



**Pull Together for a New
Magang with Sustained Growth**



2022

Maanshan Iron and Steel Co., Ltd.

**Environmental,
Social and Governance Report**



**Pull Together for a New
Magang with Sustained Growth**





About the Report

- Reporting Period** The Report is released annually. It is the ESG (Environmental, Social and Governance) Report 2022 of Maanshan Iron and Steel Co., Ltd. released to the public.
- Title Description** For ease of presentation in the Report, “Baowu Group” is short for “China Baowu Steel Group Corporation Limited”, “Magang Group” is short for “Magang (Group) Holding Co., Ltd.”, and “Masteel”, “the Company” and “we” all refer to Maanshan Iron and Steel Co., Ltd.
- Scope of the Report** Unless otherwise specified, the Report mainly describes the practices and performance of Masteel and its subsidiaries in fulfilling their economic, social and environmental responsibilities. The selection of the entities covered mainly considers their importance and substantiality. The monetary unit in the Report is RMB, unless otherwise stated.
- Preparation Basis**
 - Guiding Opinions of State-owned Assets Supervision and Administration Commission of the State Council on Better Performance of Social Responsibilities of State-owned Enterprises*
 - Guidelines for Corporate Social Responsibility Report in China (CASS-ESG5.0) of Chinese Academy of Social Sciences*
 - Sustainability Reporting Guidelines (GRI Standards)*
 - United Nations Sustainable Development Goals (SDGs)*
 - Environmental, Social and Governance Reporting Guide of Hong Kong Stock Exchange*
 - Guidelines No.1 of the Shanghai Stock Exchange on Self-Regulation of Listed Companies - Standard Operation*
- Preparation Process** Investigation into stakeholders’ concerns - Report planning - Framework building - Preparation training - Source materials collecting - Report preparation - Department review - Report design - Opinions soliciting - Report revision - Management review - The Board of Directors review - Finalizing and releasing
- Quality Assurance** The information and data disclosed in the Report are derived from statistical reports and official documents of corresponding enterprises and have been approved by relevant departments. The Company warrants that there is no false record or misleading statement in the Report and takes responsibility for the authenticity, accuracy and integrity of the Report.
- Text Language** The Report is available in simplified Chinese, traditional Chinese and English. In case of discrepancy, the simplified Chinese version shall prevail.
- Release Form**

The Report is released in printed and electronic forms. The electronic document is available for downloading and reading from the CSR section of our official website (<http://www.magang.com.cn/d3/shzr/index.html>). To minimize the impact of printing on the environment, we encourage our readers to download the electronic form as far as possible.

The Report is printed on environment-friendly paper. We try to save space in order to save paper. For more details, please go to our official website, WeChat public account and annual financial reports.

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Message from Chairman

Message from Chairman



Where there is an ambition, there is no boundary. The year 2022 was the year of successfully holding the 20th CPC National Congress and also a crucial year for China to embark on a new journey toward the second centenary goal of building a modern socialist country in an all-round way. Holding high the banner of socialism with Chinese characteristics, we persisted in the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, fully implemented the guiding principles of the 20th CPC National Congress and the spirit of the important speech delivered by General Secretary Xi Jinping during his inspection in Magang Group, China Baowu, and focused on the high-quality development of the enterprise. Pivoting around the goal of “becoming the global leader of excellent and special long steel products”, we set up higher-level benchmarks and forged ahead boldly to build a lean, highly efficient and first-class corporation. Today’s Magang has stepped on a new platform as the pillar and mainstay of a great power and a new runway of the second start of undertaking, transformation and upgrading, while showing a new look featuring green and intelligent empowerment and a harmonious ecosystem and a new vibe that strives to stay ahead along the way!

We consolidated corporate governance and pooled efforts to make tremendous progress. We unwaveringly upheld the overall leadership of the CPC over state-owned enterprises (SOEs), remained consistent to uphold the leadership of the CPC over SOEs and establish a modern enterprise system in an all-round way, and improved the “Three Importance and One Greatness” decision-making system consisting of “decision-making of major matters, appointment and dismissal of important leaders, arrangement of important projects, and use of large funds”. Through the integration of strengthening the leadership of the CPC and improving corporate governance, we endeavored to build a first-class enterprise led by first-class Party building, formed a new Party building model with joint efforts, and actively carried out disciplinary inspections. By doing so, we explored to form an institutional system featuring “Party-government integration, full coverage, clear responsibilities, accelerated pass-on, and efficient operation”, so as to boost the integrated and efficient operation of the enterprise and advance the modernization of the Company’s governance system and ability in all respects.

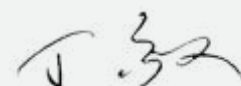
We made innovative and technological breakthroughs to forge the Great Wall of steel with keen determination. Driven by the “One Basis and Five Industries” strategy of China Baowu, we optimized the path to implementing the “High Technology, High Efficiency, High Market Share, Ecologicalization, Internationalization”. We intensified efforts to achieve technological innovations, accelerated breakthroughs and achievements transformation in core technologies in key fields, devoted ourselves to tackling bottleneck issues, launched scientific research projects through many means, such as the open competition mechanism to select the best candidates to undertake key research projects, and created a platform for innovations in “government, enterprises, universities, research institutes and users”. Aligning with “Four Uniformly”, we improved the quality of intelligent manufacturing and expanded its coverage to a deeper level by digital, network-based and intelligent means. We built a new model for intelligent control featuring “one plant, one center”, and created intelligent manufacturing 2.0 characterized by “three-cross integration” to set an example for intelligent manufacturing.

We increased efforts in green development to build green urban steel plants. Thoroughly implementing the Xi Jinping Thought on Ecological Civilization, we launched the program of building an enterprise with Grade-A environmental performance with all-out effort, and continued to construct the “garden-style riverside urban eco-steelworks”. Taking “improving ecology, adding colors, upgrading quality, and enriching connotation” as the mainstay, we realized a great transformation of our plant area from “scenery” to “scenic area”. Focusing on “treatment of three wastes – waste gas, waste water and solid waste” and “cleaning, greening, beautifying and civilizing”, we resolutely made solid gains in the battle against pollution, carried out the “treatment of three wastes” program in a targeted manner, and protected the ecosystem of the Yangtze River. Targeting the carbon peaking and carbon neutrality goals, we took the initiative to put the requirements for achieving carbon peaking and carbon neutrality into practice, made sustained efforts in the key areas such as ultimate energy efficiency, comprehensive utilization, and exploration in low-carbon metallurgical technology applications by integrating social resources, and devoted ourselves to discovering a green and low-carbon development path.

We rallied our partners to create synergy for brilliant achievements. Upholding the employee-centered philosophy, we took concrete steps to care for and serve our employees. We continued to advance the “Doing Practical Things for the People” practical activities to enrich our employees’ life and show more care for them, so as to satisfy their yearnings for a valuable, available and enjoyable life. Living up to our “customer-centered” service tenet, we further propelled the consistent quality management, actively advocated the “base management + brand operation” pattern, fostered and expanded the regional advanced steel manufacturing clusters, and joined hands to pursue common development and build a high-quality steel ecosystem.

We kept social development in mind to co-build a harmonious and beautiful homeland. By thoroughly implementing the important observations of General Secretary Xi Jinping on advancing rural revitalization across the board, we shouldered our responsibility for providing assistance and support, and made continuous efforts in rural industries, ecosystem, talent, culture and organization to advance rural revitalization across the board. We kept contributing to and making harmonious progress with the society, took the initiative to pursue joint contribution and shared benefits together with the community, took an active part in social activities for public good to pass on warmth and power, and effectively performed corporate social responsibility to co-build a better and harmonious society.

Lofty mountains forge us ahead, and wonderful dreams work out our grand blueprint. The new journey is a long one full of glories and dreams. With the determination to never let up until we reach our goals and the attitude of “accomplishing what requires three-year efforts in one year”, we will take on a new look, make new achievements, and write a new chapter. In 2023, we will galvanize everyone in Magang to share the responsibility, develop real skills for entrepreneurship, uphold the conduct of overcoming difficulties, and maintain a pioneering spirit to take the lead. With these efforts, we will focus on promoting high-quality development, speed up building a global first-class specialized platform company in excellent and special long steel products, take bigger strides in the journey of building a new Magang with sustained growth, and write a new chapter of serving the country with steel in the new era by building on past successes and looking into the future.



