervisors representing the staff and three external supervisors, of which two are independent supervisors, representing two-fifth of the headcount. The mix of the Board is fully compliant with the requirements of the applicable domestic and foreign laws, regulations and normative documents.

## **VI. INTERNAL CONTROLS**

1. The eighth session of the Board of Directors considered and passed Internal Control Assessment Report (2016) on March 29, 2017, confirming effectiveness of internal controls implemented by the Company in 2016.
2. Ernst&Young Hua Ming LLP audited the effectiveness of internal controls outlined in the Company's financial report as at December 31, 2016 and issued an unqualified auditor's report on internal controls.

# **SECTION V EMPLOYEES**

## **I. WORK ENVIRONMENT**

### **1. Policies and Execution**

#### *1.1 Remuneration*

The Company adopts a comprehensive remuneration mechanism mainly made up of performance-based pay, combined with annual pay and allowances for technical and skilled talents. By performance-based pay, it means the pay rate corresponds with one's role and highlights the weight of role contribution in income distribution. Income is linked to contribution. Employees earn bonuses depending on personal performance assessment results. Senior and middle management teams receive annual pay, which is determined by annual performance assessment results.

#### *1.2 Employment Contract*

The Company strictly abides by the Labor Law, the Law on Employment Contracts and other applicable laws and regulations and inks employment contracts with all employees, specifying compensation, working hours, break time, holidays and leaves, occupational safety and health, insurance and benefits, among other matters. The Labor Law and the Law on Employment Contracts also apply to rescission or termination of employment contracts.



### 1.3 Recruitment

Any recruitment program of the Company is strictly in compliance with the Labor Law and other applicable laws and regulations.

New recruits from colleges and universities. In 2016, the Company ran more than ten campus and online recruiting programs. 90 college and university graduates were hired following initial screening of resumes and multi-faceted interviews and evaluations by a panel of experts by taking into account major match, caliber of specialty, career plan, orientation and physical health, among other things.

New recruits to fill high-end operation and maintenance vacancies. In 2016, the Company attracted 137 new recruits from the market and from Anhui Vocational College of Metallurgy and Technology, including majors in mechanics, electrics, metallurgy, materials, and so on.

Meanwhile, to cater to the needs for specialists in automobile plate technologies, the Company diversified its recruitment sources and attracted senior professionals and those with specialty from the market.

### 1.4 Promotion

The performance-based pay system is applied company-wide and *Universal Performance-based Pay Measures (For Trial Implementation)* have been formulated. Key performance indicators include work performance indicators and competency indicators. The cycle of performance assessment is defined by role. The results of monthly and quarterly performance assessment are fully linked to bonus distribution, while the results of annual performance assessment determine remuneration, best performer selection, training opportunity and promotion.

### 1.5 Working Hours, Holidays and Leaves

The Company has mapped out *Employee Attendance and Leave Management Rules* by combining its reality with compliance with the applicable laws, regulations and policies and applies the standard of 40 working hours per week, to keep business running properly, manage working hours and leaves and protect the legitimate rights and interests of the staff.

Non-working days: weekends, public holidays, annual leave, family leave, sickness leave, leave for personal affairs, leave for injury from work, leave for marriage or funeral, maternity leave and other vacations as prescribed by the authorities in the laws and regulations.

The Company has formulated *Employee Paid Annual Leave Implementation Measures* in accordance with *The Regulations of Paid Annual Leave of Employees* unveiled by the State Council and *Implementation Measures for Paid Annual Leave for Employees of Enterprises* released by the Ministry of Human Resources and Social Security. Any employee who has been in service for one full year but less than ten years shall enjoy five days' paid annual leave; those who have been in service for ten full years but less than twenty years shall enjoy ten days' paid annual leave; and those who have been in service for 20 full years or longer shall enjoy fifteen days' paid annual leave. Those who choose to give up their right to paid annual leave must submit a written application.





### 1.6 Social Security and Benefits

As required by the central, provincial and municipal government, the Company pays a whole package of social security contributions in full and in a timely manner. Contributions made in 2016 totaled 709,800,000 yuan.

An enterprise annuity program is provided. Every employee contributes 1% of his or her salary, while the Company pays 5% of the same base.

An employee housing provident fund is provided. Every employee has a housing provident fund personal account, and both employees and the Company contribute about 12% out of the salaries.

A supplementary medical insurance cover and a major disease relief system are provided. In addition, all employees are insured against major diseases and accidental injuries.

Employees enjoy one meal for free on working days.

To protect health of the staff, the Company organizes company-wide physical examination on a biennial basis.