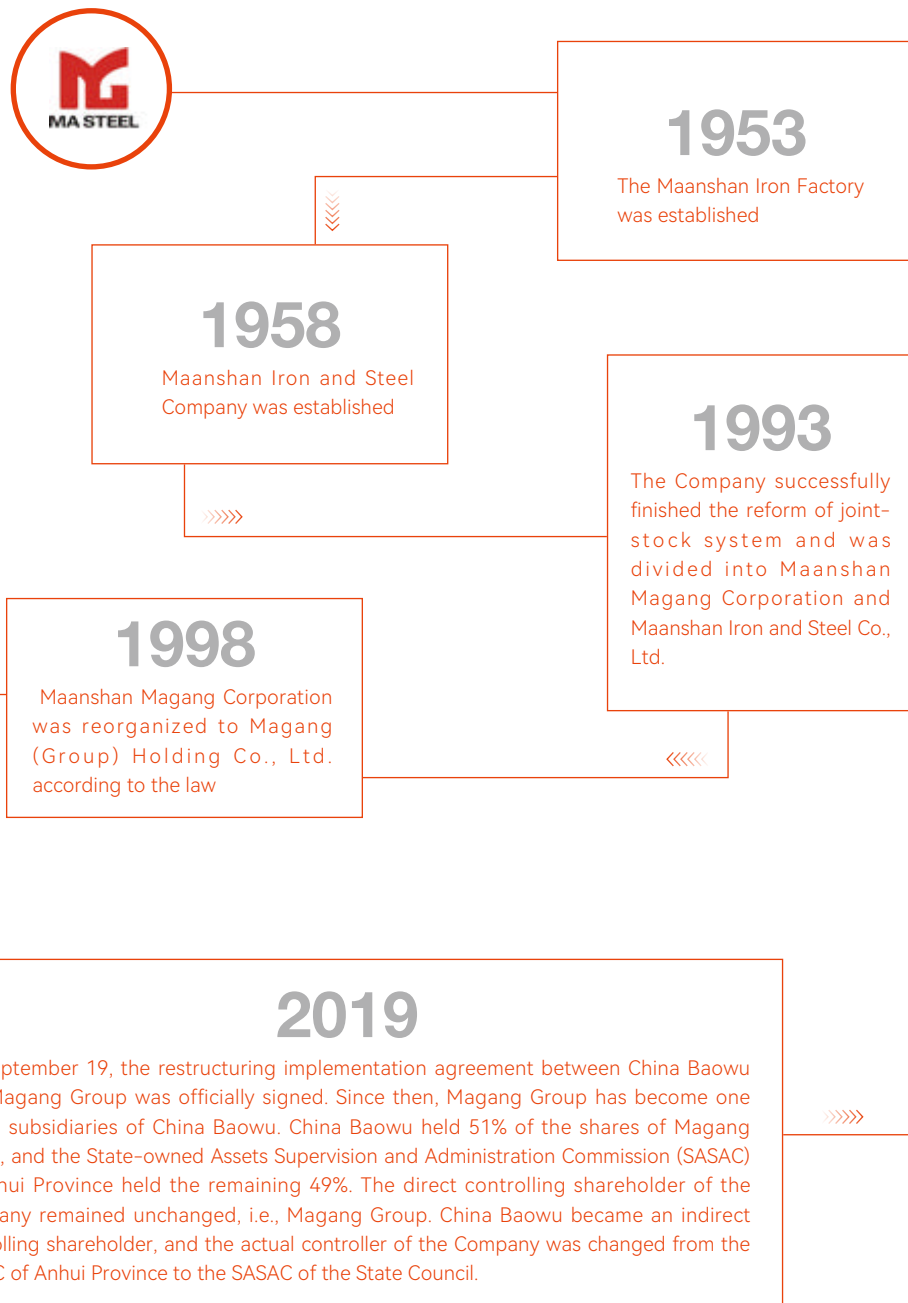
Ding Yi, Secretary of the Party Committee and Chairman of Masteel

About Masteel

Company Profile

As one of China's largest steel manufacturers and distributors, Masteel has a supporting steel production capacity of 20 million tons and 18,795 on-the-job employees. In 2022, the Company achieved operating revenue of RMB 102.154 billion and year-end net assets of RMB 29.19 billion. Listed in both Hong Kong and Shanghai, Masteel ranked 119th in the 2022 *Fortune* Top 500 China Enterprises, 20 places higher than last year's ranking.

Development History



Many “first” places in the steel industry achieved by Masteel

The first wheel and tyre factory in China

The first set of high-speed wire rod mill

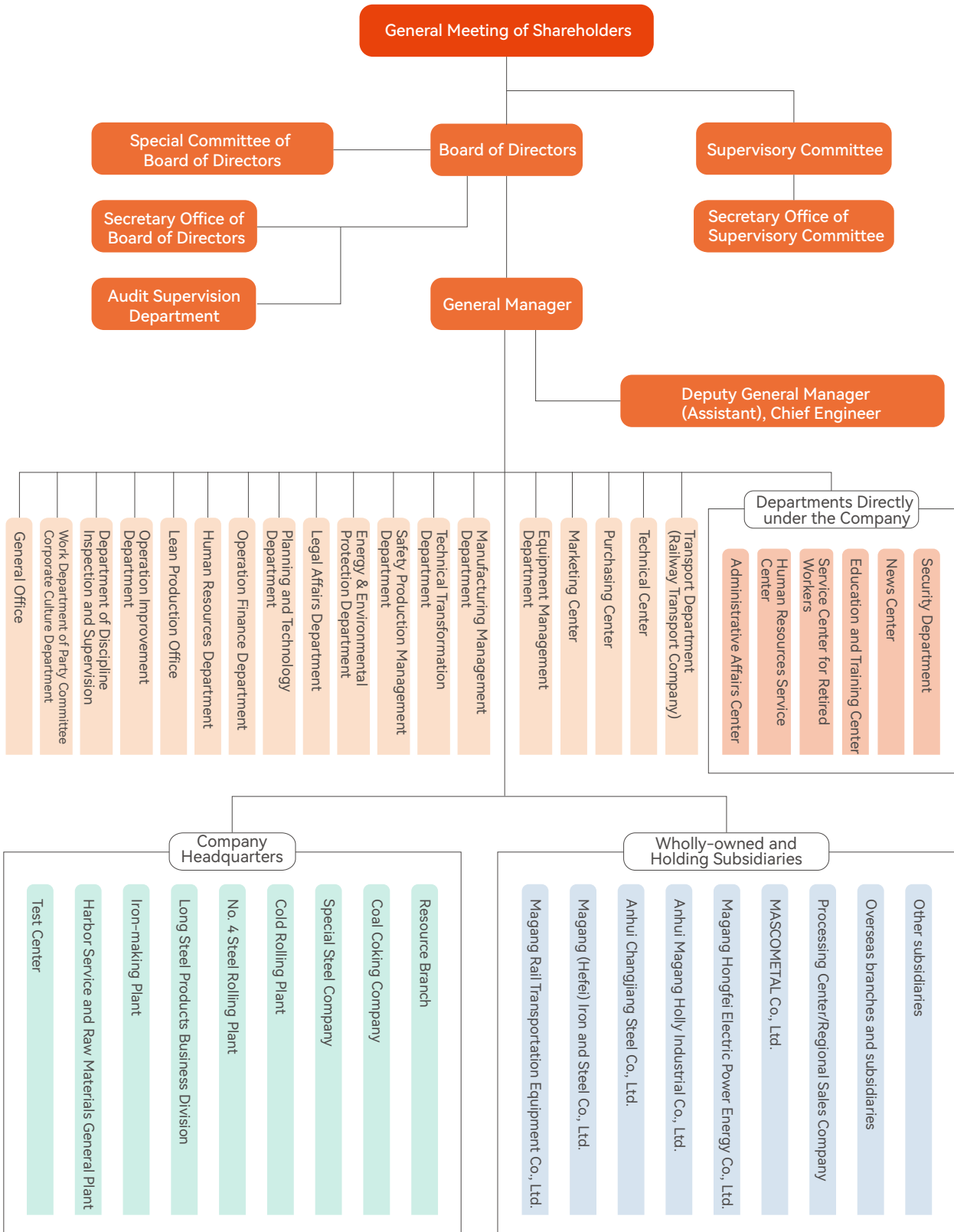
“The first steel stock in China”
(A+H listed company)

The first large H-beam production line



Organizational Structure

Organization Chart of Maanshan Iron and Steel Co., Ltd.



Main Business and Products

The Company has developed a unique structure with four dominant products of “high-quality special steel, wheels and axles, long materials, and sheets and strips”. Our products have been widely applied in the fields of aviation, railway, marine, automobile, household appliances, shipbuilding, construction and machinery manufacturing as well as national key projects, and have been exported to more than 50 countries and regions.

We possess multiple advanced production lines of cold-rolled and hot-rolled sheets, galvanized sheets, color-coated sheets, non-oriented silicon steel, large and small H-beams, heavy H-beams, high-speed wire (bar) materials, large bar materials, high-quality sheets, and high-speed wheels;

Main steel products sold by the Company include automobile sheets, home appliance sheets, non-oriented silicon steel, hot-rolled sheets, H-beams, high-quality special steel, construction wires and bars, and wheels.

Enterprise Culture

Vision

To be a global leader in the steel industry for high-quality, special, long steel products

Mission

To practice innovative development based on “green, excellent, intelligent products” and build a high-quality steel ecosystem

Values

Integrity, Innovation, Greenness, Sharing

Honors and Recognition

Honor	Issued by
“Central Enterprise ESG · Pioneer 50 Index”, “Central Enterprise ESG · Governance Pioneer 50 Index”, and “Central Enterprise ESG · Risk Management Pioneer 50 Index”	SASAC of the State Council, China Social Responsibility 100 Forum
2022 ESG Golden Bull Award · Governance Pioneer Award	China Social Responsibility 100 Forum
2022 Top 100 Chinese Listed Companies Award	Top 100 Chinese Listed Companies Summit Forum
2022 Ethical Chinese Listed Companies Award	Top 100 Chinese Listed Companies Summit Forum
2021 Rich Returns List of Cash Dividends List for A-share Listed Companies	China Association for Public Companies
Best Practice at the 2021 Annual Report Performance Presentation of Listed Companies	China Association for Public Companies
2021 Typical Case of Digital Transformation of Listed Companies	China Association for Public Companies
2022 ESG Excellent Case	China Association for Public Companies
5A level in the “2022 Performance Evaluation of Secretary of the Board of Listed Companies”	China Association for Public Companies
Top Secretary of the Board	Sina Finance
Pacesetter in Chinese Carbon Emission Reduction Companies	Sina Finance
Best Board of Directors Award of Investor Relations for Chinese Listed Companies	STCN
The 5 th New Fortune Best IR Hong Kong Listed Company (A+H share)	New Fortune

Corporate Governance

Masteel made sustained efforts to build a well-rounded corporate governance system, improve the level of standard operation, and enhance corporate governance through a professional, diversified, stable and excellent corporate governance structure, timely and transparent information disclosure, complete risk management, and effective internal control. We strictly abode by business ethics, strengthened integrity and law-based construction, fully guaranteed the interests of shareholders and interested parties, and boosted the sustainable and healthy development of the Company.

Overview of Corporate Governance

The Company set up a corporate governance structure with a clear division of labor and checks and balances among the General Meeting of Shareholders, the Board of Directors, the Supervisory Committee, and the General Manager in strict accordance with the requirements of relevant laws and regulations as well as the listing rules of the stock exchanges where the Company went public. The structure secured reasonable and scientific decision-making and the effective operation of the Company.

In 2022, the Company followed the articles of Appendix 14: *Corporate Governance Code* (hereinafter referred to as the *Code*) of the *Rules Governing the Listing of Securities* on the Stock Exchange of Hong Kong, and where appropriate, adopted the suggested best routines in the *Code* to the full.

Directors and the Board of Directors

Composition of the Board of Directors

From January 1, 2022 to December 1, 2022, the Ninth Board of Directors of the Company consisted of five directors, including two executive directors, three non-executive directors, and three independent non-executive directors. There were two female directors, accounting for two-fifths of the Board members.

Name	Gender	Chairman	Executive director	Non-executive director	Independent non-executive director
Ding Yi	Male	★	★		
Ren Tianbao	Male		★		
Zhang Chunxia	Female			★	★
Zhu Shaofang	Female			★	★
Wang Xianzhu	Male			★	★



Since December 1, 2022, the Tenth Board of Directors of the Company consisted of seven directors, including three executive directors, four non-executive directors, and four independent non-executive directors. There were two female directors, accounting for two-sevenths of the Board members.

Name	Gender	Chairman	Executive director	Non-executive director	Independent non-executive director
Ding Yi	Male	★	★		
Mao Zhanhong	Male		★		
Ren Tianbao	Male		★		
Zhang Chunxia	Female			★	★
Zhu Shaofang	Female			★	★
Guan Bingchun	Male			★	★
He Anrui	Male			★	★

There was no relationship to be disclosed among the Board members (including the Chairman and the General Manager), including financial, business, family, and other relevant relationships. The Company received the independence confirmation submitted by all independent directors according to Article 3.13 of Chapter 3 Authorised Representatives, Directors, Board Committees and Company Secretary in the *Rules Governing the Listing of Securities* on the Stock Exchange of Hong Kong. The Board of Directors accordingly considered all independent directors independent.

The Board Meeting

The Board of Directors holds four regular meetings every year, and informs the directors of the meeting time, venue and agenda 14 days in advance to give all directors the opportunity to attend as far as possible. All directors are entitled to put forward issues to be discussed which will be included in the agenda. As requested by the directors, the management will provide sufficient materials to the directors properly, which will be helpful for them to make appropriate decisions. All directors or a majority of directors will attend each regular meeting in person. When the Board of Directors votes on connected transactions, affiliated directors should abstain, and non-affiliated directors should make the approval. All directors have the right and opportunity to look up the meeting minutes. The Secretary of the Board organizes and prepares for the Board Meeting, and assists the Chairman in ensuring that the meeting procedures conform to the requirements of relevant laws, regulations and normative documents. In 2022, the Company held 15 board meetings. No director was absent from the meeting or failed to attend the meeting in person for successive twice, and nor entrusted any other director to attend the meeting on behalf of himself or herself.

Attendance of Directors at the Board Meeting

Name	Times required to attend the Board Meeting	Times of attendance in person	Times of attendance by means of communication	Times of attendance by entrustment	Absence
Ding Yi	15	9	6	0	0
Mao Zhanhong	3	2	1	0	0
Ren Tianbao	15	9	6	0	0
Zhang Chunxia	15	9	6	0	0
Zhu Shaofang	15	9	6	0	0
Guan Bingchun	3	2	1	0	0
He Anrui	3	2	1	0	0
Wang Xianzhu	12	7	5	0	0

Functions and power of the Board of Directors and the management

The Board of Directors is responsible for guiding, leading and supervising the Company's affairs, and focuses on creating long-term values to ensure the high-quality development of the Company. The main responsibilities of the Board of Directors include devising strategic goals and paying proper attention to value creation and risk management; calling the General Meeting of Shareholders and executing the resolutions of the General Meeting of Shareholders; deciding the Company's annual operation plans and important investment schemes; drawing up profit distribution plans, basic management systems, substantial acquisitions or selling proposals, etc.

The main responsibilities of the management include presiding over the Company's operation and management and organizing to implement the resolutions of the Board of Directors; organizing to implement the Company's annual operation plans and investment schemes; drawing up the scheme for setting up the Company's internal management agencies; laying down the Company's basic management systems, etc.

Director training and continuing professional development (CPD)

The Company is committed to building a learning-oriented Board of Directors. During the reporting period, the Company organized the directors to attend proper continuing professional development (CPD) training in various ways or approaches. Specifically, we organized the directors to attend the training classes and seminars held by the securities regulators, associations for public companies, and professional institutions, and provided them with the latest laws and regulations as well as the market regulatory trends and information that we collected and sorted out. For example, during the reporting period, current directors Mr. Ding Yi, Mr. Mao Zhanhong, Mr. Ren Tianbao, Ms. Zhang Chunxia, Ms. Zhu Shaofang, Mr. Guan Bingchun, Mr. He Anrui and then director Mr. Wang Xianzhu attended the 18-credit-hour training for directors organized by the Shanghai Stock Exchange. The training involved the aspects of risk control, information disclosure, and standard performance, and all the directors obtained the certificate of qualification. By such means, the directors developed and updated their knowledge and skills, gained a continuous understanding of the Company's business and operating and market environment, fully recognized their responsibilities and duties required by the listing rules and relevant regulatory provisions, and continued to possess the ability to make contributions to the Board of Directors.

Chairman and General Manager

Different persons act as the Chairman and the General Manager respectively. During the reporting period, Mr. Ding Yi served as the Chairman and Mr. Ren Tianbao served as the General Manager. The two persons act independently with a clear division of labor. The Chairman is mainly responsible for corporate planning and strategic decisions and presiding over the work of the Board of Directors. The General Manager, who is answerable to the Board of Directors and leads the management, is mainly responsible for the Company's daily operations and management.

Committees under the Board of Directors

There are four committees under the Board of Directors, namely, the Strategy and Sustainable Development Committee, the Audit and Compliance Management Committee ("Audit Committee"), the Nomination Committee, and the Compensation Committee. In 2022, the Strategy and Sustainable Development Committee held three meetings, the Audit and Compliance Management Committee held seven meetings, the Nomination Committee held four meetings, and the Compensation Committee held six meetings, in total.

Composition of the Committees

■ Strategy and Sustainable Development Committee

Ding Yi, Mao Zhanhong, Ren Tianbao, Zhang Chunxia, Guan Bingchun

■ Nomination Committee

Zhang Chunxia, Zhu Shaofang, Guan Bingchun, He Anrui, Ding Yi

■ Audit and Compliance Management Committee

Zhu Shaofang, Zhang Chunxia, Guan Bingchun, He Anrui

■ Compensation Committee

Guan Bingchun, Zhang Chunxia, Zhu Shaofang, He Anrui

Tasks of the committees

All committees deal with specific tasks according to their clear scope of functions and powers based on the *Articles of Association* and their Work Regulations.