The HR of the Company runs an employee satisfaction survey regularly to keep track of what is needed by them, and every law, rule and policy concerning personal interests of employees are put into practice.



## 2. Key Performance Indicators

### ➤ Employee Mix by Age

| Age Range    | Headcount<br>in 2016 |
|--------------|----------------------|
| 35 and below | 3,726                |
| 36 to 40     | 3,339                |
| 41 to 50     | 14,261               |
| 51 to 60     | 5,728                |
| Total        | 27,054               |

- In 2016, the Company's turnover rate by age was detailed as follows: 0.48% for employees aged below 30; 0.07% for those aged between 30 and 40; 0.01% for those aged between 40 and 50; and 0.004% for those aged 50 and above.
- In 2016, the Company's turnover rate by region was detailed as follows: 0.31% for those within the Anhui province; and 0.25% for those outside the province.

## II. HEALTH AND SAFETY

### 1. Policies and Execution

The Company honestly respects all provisions relating to work safety outlined in the *Production Safety Law of the PRC* and the *Circular on Releasing Rules on Enforcement of Enterprises' Liability for Work Safety* issued by State Administration of Work Safety, and updates the contents of relevant websites in a timely manner, for the reference of its secondary units. 311 laws and regulations have been published on relevant websites, of which 13 regulations on work safety were updated in 2016.

The Company stays alert to work safety and enforces the liability for work safety. No malpractice has occurred so far.



## 2. Key Performance Indicators

2.1 The death toll caused by work was zero in 2016.

2.2 The Company reported 1,750 lost working days because of work-related injuries in 2016. Production went safe and sound on the whole and work safety performance improved over last year.

2.3 Occupational Health, Safety Measures and Execution

- A robust work safety organization system has been put in place. A Work Safety Committee has been formed and a Safety Management Department has been established in the Company and each secondary unit. There are 266 full-time safety management professionals, 388 part-time safety management professionals and 26 certified safety engineers.
- An occupational health and safety management system and a work safety standardization system have been built. The Company was OHSMS18000 certified (Occupational Health and Safety Management System) in 2006.
- A whole set of safety rules have been mapped out, including 46 work safety rules, such as Work Safety Accountability, Work Safety Performance Assessment Measures, Potential Hazards Identification and Control, Filing and Monitoring Measures, and Employee Safety Education Measures.
- Efforts on emergency response and emergency action team building have been redoubled. An emergency response framework has been set out. The Company has prepared 26 contingency plans, while its secondary units have together developed more than 600 contingency plans and on-site response plans. Moreover, drills have been organized regularly. Three emergency action teams have been put together, furnished with ambulances, fire engines, chemical-proof suits and respirators, among other emergency protective devices.
- Employees have received trainings on safety knowledge to sharpen their awareness. In 2016, 19 managers and 1,212 safety management professionals were trained, 924 employees received trainings on special operations and acquired Certificate of Competency, and 8,383 employees passed reexamination qualifying for special operations.
- Spending on work safety has been increased to carry out safety measures. In 2016, the Company spent more than 70 million yuan on work safety.

- The management of key projects has been tightened. In 2016, the Company dispatched a patrol to construction sites on a weekly basis.
- Safety vulnerabilities have been brought under control. In 2016, the Company identified 857 material potential hazards based on the identification of hazard sources.
- Potential hazards have been addressed with greater efforts. In 2016, the Company carried out special rectifications regarding metallurgy, coal gas, confined space, dust explosion, hazardous chemicals and pressure piping, etc.
- Occupational health protection has been taken seriously. In 2016, occupational hazard test was done at 35 units, including 550 dust detection places, 164 noise detection places and 65 high-temperature detection places. 19,843 individuals from 37 units received occupational physical examination, including 11,558 exposed to dust, 9,055 to noise and 8,130 to high temperature.
- Work safety education and propaganda have been well done. In 2016, the Company launched the “6.16” Work Safety Day event, organized Maanshan Safeguard Life safety knowledge contest, shot a Work Safety Month documentary, produced a work safety awareness video and compiled books incorporating case studies of accidents.
- The OHSMS and the work safety standardization system have been reviewed and examinations of major hazards, hazardous chemicals and special machines have been done regularly; the Board of Directors has been briefed on work safety dynamics regularly.





III. DEVELOPMENT AND TRAINING

1. Policies and Execution

In 2016, the Company focused on the development of international talents and urgently-needed talents, to serve the goal of restructuring and optimization in human resources planning and highlight a problem-oriented approach. Systematic trainings were provided to technicians, to boost continuous innovation and make trainings more effective, and to lay a solid foundation for transformation and growth of the Company and upgrade of its product lineup. Meanwhile, regional operation trainings by category were provided to improve productivity.