<p>Main responsibilities of the Strategy and Sustainable Development Committee</p>	<p>Studying and monitoring the Company's mid- and long-term strategic planning, reviewing the Company's important investment, financing schemes, and major capital operation and asset management projects, dealing with the Company's ESG affairs, and other responsibilities delegated by the Board of Directors.</p>
<p>Main responsibilities of the Audit Committee</p>	<p>Reviewing the Company's annual, semi-annual and quarterly performance, examining the Company's risk management and internal control, supervising and evaluating the external and internal audit, and other responsibilities delegated by the Board of Directors.</p>
<p>Main responsibilities of the Nomination Committee</p>	<p>Discussing the scale and composition of the Board of Directors in light of the Company's reality, studying and reviewing the candidates of the directors, the General Manager, and the Secretary of the Board, appraising the independence of the independent directors, and other matters authorized by the Board of Directors.</p>
<p>Main responsibilities of the Compensation Committee</p>	<p>Drawing up the compensation and assessment policies of the directors and senior executives, drafting the equity incentive plan, and other responsibilities delegated by the Board of Directors.</p>

The Board of Directors regularly examines the composition and scope of functions and power of all committees to ensure that the relevant arrangements still tally with the Company's current and future development. For details of the committees' responsibility performance, please see the Section of Corporate Governance in the 2022 Annual Report of the Company. The report is available on the websites of the Shanghai Stock Exchange, the Stock Exchange of Hong Kong, and the Company.

Secretary of the Board

During the reporting period, Mr. Ren Tianbao served as the Secretary of the Board since December 1, 2022, and his predecessor was Ms. He Hongyun; Ms. He Hongyun and Ms. Zhao Kaishan co-served as the Joint Company Secretary. All directors can receive suggestions and services from such persons. The Secretary of the Board reports to the Chairman with regard to governance affairs, and is responsible for ensuring that the procedures of the Board of Directors are followed and the information circulation and communication among the directors and between the directors and the shareholders and management are promoted. Mr. Ren Tianbao, Ms. He and Ms. Zhao accepted professional training for more than 15 hours in 2022, respectively. Ms. He received the highest evaluation - 5A level in the "2022 Performance Evaluation of Secretary of the Board of Listed Companies".

Securities trading of the directors

Since the Company was listed on the Shanghai Stock Exchange and the Stock Exchange of Hong Kong, the securities trading of the Company's directors should observe the relevant laws, regulations, and listing rules of both stock exchanges, whichever is the strictest. Upon the written confirmation of all directors, all directors of the Company followed the requirements in Appendix 10: *Model Code for Securities Transactions by Directors of Listed Issuers of the Rules Governing the Listing of Securities* in 2022.

Accountability and audit

Financial reporting

The Board of Directors collects the Company's financial statements and other relevant materials on a regular basis, and acknowledges its responsibility for preparing the Company's accounts. In 2022, the Company disclosed its annual, semi-annual and quarterly performance within three months, two months and one month after the closure of the corresponding accounting period. Upon the confirmation of the directors, the directors were responsible for preparing the annual accounts as of December 31, 2022, and such accounts were true and fair presentations of the Company's financial conditions, operating performance, and cash flow status. Our auditor, Ernst & Young Hua Ming LLP (special general partnership) (hereinafter referred to as "Ernst & Young"), also stated its responsibility as the Company's auditor in the auditors' report (audit report).

Risk management and internal control

The Board of Directors states that it takes responsibility for the establishment, improvement, and effective implementation of the Company's risk management and internal control system, and is responsible for supervising the effectiveness of such system. The risk management and internal control departments organize the test and evaluation for risk identification and internal control on a quarterly basis, and report to the Board of Directors.

The Internal Audit Department, in combination with the Company's internal control tests, mainly supervises and evaluates whether the risks identified are complete, whether the responses are targeted, and whether the risk management department conducts regular verifications, and makes periodic reports to the Board of Directors with regard to risk supervision and evaluation. Every year, the Internal Audit Department organizes internal control evaluation according to the standard systems of enterprise internal control and the Company's internal control manual, and forms the *Internal Control Evaluation Report* for the consideration of the Board of Directors.

After hearing the reports on risk management and internal control as well as risk supervision evaluation, the Board of Directors examined and confirmed that, during the reporting period, the Company took proper control measures for operation risk, environmental protection risk, safety risk, cash flow, housing provident fund and enterprise annuity risks, and market price fluctuation and purchase and sales coordinated risk, and the main risks were under control.

On March 30, 2023, the Board of Directors confirmed that there was no material weakness in the internal control of financial statements of the Company by the end of 2022, and considered that the Company maintained effective internal control of financial statements in all material respects according to the standard systems of enterprise internal control and relevant provisions. Ernst & Young audited the internal control of the Company in 2022 related to financial statements, and issued the *Internal Control Audit Report* with standard opinions.



ERM framework

The Company conducts classified management of risks. The management and control of risks with opportunities mainly depend on well-rounded corporate governance and scientific operation management, and the control over pure risks mainly relies on sound internal control and effective emergency management.

- Strategy and investment risk control, supply chain risk control, internal pure risk control, and external pure risk control

Risk management mechanism

According to the *Guidelines on Enterprise-wide Risk Management for Central SOEs*, the Company confirmed its risk management mechanism by referring to the COSO's Enterprise Risk Management Framework (2017) and considering the Company's reality.

- Basic process of ERM: risk identification, risk assessment, risk response, and risk management supervision and improvement
- Material and important risk management procedures: risk identification and assessment, risk monitoring and response, and risk status tracking and reporting

Auditor

Approved by the General Meeting of Shareholders, the Company continued to entrust Ernst & Young to be the Company's auditor in 2022, which was responsible for the Company's annual financial audit and internal control audit in 2022. Ernst & Young completed the audit and issued an audit report in which Ernst & Young stated its responsibility for declaration. Authorized by the 2021 General Meeting of Shareholders and approved by the review committee after examination, the Board of Directors decided to pay a total of RMB 3.26 million (tax inclusive) to the auditor as the remuneration, including RMB 2.21 million of annual audit fee in 2021, RMB 0.55 million of internal audit fee, and RMB 0.5 million of interim agreed-upon procedure fee in 2022. The internal audit fee and interim agreed-upon procedure fee included the reimbursed expenses of the auditor. Furthermore, when the auditing officers of the accounting firm worked at the Company, we provided them with working lunches and transportation within the plant, with other accommodation and transportation fees paid by themselves. Ernst & Young Tax Services Limited provided profits tax declaration service for the Company in Hong Kong, charging HK\$ 24,500 (tax exclusive). By the end of 2022, Ernst & Young has provided audit services for the Company for 29 consecutive years. Ernst & Young submitted a *Statement of Independence* to the Company's review committee for presentation and guarantee of its independence.

Diversification of the Board of Directors

The Board of Directors of the Company is committed to realizing diversification, especially in the specialty and gender of the directors. Since 2011, all Boards of Directors of the Company involved at least one female director. At the end of 2022, there were two female directors out of seven directors, accounting for two-sevenths of the Board members. The three executive directors were senior professionals in the steel industry and had extensive experience in steel manufacturing, operation and management. They could make reasonable decisions on the matters discussed by the Board of Directors. As for the four independent directors, Ms. Zhang Chunxia had profound knowledge and rich experience in the steel industry and environmental protection, Ms. Zhu Shaofang was experienced in accounting, auditing and financial management, Mr. Guan Bingchun was highly experienced in building the quality system of the metallurgical industry, and Mr. He Anrui deeply researched industrial process control and intelligent manufacturing. All directors were fully equipped with the ability to make decisions, evaluate internal control, and review financial reports.

Rights of shareholders

General Meeting of Shareholders

In strict accordance with the *Articles of Association*, the Company effectively protects the rights and interests of the shareholders. The Board of Directors seeks unimpeded communication channels with shareholders, maintains communication with them as far as possible, and encourages them to attend the General Meeting of Shareholders. The General Meeting of Shareholders is presided over by the Chairman, who introduces the voting procedure to the present shareholders in detail and answers their questions.

In 2022, the Company held four General Meetings of Shareholders, with all proposals being approved by the shareholders. According to the *Articles of Association*, shareholders holding, independently or collectively, at least 10% of the total voting rights (including 10%) are entitled to call extraordinary general meetings or classified shareholders' meetings. Shareholders holding, independently or collectively, at least 3% shares of the Company are entitled to submit new proposals to the Company in writing. Shareholders holding, independently or collectively, at least 1% shares of the Company are entitled to nominate independent director candidates. Shareholders holding, independently or collectively, 3% or more shares of the Company are entitled to nominate director and supervisor candidates.