2. 2016 Training Statistics

|                                     | Management | Technician | Operation and Maintenance |
|-------------------------------------|------------|------------|---------------------------|
| Percentage of trained employees (%) | 82.7       | 96.3       | 98.73                     |
| Average training hours per year     | 23         | 70         | 21                        |

IV. CODE OF CONDUCT

1. Policies and Execution

In compliance with the Labor Law and the Law on Employment Contracts, the Company has never used and will never use any child labor under the age of 16 and disallows forced labor in any way.

2. Key Performance Indicators

The Company keeps records of all recruits accurately and only hires adults aged above 18. No child labor is used in any form. Employment Contract is signed with every employee, specifying working hours, break time, holidays and leaves clearly. There is no forced labor in any form or by any means.





## SECTION VI ENVIRONMENTAL PROTECTION

### I. GUIDING PRINCIPLE, ANNUAL TARGETS AND ACHIEVEMENTS IN ENVIRONMENTAL PROTECTION

#### 1. Guiding Principle

Be customer- and employee-oriented and foster harmonious development with the society;

#### 2. 2016 Annual Environmental Protection Targets

- Fresh water consumption per ton of steel ≤ 3.8 tons;
- Emissions of pollutants up to national standards;
- Environmental impact assessment and acceptance check of construction projects in compliance with legal requirements;
- Comprehensive utilization of industrial solid wastes ≥ 99.5%;
- Safe disposal rate of hazardous wastes 100%;
- Zero incidence of any type of pollution accidents.

#### 3. Achievements

- Honored as Clean Production and Environment-friendly Enterprise in the iron and steel industry;
- Creditworthy Enterprise, the highest environment credit rating in Anhui;
- G20 targets and tasks fulfilled and praised by the government;
- Zero punishment by the government for environment reasons;
- Breakthroughs in key performance indicators; SO<sub>2</sub> emission per ton of steel slashed by 59% from last year's level and smog emission by 44%;
- The energy management system completed and fully operational;
- All external environment monitoring indicators up to standards, with zero incidence of pollution accidents throughout the year.

## II. EMISSIONS

Waste gas contains mainly smog, nitrogen oxide and sulfur oxide. Smog is mainly produced by materials transportation, raw materials processing in iron smelting, calcination in sintering (pelletizing), tapping process of blast furnace, converter and electric furnace; nitrogen oxide and sulfur oxide mainly stem from calcination in sintering (pelletizing) and combustion in pulverized coal fired boiler of the self-provided power plant.

The production process produces waste water containing SS, COD, oil, ammonia nitrogen and heavy metal containing chromium, among other pollutants.

The production process emits hazardous wastes such as oily waste, chromium sludge, waste emulsion, filter cake and oil drums. Solid wastes are mainly ferrous dust and mud, iron scale and metallurgical slag.



## 1. Policies and Execution

The government unveiled *Opinions of the State Council on Cutting Overcapacity in the Iron and Steel Industry to Relief Difficulties and Achieve Development, Made in China 2025, Iron and Steel Industry Restructuring and Upgrade Plan (2016-2020)*, and *Circular of the State Council on Releasing Energy Saving and Emission Reduction Work Plan for the 13th Five Year* in 2016. The Company responded to these actively, pushed ahead with supply-side structural reforms and put forth uncompromising efforts to ease overcapacity. In 2016, 620,000 tons of pig iron and 640,000 tons of crude steel production capacity were eliminated. At the same time, the Company strived to build a national green plant by benchmarking and tapping into its potential.

The Company passed the environmental management system certification in 2006, defined Pollution Prevention and Control Procedures, among other standard operating procedures, and laid down pollution control processes to control pollutants by means of pollution prevention, process control and follow-up governance.

## 2. Compliance with and Major Breaches of Relevant Standards, Rules and Regulations

The Company meets the emission standards of pollutants applicable to the iron and steel industry set forth in the *Environmental Protection Law of the PRC*, the *Law of PRC on Environmental Impact Assessment*, the *Law of PRC on the Prevention and Control of Atmosphere Pollution*, the *Law of the PRC on Prevention and Control of Water Pollution* and the *Law of PRC on the Prevention and Control of Environmental Pollution by Solid Waste*, and sets internal standards higher than national standards for some pollutants to impose stricter control.