Shareholder inquiry and recommendation

According to the *Articles of Association*, shareholders are entitled to look up and copy relevant materials after paying the cost, including but not limited to the register of shareholders, personal information of the Company's directors, supervisors, General Managers, and other senior executives, and the minutes of shareholders' meetings. Shareholders are entitled to consult the resolutions of the General Meeting of Shareholders, resolutions of the Board Meeting, resolutions of the Board of Supervisors Meeting, and financial and accounting reports. Shareholders can make an inquiry or suggestion to the Company or the Board of Directors by letters or calls. The following contact information is available in the annual reports and semi-annual reports of the Company announced on the websites of the Shanghai Stock Exchange and the Stock Exchange of Hong Kong, as well as on the website of the Company.



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Tel: 86-555-2888158/2875252

Email: mggf@baowugroup.com

Information disclosure and investor relations

According to relevant laws, regulations, and the *Measures for the Administration of Information Disclosure*, the Company and then directors, supervisors, and senior executives strictly performed the obligation of information disclosure. In 2022, the Company made true, accurate and complete disclosure, without any false record, misleading statement, or major omission. In 2022, the Company was rated Grade-A in information disclosure by the Shanghai Stock Exchange (SSE) for the fourth consecutive year.

In compliance with relevant laws, regulations, and the *Investor Relations Management System*, the Company actively enhanced communication with domestic and overseas investors through multiple forms such as performance presentation, webinar, phone, email and WeChat, thereby providing investors a better understanding of the Company. In 2022, the Company held 37 teleconferences and video conferences with the investors, participated in 7 strategic meetings, and communicated with nearly 50 institutions and more than 200 people. Furthermore, the Company held the 2021 Annual Performance Presentation, 2022 Semi-annual Performance Presentation, and 2022 Q3 Performance Presentation, among which the livestreaming and video playback of the annual performance presentation gained more than 167,000 views. The Company answered 150 questions asked by the investors via the e-interactive platform of the SSE.

The livestreaming and video playback of the annual performance presentation gained more than

167,000 views

Business Ethics

The Company strictly adhered to business ethics and ethical norms, implemented the *Anti-Fraud Management Measures*, and firmly forbade all kinds of acts of unfair competition in violation of business ethics. We prepared and issued the *Employee Handbook*, in which labor discipline, incorruptibility and self-discipline, and other aspects were explicitly stipulated to standardize the employees' behaviors and professional ethics and strove to foster a corporate culture featuring honesty, trustworthiness, diligence and integrity. Meanwhile, we publicized the *Employee Handbook* among all employees to ensure that the awareness rate of relevant provisions reached 100% when they signed the labor contract.

All employees performed their responsibilities according to the *Employee Handbook* and strictly abode by professional ethics. The management layer played an exemplary role, who were prohibited from abusing their power to seek personal gains, so as to prevent conflicts of interests.

We complied with the relevant provisions of the *Anti-Unfair Competition Law of the People's Republic of China* and the *Anti-Monopoly Law of the People's Republic of China* to advocate fair competition and preserve the order of the market economy.

We formulated the *Registration System for Persons Who Have Access to Insider Information* to standardize the management of insiders.

We laid down the *Management System on Connected Transactions* and the *Management Measures for Internal Control of Connected Transactions* to standardize the internal management of connected transactions, and ensure that all connected transactions of the Company follow the principles of openness, fairness and justice, without prejudice to the interests of all shareholders and creditors of the Company.



Integrity Building

The Company implemented the *Opinions of the CPC Central Committee on Promoting the Culture of Integrity in the New Era*, and unveiled the *Implementation Opinions on Promoting the Culture of Integrity in the New Era* to cement the three lines of defense in thoughts, systems and supervision and hold the red line of integrity building. The Company established systems concerning anti-commercial bribery, anti-corruption, and integrity promotion, kept improving the appeal and reporting mechanism, and enhanced internal integrity education and supervision to foster a cultural atmosphere with respect to integrity. Externally, the Company continuously improved disposal efficiency through various channels such as letters, visits, phone calls and online reporting. In 2022, the Company accepted 31 reports and 51 clues of problems, and filed 19 cases for trial. Disciplinary punishment was given to 19 persons for violations of discipline and regulations. A total of 7,900 employees participated in the anti-corruption training.

Building a firewall for integrity building with various measures

Ideological building: Deeply following the requirements of the *Implementation Plan of Discipline Inspection Commission of Magang Group for Further Strengthening Discipline Education*, the Company insisted on combining theory with reality and promoting education and management concurrently, continued to make discipline education more regular, institutionalized and long-acting, and kept improving the Party members' discipline and rule consciousness, so as to foster a sound atmosphere of obeying discipline and rules across the Company.

System building: The Company constantly enhanced and strictly implemented the building of relevant systems such as the *Anti-Fraud Management Measures*, the *Measures for the Implementation of Banned Entry Management*, the *Measures Concerning Four Mechanisms on Prevention, Control and Management of Integrity Risks of Magang*, and the *Notice on Continuously Deepening Relevant Work of Special Campaign of Doing Business and Establishing Enterprises in Violation of the Rules and Banned Entry Management*.

Supervision strengthening: The Company made consistent efforts to strengthen supervision, especially process supervision and pre-supervision. Centering on building "three lines of defense" including business supervision, function supervision, and discipline enforcement supervision, the Company formed an "overwhelming supervision" working pattern of full coverage.

Keeping exercising full and rigorous Party self-governance to enhance Party conduct and government integrity

With the issuance of the *Implementation Plan for Further Strengthening Discipline Education*, the Company underlined the function of leveraging "three weapons" including professional newspapers, learning by reading, and theoretical study in regular activities of the organization, thereby firmly grasping the political direction. In 2022, the Company added the subscriptions to more than 100 copies of professional newspapers about discipline inspection, achieving a full coverage of the Party organizations at both levels;

We expanded the "three battlefields" including the online discipline education platform, leveraging "Internet+", and explaining and making clear discipline through cases, and provided courseware templates and micro-videos for community units to improve the education quality;

We promoted "three lines of defense" including prevention and control in key processes, supervision and inspection reinforcement, and daily supervision over spreading integrity culture, organized activities on advocating integrity culture, and took solid steps in discipline education. In this way, we raised the Party discipline awareness, rule consciousness and law-based thinking of the Party members and cadres, built an impregnable ideological line of defense to bolster integrity and resistance to corruption and moral decline, and took coordinated steps to see that officials do not have the audacity, opportunity, or desire to be corrupt.

Appeal and report channels

Correspondence address: Petition Cases Management Office, Magang Discipline Inspection Commission, No.8, Jiuhua West Road, Yushan District, Maanshan City (Postal Code: 243003)
Supervision and report phone number:0555-2876363



The Company held the (Enlarged) Meeting of the Leading Group on the Responsibility System for the Party Conduct and Government Integrity

Law-based corporate governance

The Company adopted workable measures to build a law-based enterprise in an all-round way, strictly carried out pre-review on legal matters of relevant issues, and kept improving the Company's law-based operation and governance. The Company enhanced system building to ensure that the consistent system could be put into practice. The Company devoted major efforts to developing compliance culture and improving system execution, and strengthened Company-wide compliance consciousness from key executives to frontline workers, thereby further enhancing the ability to manage the enterprise according to the law and laying a solid legal foundation for accelerating the building of a new Magang with sustained growth. In 2022, the Company operated according to law as a whole, and no major legal compliance risks occurred.

Strengthening system building

The Company made sustained efforts to establish a well-rounded institutional system by preparing the *Management Measures for the Authorization of the Board of Directors*, the *Management Measures for Shareholding of Directors, Supervisors, and Senior Executives*, and the *Compliance Management Measures*, drafting the *Management Measures for Social Responsibility Work*, revising the *Contract Management Measures*, and updating the *Management Measures for Legal Review of Major Issues* to the *Management Measures for Compliance Review*. In 2022, the Company revised the Articles of Association and its appendixes twice, and continued to improve the fundamental system. We incorporated the general counsel system into the Articles of Association, created a new post of General Counsel, and established a legal affairs management system with the General Counsel as the core.

Cultivating compliance culture

In 2022, the Company carried out various sessions of compliance training, including 2022 legal affairs and compliance management training for full-time and part-time contract administrators, professional training in legal affairs compliance, and compliance and risk control management training. In 2022, the Company successively organized the compliance administrators and compliance heads of all units to participate in nine times of training, including the Lecture of Central Enterprises' General Counsels on Compliance organized by the SASAC of the State Council for the Compliance Improvement Year, and the legal affairs and compliance training of China Baowu. A total of more than 600 people attended the training, and six persons across the Company obtained the Certificate of Corporate Compliance Administrator.