## 3. Key Performance Indicators

### 3.1 Classification and Emission

| Seq. | No. Indicator                                  | Unit  | 2015  | 2016         | Change<br>(±)% |
|------|--|-------|-------|--------------|----------------|
| 1    | Qualified ratio of pollutant discharge         | %     | 98.2  | <b>99.71</b> | +1.51          |
| 2    | Sulfur dioxide emission (iron and steel)       | kg/t  | 1.19  | <b>0.5</b>   | -58            |
| 3    | Sulfur dioxide emission (power generation)     | g/kWh | 0.74  | <b>0.37</b>  | -50            |
| 4    | COD emission                                   | kg/t  | 0.096 | <b>0.066</b> | -31            |
| 5    | Particle emission                              | kg/t  | 0.82  | <b>0.46</b>  | -44            |
| 6    | Ammonia nitrogen emission                      | kg/t  | 0.005 | <b>0.004</b> | -20            |
| 7    | NOx emission (iron and steel)                  | kg/t  | 1.16  | <b>1.06</b>  | -8.6           |
| 8    | NOx emission (power generation)                | g/kWh | 1.09  | <b>0.32</b>  | -71            |
| 9    | Comprehensive utilization ratio of solid waste | %     | 99.63 | <b>99.63</b> | 0.0            |



In 2016, emissions of smog, SO<sub>2</sub> and NO<sub>x</sub> per ton of steel by the Company, were 0.46 Kg, 0.5Kg and 1.06Kg, respectively, reducing 0.36 Kg, 0.69Kg and 0.1 Kg from the amount recorded last year; thanks to 16 highly efficient desulfidation and denitration facilities, the emission of SO<sub>2</sub> per ton of steel nosedived by 59% from last year; the emission of COD per ton of steel lost 0.03kg from last year to reach 0.066kg, and that of ammonia nitrogen was 0.004kg.

### 3.2 *Total Gas Emission and Density*

The Company has always attached great importance to growth with energy efficiency and low carbon footprint. As required by the authorities, a carbon emission examination within the boundary of the Company was conducted and passed a third-party agency reexamination in the first half of 2016. Emission of carbon dioxide per ton of steal were 2.124 t/t and 2.1 t/t respectively in 2015 and 2016.

### 3.3 *Total Emission of Hazardous Wastes and Density*

In 2016, the Company produced 210,000 tons of hazardous wastes, namely 0.0145 ton per ton of steel; and recycled and disposed of 210,000 tons, representing a safe disposal rate of 100%.

### 3.4 *Total Emission of Non-hazardous Wastes and Density*

In 2016, the Company produced 8,370,000 tons of solid wastes, namely 0.57 ton per ton of steel; and recycled 8,340,000 tons, representing a comprehensive utilization rate of 99.63%, outperforming the 99.5% target.

### 3.5 *Emission Reduction Measures and Achievements*

- Exercise control over the sources and processes and take actions against air pollution. The Pollutant Prevention and Control Procedures are applied to the prevention, treatment and control of pollution; so as to control the production process pollution and unorganized emission; environmental impact assessment of every construction project is conducted and the requirements for designing, building and running pollution control facilities are satisfied. Any new project is designed and planned for as per standards higher than national and industrial standards, in addition to compliance with the industrial policy and the minimum requirements of the iron and steel industry, to make sure all new projects are 100% assessed for environmental impact and 100% up to standards in acceptance check. The Company has 203 waste gas treatment devices, and coke oven gas is desulfurized efficiently. In 2016, the Company met all waste gas indicators and successfully cut the emissions of particles, SO<sub>2</sub> and NO<sub>x</sub> per ton of steel by 44%, 58% and 8.6%.

- Control water consumption and use more recycled water. The Company has 83 waste water treatment devices and employs a series of technical processes including water supply by quality classification, multi-layered treatment, refilling purified water with fresh water and refilling waste water with purified water. Some 300 million yuan has been spent on renovations of water recycling system regarding blast furnace cooling water, centralized water consumption at factories, and waste water from coking, among other technical renovations of the water recycling system. Liufenhe sewage plant can process 100,000 tons of waste water a day. In 2016, the Company aimed at a breakthrough in zero emission of Liufenhe sewage plant and reduced waste water vented outside significantly. Water pollutant emissions were up to standards totally, and COD and ammonia nitrogen emissions per ton of steel decreased by 31% and 20% in 2016 when compared with that in 2015.
- Keep environmental protection facilities in good shape and efficient. Responsible principals are made clear. Environmental protection facilities and main facilities run, and are maintained simultaneously. In the event of any exception or failure, repairs are made timely. Internal standards are higher than national and industrial standards, controls are proposed and put into effect and followed by performance assessment. Automated pollution source monitoring devices and visual monitoring devices are installed to realize real-time monitoring of key pollutant outlets around the clock and real-time dynamic monitoring of pollutants emission. Any problem found is addressed timely. Daily average values of online monitoring are 100% satisfactory. The Company spends about 2 billion yuan on the operation and maintenance of environmental protection facilities every year, that is, 148 yuan operating cost per ton of steel. Environmental protection facilities are managed in a professional manner. Some of them are run by third parties under general contracts and subject to level-3 patrol and level-2 supervision.
- Tighten control over sources of material environmental risks. According to Magang Material Environmental Risk Management Measures, classified management of sources of material environmental risks is adopted and responsibilities are defined clearly. Any emission over the prescribed limit shall be punished according to the Four Never-let-go Principles.

### 3.6 *Disposal of Non-hazardous Wastes, Reduction Measures and Achievements*

Recycle solid wastes as much as possible. The Company classifies, stores, processes and recycles solid wastes. Ferrous dust and mud containing low-grade iron are recycled totally; blast furnace slag and iron scale from steel rolling are reclaimed for sale or deep processing totally. According to the 3R requirement of the cyclic economy, the Company encourages cross-factory waste recycling by providing incentives. Steel slag processing and recycling lines whose capacity sum up 800,000 ton/year have been built and 155,000 tons of steel slag are recycled every year. An electric precipitation dry ash recycling system is available at the thermal power plant and 120,000 tons of dry ash are recycled every year. A metallurgical solid waste online processing and recycling facility is built simultaneously along with new zone development. RHF dezincification technology is applied with integrated innovations. 80,000-odd tons of metalized pellets are made from blast furnace dust every year.

### 3.7 *Hazardous wastes are managed strictly.*

The Company has developed Hazardous Waste Management Measures in accordance with the national policy for hazardous wastes to maintain control over the classification, generation, processing and transfer of hazardous wastes. In 2016, the pass rate of proper management of hazardous wastes per unit was 100% and the safe disposal rate of hazardous wastes was also 100%.

## III. UTILIZATION OF RESOURCES

### 1. Policies and Execution

In response to *Opinions of the State Council on Cutting Overcapacity in the Iron and Steel Industry to Relieve Difficulties and Achieve Development, Made in China 2025, Iron and Steel Industry Restructuring and Upgrade Plan (2016-2020)*, and *Circular of the State Council on Releasing Energy Saving and Emission Reduction Work Plan for the 13th Five Year*, the Company formed a working group immediately to lead efforts on cutting overcapacity to relieve difficulties and achieve development. The overcapacity reduction plan has been put into action. Meanwhile, to fit into the One Belt, One Road initiative and the Yangtze River Economic Belt development strategy, the Company has quickened its pace of transformation and upgrade, driven diversification and synergy, and implemented green manufacturing and clean production, in a bid to adapt itself to the New Normal and pursue excellence.



## 2. Key Performance Indicators:

### 2.1 Total Energy Consumption

| Type of Energy                      | 2015  | 2016         | Change (±) |
|-------------------------------------|-------|--------------|------------|
| Raw coal (0,000 ton)                | 281   | <b>305</b>   | 24         |
| Washed coal (0,000 ton)             | 663   | <b>636</b>   | -27        |
| Coke (0,000 ton)                    | 138   | <b>150</b>   | 12         |
| Electricity (100 million kWh)       | 32    | <b>33</b>    | 1          |
| Diesel oil (ton)                    | 5,585 | <b>5,243</b> | -342       |
| Gasoline (ton)                      | 321   | <b>323</b>   | 2          |
| Natural gas (0,000 m <sup>3</sup> ) | 1,617 | <b>1,046</b> | -571       |

### 2.2 Total Water Consumption and Density

Total fresh water consumption was 53,490,000 tons in 2016, equivalent to 3.65t per ton of steel. The industrial water reuse rate was 97.87%, up to the standard of Class I clean production.

|   | Unit    | 2015 | 2016        |
|---|---------|------|-------------|
| Total fresh water consumption               | 0,000 t | 5362 | <b>5349</b> |
| Fresh water consumption<br>per ton of steel | t/t     | 3.82 | <b>3.65</b> |

### 2.3 Energy Efficiency Plan and Achievements

In the context of tightening energy consumption and pollution controls in terms of both total volume and intensity, the Company includes energy consumption per ton of steel, fresh water consumption per ton of steel, COD emission and SO<sub>2</sub> emission, among other key indicators, in its Energy Efficiency and Environmental Protection Plan for the 13th Five-year, defines mid- and long-term energy efficiency and environmental protection targets and plans, links the performance of leaders to these targets directly and signs Energy Saving and Emission Reduction Target Statement with each responsible unit at the beginning of every year. Moreover, it optimizes the three-tier energy management network, improves good energy management practices, tightens energy measurement management and energy indicator management, and reinforces management energy-saving by rule making, production organization, energy consumption planning, staff competency improvement and process control. In 2016, with increases in annual output of iron, steel and products, the Company reported energy consumption 597.4kgce/t, down 3.8kgce/t, and fresh water consumption 3.65m<sup>3</sup>/t, down 0.17m<sup>3</sup>/t, on a year-on-year basis.