ESG Statement of the Board of Directors

Masteel made continuous efforts to strengthen the environmental, social and governance (ESG) work of the Company, and fulfilled the decision-making and leading function of the Board of Directors in ESG work. Taking the *Social Responsibility Planning of Masteel (2023-2025)* as the management basis, the Company kept improving social responsibility and ESG governance, controlled environmental and social risks, created social values, and established the Company's social responsibility and ESG brand, so as to lay a solid foundation for the sustainable, standard, sound and high-quality development of the Company.

Masteel established a top-down ESG governance structure. As the supreme leading body of the Company's ESG work, the Board of Directors is directly responsible for the Leading Group for Social Responsibility. The Strategy and Sustainable Development Committee is responsible for the Company's ESG work according to the regulatory provisions with regard to the listing on domestic and overseas markets, and puts forward suggestions to the Board of Directors.

The Board of Directors of Masteel reviewed and confirmed the important issues which were screened and identified by the ESG working group based on the standard identification method of material issues, and disclosed the highlights of the Company's ESG Report to the public. Following the listing rules, the Company set key ESG goals concerning greenhouse gas emissions, pollutant emissions, and resource consumption. The Board of Directors deliberated on and discussed the setting of relevant goals, and checked the fulfillment of the goals.

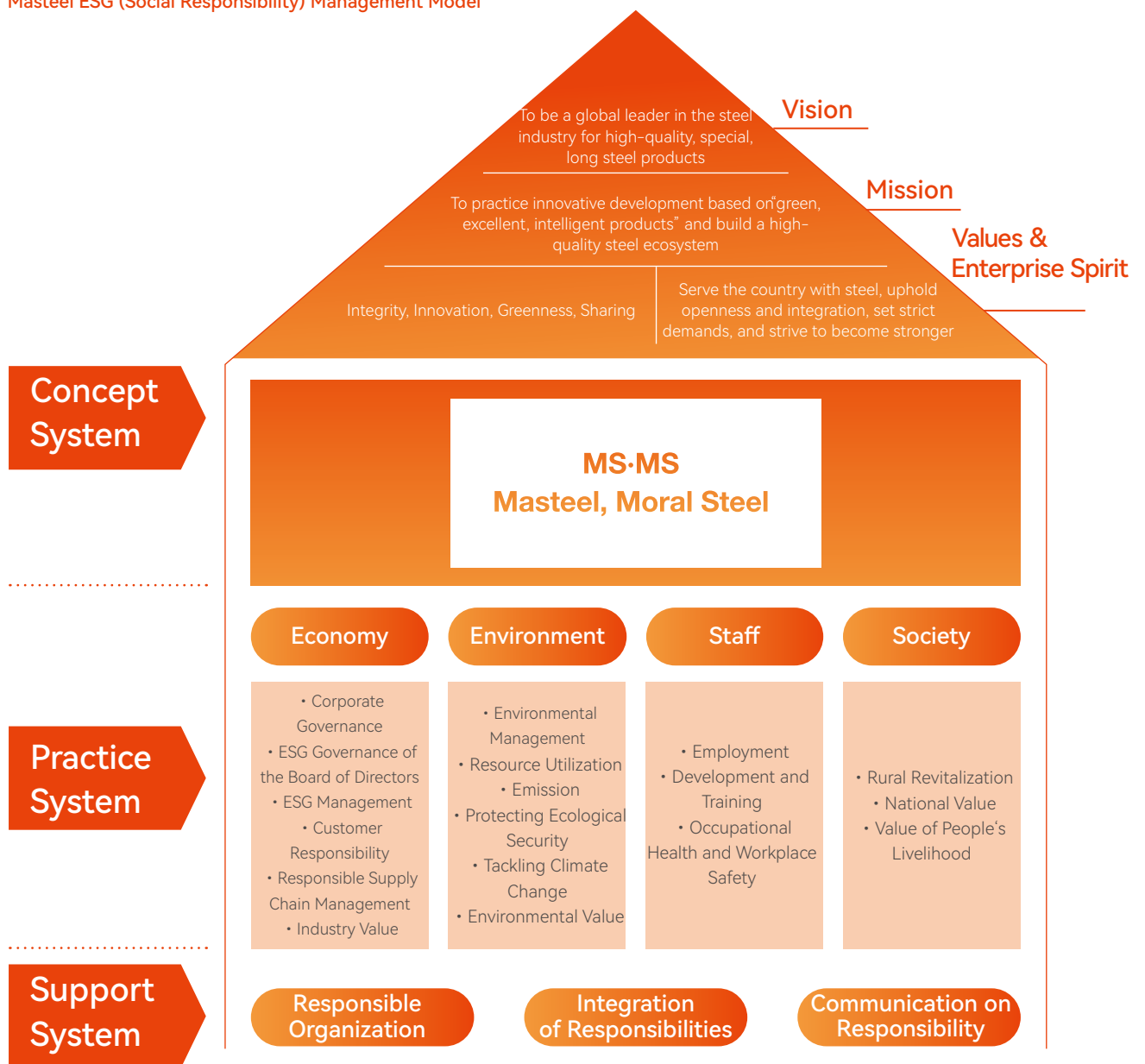
The Report discloses the ESG work progress and achievements of Masteel in 2022 in detail. The Board of Directors and all directors guarantee that there is no false record, misleading statement, or major omission in the Report, and are severally and jointly liable for the authenticity, accuracy and completeness of the Report.



ESG Management

Profoundly practicing the social responsibility concept of “Masteel, Moral Steel” (“MS·MS” for short), Masteel continued to deeply integrate social responsibility into enterprise development strategy and routine operations. Learning from advanced domestic and foreign ESG management experience, the Company built an ESG management structure of “the Board of Directors - ESG Leading Group - ESG Office”, forming a top-down responsibility management system with clear powers and responsibilities. All departments and units of the Company made coordinated efforts to keep close communications with the stakeholders, promoted the ESG tasks in an orderly way, and strove to further raise the ESG management level of the Company.

Masteel ESG (Social Responsibility) Management Model



ESG Management Structure

Management Body

Main Responsibility

The Board of Directors
(the supreme leading body of the Company's ESG work)

The Board of Directors is the decision-making body of the Company's social responsibility issues, which coordinates the corporate social responsibility work and makes decisions on major social responsibility issues. According to the regulatory provisions at the place where the Company was listed at home and abroad, the Strategy and Sustainable Development Committee is responsible for the Company's ESG work, and puts forward suggestions to the Board of Directors, including but not limited to the evaluation and summary of ESG-related risks and opportunities, the preparation of ESG management vision, goals and strategies, and the review, supervision and assessment of ESG goals and implementation.

Leading Group for Social Responsibility
(ESG Leading Group for short)

The Company established an ESG working group to provide professional support for the Strategy and Sustainable Development Committee, with General Manager serving as the group leader and the management leadership as the members. Furthermore, an economic group, an environment group, a staff group, a social group, and other groups were set up under the ESG Leading Group, which correspond to the responsibility areas requiring key attention from the Company.

ESG Office

The ESG Office is a body for routine work and works together with the functional office for investor relations management. The ESG Office is mainly responsible for the routine ESG work of the Company, coordinates with all relevant units to promote the Company's ESG work, and reports to the ESG Leading Group on a regular basis.



ESG Management Improvement

The Company attached great importance to corporate social responsibility (CSR), actively implemented the requirements of the SASAC of the State Council for the social responsibility and ESG work of central state-owned enterprises, improved the social responsibility and ESG governance, and controlled the environment and social risks in close coordination with China Baowu's arrangements on social responsibility and ESG, thereby creating social values and establishing the Company's social responsibility and ESG brand.

Responsibility system and planning

Under the guidance of the strategy of China Baowu and Magang Group during the 14th Five-Year Plan period, the Company formulated the *Management Measures for Social Responsibility Work*, issued the special planning of *Social Responsibility Planning of Masteel (2023-2025)*, and incorporated it into the planning management scope of the Company. The Company kept exploring the social responsibility and ESG system, standardized the Company's ESG management, accelerated the implementation of ESG goals, and cemented the foundation for social responsibility and ESG management, so as to enhance ESG performance and the Company's capacity to perform ESG responsibilities.

Responsibility indicator system

The Company established a social responsibility indicator system and conducted social responsibility work supervision and examination. The social responsibility indicator system of Masteel was determined by benchmarking China Baowu's social responsibility organizational system and the social responsibility and ESG examination and evaluation system of the SASAC of the State Council for central SOEs. The system mainly focuses on four fields of business economy, environment, employees and society, and pays close attention to 18 specific indicators including corporate governance, ESG governance of the Board of Directors, ESG management, and customer responsibility. Meanwhile, on the basis of the social responsibility indicator system, the Company also established a set of mechanisms for social responsibility work supervision, inspection and examination, which makes a systematic evaluation of the Company's social responsibility performance.