The Company applies those energy-efficient technologies recommended in National Key Energy Efficient and Low Carbon Technologies Catalogue by means of fixed asset investment, machine overhaul and contract energy management wherever possible, to improve machine performance and product quality, ramp up productivity and fulfill the goal of increasing energy efficiency and reducing energy consumption. In 2016, seven contract energy management programs were completed, delivering annual energy saving of 23 million yuan.

#### *2.4 Access to Suitable Water Supply, Water Efficiency Improvement Plan and Achievements*

The Company gets access to water supply and uses water as required by the authorities strictly, and develops and enforces annual total water consumption and discharge control plan and monthly breakdowns. A raft of water saving programs have been implemented to reduce waste water, including water station sludge hardening, waste water recycling from iron-making plants, and slab cooling water recycling from steel rolling mills; the pipeline has been checked for leakage and old and worn pipes have been replaced, to minimize pipeline leakage and loss; strict control is imposed over water recycling stations, to improve recycled water concentration multiple and reduce the consumption of fresh water.

### **IV. CONSTRUCTION AND OPERATION OF ENVIRONMENTAL PROTECTION FACILITIES**

The Company has 83 water treatment facilities, able to process 4,500,00 tons a day; 203 air treatment facilities, able to process 81,160,000 cubic meters per hour; 193 online monitoring devices of pollution sources, and 21 visual monitoring devices. A complete range of environmental protection facilities are available to improve performance. Desulfuration and denitration facilities, online monitoring devices and some de-dusting equipment are delegated. The simultaneous operation rate was 100% and the annual operating cost of environmental protection facilities grossed more than 2 billion yuan in 2016.

### **V. INVESTMENT IN ENVIRONMENTAL PROTECTION AND DEVELOPMENT OF ENVIRONMENTAL PROTECTION TECHNOLOGIES**

The Company invested 121 million yuan in total in environmental protection in 2016, which was mainly spent on slag hill environmental control, raw materials yard wind-proof dust suppression net, ore tank dust removal renovation, sintering machine head electrostatic precipitation efficiency improvement renovation and silicon steel water treatment upgrade renovation.

## **VI. THE ENVIRONMENT AND NATURAL RESOURCES**

To minimize the impact of its activities on the environment and natural resources, the Company has phased out backward production lines, speeded up restructuring and made constant progress in energy saving and environmental protection, by upgrading its products, extending its industrial chain and seizing the opportunity arising from the government's efforts to reduce overcapacity in the iron and steel industry.

## **SECTION VII SUPPLIER MANAGEMENT**

### **I. POLICIES AND EXECUTION**

1. In accordance with Product Quality Advanced Planning and Scheduling Procedures mapped out by the Company, product quality is planned for and scheduled in advance. Being demand-oriented, the Company has developed Raw Materials Supplier Management Measures, Raw Materials, Fuel and Accessories Procurement Procedures, and Raw Materials and Accessories Procurement Approval and Usage Management Measures, to manage the procurement process, optimize the supply chain and manage suppliers optimally. All of these are set to make sure all products purchased satisfy quality, environment, energy, occupational health and safety and measurement requirements.
2. The Company keeps track of risks associated with the supply chain and the society in terms of resource allocation, regional distribution, logistics, environment, financial status and national policies, and kicks start contingency plans timely to assure availability of supply.
3. The Company sparkplugs environmental governance and deepens a green supply chain.
4. The Company minimizes intermediate costs and values win-win between buyer and supplier.

### **II. KEY PERFORMANCE INDICATORS**

The Company is strongly committed to a safe, reliable, efficient, sustainable and competitive supply chain. Thanks to the Supplier Admission Information Platform open to the public, it is able to attract widely and pick out suppliers who have an edge in resources, quality and branding. There are 935 registered suppliers, 927 of which are in the PRC and 8 in other countries. The Company tightens process control over suppliers, including competency assessment of registered suppliers and admission assessment of prospective suppliers. Dynamic and classification ratings of suppliers are based on systematic data. Under the condition of fairness, good faith, trust and cooperation on equal footing, those who are creditworthy are preferred and the team of suppliers is optimized constantly.