Responsibility performance evaluation

The Company enhanced responsibility performance management. We incorporated the green index, environment-friendly ultra-clean discharge, and other indicators into the annual performance evaluation of the management according to the features of the business which the management took charge of and the Company's specific ESG indicators. We also included the safety management duty performance, the safety effect in the field or unit which the management took charge of, and other indicators into the statement of the annual operating performance of the management members as the indicators for job performance evaluation.

Responsibility capacity building








The Company further deepened responsibility shouldering and capacity building, providing strong support for practicing CSR. The ESG Office is mainly responsible for CSR training. We actively explored establishing a regular training mechanism for social responsibility staff to expand the training coverage and enhance the training effect. We organized the social responsibility managers and staff to take an active part in the internal and external social responsibility training, with a view to improving the comprehensive skills of the social responsibility staff in a targeted way. Moreover, the Company also organized and drove internal and external social responsibility exchanges, and found the gap between the Company and excellent enterprises in social responsibility management, practices and communication through benchmarking.

In 2022, the Company was successfully selected for the "Central Enterprise ESG · Pioneer 50 Index" guided by the Bureau of Social Responsibility under the SASAC of the State Council, ranking 44th. Meanwhile, the Company was also included in the "Central Enterprise ESG · Governance Pioneer 50 Index" and the "Central Enterprise ESG · Risk Management Pioneer 50 Index", ranking 23rd and 27th, respectively. The Company won the "ESG Golden Bull Award · Governance Pioneer Award" appraised and elected by the China Social Responsibility 100 Forum. The case of the Company titled "*Securing safety, Promoting Carbon Emission Reduction, and Boosting High-quality Sustainable Development*" was successfully selected for the 2022 *ESG Excellent Practices and Cases of Listed Companies* of the China Association for Public Companies.

Communication with Stakeholders

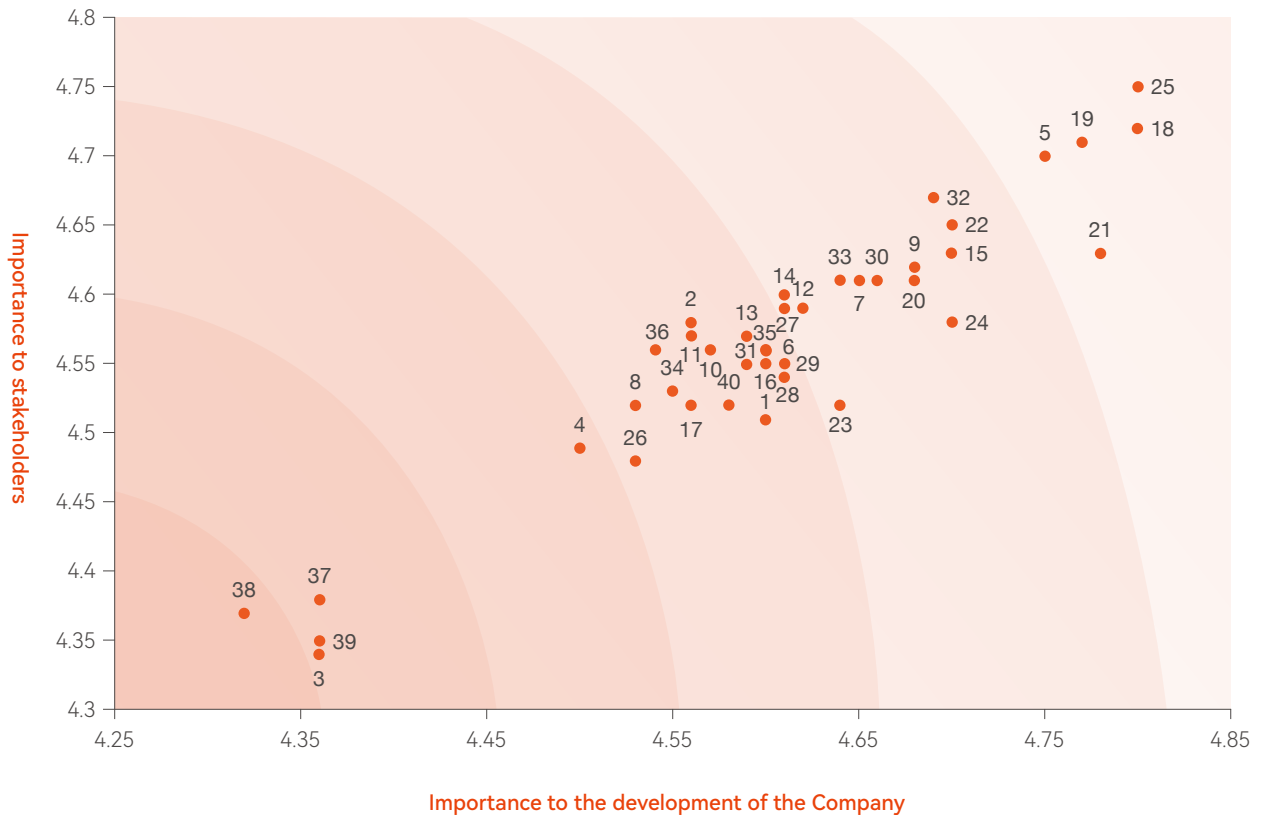
The engagement of stakeholders in communication is a powerful path to bolster ESG work. The Company established diversified mechanisms and channels for communication to better understand the needs and feedback of the stakeholders and keep promoting and improving the ESG work. We set up a CSR section on our official website to disclose our latest advances in social responsibility work, and timely disclosed ESG-related work or activity information on our official website, WeChat Public Account, and mainstream media websites. We consistently released the ESG (Social Responsibility) Report and built a diversified platform for internal and external communication to respond to the demands of the stakeholders, spread the Company's philosophy and responsibility performing trends, and make the stakeholders better understand and support the Company.

Demands of the Stakeholders and Responses of Masteel

Stakeholders	Expectations and Demands	Communication and Responses
 Government	<ul style="list-style-type: none"> Observing laws and disciplines Paying taxes according to the law Supporting local development 	<ul style="list-style-type: none"> Integrity compliance management Taking the initiative to pay taxes <ul style="list-style-type: none"> Offering jobs Responding to major policies and measures
 Shareholders and investors	<ul style="list-style-type: none"> Protecting the interests of the shareholders Improving corporate governance <ul style="list-style-type: none"> Strengthening risk control 	<ul style="list-style-type: none"> Raising operating performance Improving information disclosure Enhancing internal control level
 Employees	<ul style="list-style-type: none"> Protecting the interests of the employees Assisting in employee growth <ul style="list-style-type: none"> Balancing work and life 	<ul style="list-style-type: none"> Increasing compensation and benefits Caring for employees' physical and psychological health Improving the training and promotion mechanism <ul style="list-style-type: none"> Organizing cultural and sports activities Enhancing communication with employees
 Customers	<ul style="list-style-type: none"> Innovations in products and services Protecting the interests of the customers Improving customer satisfaction 	<ul style="list-style-type: none"> Focusing on technological and management innovations Strengthening product quality and service management Insisting on integrity operation
 Partners	<ul style="list-style-type: none"> Driving industrial growth Achieving win-win results with the partners <ul style="list-style-type: none"> Implementing responsible procurement 	<ul style="list-style-type: none"> Co-building the ecosystem Deepening the industry-university-research cooperation <ul style="list-style-type: none"> Sticking to business ethics Creating a responsible supply chain
 Community	<ul style="list-style-type: none"> Actively integrating into the community Carrying out voluntary activities <ul style="list-style-type: none"> Helping people in need 	<ul style="list-style-type: none"> Launching public welfare programs Building a volunteer service team <ul style="list-style-type: none"> Boosting rural revitalization
 Environment	<ul style="list-style-type: none"> Saving energy and reducing emissions <ul style="list-style-type: none"> Ecological protection Reasonable use of resources Coping with climate change 	<ul style="list-style-type: none"> Promoting green manufacturing Developing new environment-friendly products <ul style="list-style-type: none"> Advancing green industry

Analysis of Material Issues

To make the Report more targeted and bring more effective responses, the Company gradually enhanced the management of material issues. In the early stage, we established a management model for material issues from two dimensions, i.e., “importance to stakeholders” and “importance to the development of the Company” through the analysis of macro policies and industrial policies and regulations, the research of authoritative ESG standards at home and abroad, and the benchmarking with excellent sustainability reports in the industry. Then, we identified and screened out major social responsibility issues closely related to the industry with the Company’s characteristics.