## SECTION VIII PRODUCT MANUFACTURING

### I. POLICIES AND EXECUTION

The Company has prepared a Quality Manual by combining the requirements of ISO9001 quality management system with its specific conditions. The Quality Manual serves as a guiding book for quality management of the Company. Product Quality Advanced Planning and Scheduling Procedures and Production Process Control Procedures, among other procedures the Company has mapped out based on the Quality Manual, are designed to plan for and schedule product quality in advance, control and manage the planning and scheduling process and keep under control all sorts of factors existing in production and service rendering that have an impact on product quality. These procedures are functional and adequate to assure compliance of the Company's products with the needs of customers and legal requirements and enable the Company to offer satisfactory products and services to its customers.

The quality system of the Company was fully functional and earned the Company the 16th National Quality Award in 2016.

In 2016, the first Tech Marketing Conference was held. 10 APQP groups were formed and 17 EVI programs were launched. A five-in-one customer service system has been rolled out. Now the Company holds 35 continually valid certificates of system and product certification and the renewal rate of existing certificates is 100%. In 2016, the Company was newly certified for four systems and six products.

### II. KEY PERFORMANCE INDICATORS

1. **Nil recall of sold or delivered products because of safety or health reasons**
2. **Complaints about products and services and countermeasures**

In 2016, the customer service system of the Company received a total of 2,691 complaints from customers, representing a 33.47% drop year on year. The Company has taken actions as follows to address these complaints:

First, quick response. All disputes were settled in the same month of occurrence every month. In 2016, the average settlement rate of disputes in the same month of occurrence was 4.2% higher than that in 2015.

Second, accurate services. Product Dispute Handling Rules have been revised to refine the processes and standards.

Third, the Company introduced the five-in-one user service model in 2016 to keep optimizing its service process.

### **3. Best practices relating to maintenance and protection of intellectual properties**

- Intellectual property meshes with industrial mix reshuffling, technology development and marketing. A patent pool has been built to protect technologies and market presence. In 2016, the Company filed 231 patent applications, including 140 for inventions; 171 patents were newly granted, including 105 for inventions.
- A review of high grade electric steel intellectual property was held, to drive high grade electric steel R&D and international business strategy, reduce the risk of infringement and sharpen core competitive strength of the Company.
- Intellectual property incentives have been devised. In addition to rewards provided by the government, the Company has created a patent reward, to encourage and support employees to be creative and inventive.
- 30-odd innovation engineers received trainings on innovation methodology.

### **4. Quality test and product recall**

Product Monitoring and Measurement Procedures have been developed to specify good monitoring and measurement practices regarding purchased products, work in progress and finished products and to validate products.

Substandard Product Control Procedures have been set forth to prevent substandard products from being used or delivered unexpectedly and to identify, control and manage substandard products effectively.

A QC suspension call mechanism has been put into operation, to tighten quality control, govern inter-factory quality case arbitration and reinforce on-site testing, supervision and judgment.

Product Quality Red, Yellow and Green Light Management Measures have been invented to enhance process control over quality.

A three-tier quality supervision system has been put in place, to make QC activities normative, standardized and consistent. In 2016, the Company conducted 139 quality tests.

### **5. Customer data and privacy policy, execution and supervision**

Where customers require non-disclosure of data and privacy protection, the Company incorporates such requirements in the agreements signed with such users. At the same time, the Company gives restricted access to business data. Every user is only permitted to access its own information, to prevent user data from being divulged.

## SECTION IX ANTI-CORRUPTION

### I. ENFORCEMENT OF THE CPC DISCIPLINES AND INTERNAL RULES OF THE COMPANY

1. Respect the CPC rules and disciplines: Anti-corruption Self-discipline Code of Conduct of the Community Party of China, Disciplinary Sanction Provisions of the CPC, Accountability Provisions of the CPC, Internal Supervision Provisions of the CPC, Supervision and Discipline Enforcement Rules for Discipline Inspection Authorities of the CPC (For Trial Implementation), Case Investigation Provisions for Discipline Inspection Authorities of the CPC, Implementation Rules of Case Investigation Provisions for Discipline Inspection Authorities of the CPC and Anti-corruption Provisions for Performance of Duties by Heads of State-owned Enterprises.
2. Respect the Company's rules and policies: Magang Employee Rewards and Punishments General Provisions (For Trial Implementation), Opinions on Enforcing Primary Responsibility of the Party Committee and Supervisory Responsibility of the Discipline Inspection Committee for Anti-corruption and Good Conduct of Party Members, Opinions on Corruption Risk Prevention and Control, Whistle Blowing Supervision Measures and Magang Anti-fraud Management Measures.

### II. KEY PERFORMANCE INDICATORS:

1. During the reporting period, four legal cases accusing some employees of the Company of embezzlement were built, tried and closed. One person was jailed for eleven years and six months for embezzlement and bribe-taking and fined 1,400,000 yuan; one person was sentenced to four years in jail for bribe-taking and a fine of 250,000 yuan; one person was jailed for three years and six months for bribe-taking as non-government worker and bribe-taking and fined 250,000 yuan; one person was sentenced to one year and eight months in prison for bribe-taking and a fine of 100,000 yuan.

#### 2. Whistle Blowing Procedures

The Whistle Blower Reception Office of the Compliance and Audit Department at the Company is responsible for handling all kinds of reported offenses and malpractices. The Compliance Office at each secondary unit is responsible for handling malpractices reported by the public. The whistle blowing hotline of the Company, 0555-2876363, is accessible to the public any time during working hours. Room 1513 in the main office building of Magang is where the Whistle Blower Reception Office works.

Whistle blowing steps: read letters, receive visitors, answer calls or gather information reported online→register→submit for approval→investigate→wind up→reply or visit→statistics and analysis→archiving.



## SECTION X COMMUNITY INVOLVEMENT AND POVERTY RELIEF

### I. POLICIES AND EXECUTION

Operating on the bank of the Yangtze River, the Company is threatened by dangerous flood every year. The Company not only takes internal flood-proof efforts seriously, but also plays a part in flood control actions organized by the government, in accordance with the Flood Control Law of PRC and other applicable laws and regulations. With respect to poverty relief and education, the Company also honors its social responsibilities and pays back the society. It has been unanimously well recognized by the government and local community for its generous contribution to stable and harmonious public relations.

### II. KEY PERFORMANCE INDICATORS

#### 1. Flood Control

In May 2016, the Company prepared sufficient wood and woven bags before the flood season arrived and organized one city-wide drill of the flood rescue task force and one flood control and emergency response workshop. When the flood season arrived and Maanshan triggered Level-I flood emergency response, the Company dispatched some members of the long products division and other responsible units to watch out for flood on the dike around the clock. At the same time, a group was asked to weed the slope of Liufenhe dike. When the flood overflowed the Liufenhe dike and endangered all residents nearby, the senior management of the Company was present and in command on the spot. And a rescue team was sent and some drainage equipment was made available to Hengxing Village to help them combat the disaster.

In addition, the Company delivered 500 angle steel bars and 20 cubic meters of fir log to the disaster-hit Hanshan County. 24 cubic meters of wood were delivered to the dike of Shijiu Lake, Bowang District, to fight against flood.



## 2. Poverty Relief

During the reporting period, the Company built a photovoltaic power plant at Malou Village, Wangyan Town, Funan County for free, which was worth 160,000 yuan. A 300,000 yuan worth Magang Vegetable Greenhouse Park was built at Malou Village for free. Three machine tools worth 30,000 yuan were donated to the vocational school at Jinzhai County. Sports goods worth 9,000 yuan were donated to Malou Village primary school. Winter clothes and quilts, flour, edible oil and cash, worth more than 20,000 yuan in total, were provided to some disadvantaged families at Malou Village. Rice and edible oil worth some 2,100 yuan were provided to some families living in poverty at Malou Village with which Magang has paired.

The Company lifted 114 families and 442 persons out of poverty on the records.

3. In 2016, the Company took in 5,128 interns in 51 groups from eight universities, namely, University of Science & Technology Beijing, Southeast University, Wuhan University of Science and Technology, Anhui University of Technology, Taiyuan University of Technology, Anhui Polytechnic University and Tongling University.
4. In 2016, 2,630 employees donated 700,000 ml blood.
5. The Charity Day event was carried on, and 600,000 yuan was donated to Maanshan Charity Federation.
6. Volunteer services.

Magang volunteers, while insisting on providing charitable service for ordinary people on “3.5” volunteer day and connecting to disadvantaged groups, also initiate “Heart to Heart” program to help children from poor families finish school. Young volunteers are sent to Sunshine Village and Welfare Institute on a regular basis to help organize activities such as “Loving Heart Day”. They have also brought together many times young volunteers to donate blood. A few of them have even donated hemopoietic stem cells. In 2016, over 1,000 people from the Company participated in various types of voluntary service, with the total number of people benefited reaching over 2,000.

## SECTION XI CONTACT US

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