1.Economic and financial performance	11.Optimizing customer service and experience	21.Building a well-rounded compensation and benefits system	31.Recycling of scrap steel
2.Improving corporate governance	12.Sustainable supply of products	22.Fostering high-caliber personnel	32.Controlling pollutant discharge
3.Protecting the interests of shareholders and investors	13.Creating a responsible supply chain	23.Helping employees in need	33.Creating green steelworks
4.Compliance information disclosure	14.Industrial development and win-win cooperation	24.Balancing employees' work and life	34. Coping with climate change
5.Combating corruption and upholding integrity	15.Building a quality brand	25.Implementing workplace safety	35.Boosting carbon peaking and carbon neutrality goals
6.Deepening the reform of the enterprise	16.Coordinated development of industrial chains	26.Managing conflict minerals	36.Protecting biodiversity
7.Strengthening risk control	17.Enhancing the industry-university-research cooperation	27.Improving the environmental management system	37.Serving rural revitalization
8.Enhancing ESG management	18.Protecting the interests of the employees	28.Developing green products	38.Focusing on community development
9.Insisting on technological innovation	19.Caring for employees' occupational health	29.R&D and application of environmental protection technology	39.Public welfare, charity and volunteer services
10.Boosting intelligent manufacturing	20.Smoothing career development	30.Reducing energy and resource consumption	40.Promoting common prosperity

Topic I

The Green Transformation of “A Flower Blossoming in the South of the Yangtze River”

Situated on the bank of the Yangtze River in Maanshan, Masteel is renowned as “a flower blossoming in the South of the Yangtze River”. The Company deeply studied and implemented the Xi Jinping Thought on Ecological Civilization, actively responded to the call for Yangtze River Protection, and resolutely put the requirements of the carbon peaking and carbon neutrality goals in place. We promoted green transformation at a faster pace and in an all-round way, comprehensively launched the building of an enterprise with Grade-A environmental performance, and continued to create the “garden-style riverside urban eco-steelworks”. With these efforts, we made great changes and added luster from factory greening to spiritual outlook, from ecological governance to ecological civilization, from green manufacturing to creating green, and from self-improvement to driving the development of the surrounding areas.

Changing from “scenery” to “scenic area”

With a focus on the work requirement of “changing from bonsai to scenery and then from scenery to scenic area”, the Company mainly concentrated on “improving ecology, adding colors, upgrading quality, and enriching connotation”, emphasized improving the overall conditions of the North District and shoring up weak links in the South District, and continued to implement the comprehensive appearance improvement and greening through pulling down the walls to make green appear, demolishing the obsolete facilities to create green, and bring green to every corner. By doing so, we comprehensively built a plant environment integrating ecology, landscape, culture and multi-sensory experiences. By the end of 2022, the Company’s greenery coverage has reached 36.52%.

Case Magang national 3A-level industrial scenic area officially inaugurated

Masteel prioritized the building of a 3A-level scenic area. The Company established the leading group for the preparatory work of building the 3A-level scenic area, prepared the work plan for building the 3A-level scenic area, and conducted independent planning and design, in an effort to build the plant area into an industrial tourism demonstration area integrating sightseeing of steelworks, science popularization and study visit, culture experience, and parent-child recreation, and build an industrial scenic area with Magang characteristics and the minimum investment.

On July 29, 2022, the Magang industrial scenic area was rated a national 3A-level scenic area. On August 9, 2022, the Magang industrial scenic area was inaugurated as the national 3A-level scenic area and opened to the public.



Inauguration of the Magang industrial scenic area



Opening ceremony of the Magang industrial scenic area

Achieving Grade-A Environmental Performance

The Company made major strides in building an enterprise with Grade-A environmental performance. We prepared and issued the *Action Plan for Building an Enterprise with Grade-A Environmental Performance of Maanshan Iron and Steel Co., Ltd.* and the *Implementation Plan of Magang for 100-day Fight of Building an Enterprise with Grade-A Environmental Performance*, advanced the comprehensive environment improvement of the factory with a focus of “one circle, two parks, five points”, and deployed and carried out the “For Grade-A· Make the Dream Come True” 100-day Fight Action, making the employees and the factory appearance both take on a completely new look.

Major measures

Ultra-low emission
transformation

Ultra-low emission monitoring,
evaluation and announcement

Clean transportation
evaluation



Power plant greenhouses



Raw material greenhouses



Coking silos



Desulfurization and denitrification of sintering machine flue gas

Case Magang held the mobilization meeting for “For Grade-A· Make the Dream Come True” 100-day Fight Action

On June 24, 2022, the mobilization meeting for “For Grade-A· Make the Dream Come True” 100-day Fight Action was held at the Company site and via video. At the meeting, the attendees watched the video of the Company’s leaders’ visits to excellent peers for inspection and exchanges, heard the report of the Implementation Plan of Magang for the 100-day Fight of Building an Enterprise with Grade-A Environmental Performance, and held the flag-giving ceremony to the “For Grade-A· 100-day Fight” Party Member Shock Brigade. In these ways, we encouraged all staff to unify thoughts and enhance confidence, make concerted efforts to tackle the difficulties in the “For Grade-A” work, and increased efforts to complete all goals and tasks.



Ding Yi, Secretary of the Party Committee and Chairman of Masteel, delivering a speech at the meeting



“For Grade-A” Iron Army Shock Brigade of the First Blast Furnace Factory



“For Grade-A” Iron Army Shock Brigade of the Second Blast Furnace Factory

**Yangtze River
Ecological
Protection
Action**

The Company actively implemented a series of important guidelines of General Secretary Xi Jinping on Yangtze River ecological protection, acted on the requirements of the *Yangtze River Protection Law of the People’s Republic of China*, and positively practiced the philosophy of “to step up conservation of the Yangtze River and stop its overdevelopment”. In combination with the *2022 Arrangement of Key Tasks for Energy Environmental Protection of China Baowu*, we formulated the *2022 Action Plan for Yangtze River Protection*, which focused on waste water zero discharge and solid waste compliance management, comprehensively putting the Yangtze River Protection work into practice.

2022 Action Plan for Yangtze River Protection

To assist in building China Baowu into a leader in “Yangtze River Protection” through “ultra-low emission of exhaust gas, zero discharge of waste water, no solid waste leaving the factory”

01
Overall goal

Completing ultra-low emission of exhaust gas by the end of 2022;
Achieving 40% year-on-year decrease in the discharge of industrial waste water and basically realizing zero discharge of industrial waste water across the Company;
Striving to achieve an annual water-saving amount of 4.2 million cubic meters;
Achieving 100% compliance disposal of hazardous solid wastes, a comprehensive utilization rate of more than 99.8%, and a return-to-production utilization rate of more than 27%.

02
Indicators

03
Key measures

Source reduction, optimization of water use in production units, upgrading and reconstruction of water treatment, diversion of rain and sewage water and domestic sewage treatment, optimization and integration of outlets, improvement of metering devices, perfection of water resource information management system, and solid waste utilization and disposal.

Topic II

The “Forerunner in Intelligent Manufacturing” Boldly Draws a New Development Blueprint

Bearing in mind the important speech and ardent expectations of General Secretary Xi Jinping during his inspection of Magang, Masteel made all-out efforts to solve the bottlenecks, strove to build first-class intelligent manufacturing, and was determined to transform from “business-driven” to “digital-intelligent-driven” strategy. We developed sustainable competitive advantages in the digital-intelligent context and further improved our intelligent manufacturing level, so as to endeavor to build a new Magang with sustained growth with a strong will and determination of “second start of undertaking, transformation and development”.

Forerunner in Intelligent Manufacturing

“Individual Champion Demonstration Enterprises” are typical representatives of high-quality manufacturing enterprises in China. The Company actively promoted the selection work of “Individual Champion Demonstration Enterprises”, and organized and established a task force to make progress in the aspects of top-level planning, key cultivation, and precise declaration in an orderly way. In December 2022, Magang Rail Transportation Equipment Company became the first “Individual Champion Demonstration Enterprise in Manufacturing” under China Baowu.



Magang Rail Transportation Equipment Company was selected as the “Individual Champion Demonstration Enterprise in Manufacturing”.

Case

Two scenarios of Magang Rail Transportation Equipment Company were rated as “2022 Excellent Intelligent Manufacturing Scenario”

On December 2, 2022, “Intelligent Collaborative Work” and “Digital R&D and Design of Products” of Magang Rail Transportation Equipment Company were rated as “2022 Excellent Intelligent Manufacturing Scenario” by the Ministry of Industry and Information Technology of the People’s Republic of China.



Intelligent Operation Platform

The Company deeply promoted the construction of the intelligent operation platform and launched the integrated information-based program, which covered all business areas including finance, sales, production and logistics, extended to suppliers and customer collaboration in two directions, and formed a new management model of “1 intelligent ‘pivot’ + 10 intelligent control centers” under the management system of “one headquarters, multiple bases”. In this way, we aimed to establish a new benchmark for the integrated information-based construction of China Baowu and become a model for the information-based construction of China Baowu and even the whole steel industry.



On July 1, 2022, the integrate information-based platform of Changjiang Steel went live and the Operation Management and Control Center was officially put into operation.



On July 6, 2022, the blast furnace remote technology support platform of Magang was put into use, marking the evolution of the Company’s intelligent iron-making from Era 1.0 to 2.0.

Intelligent Manufacturing Achievements



Magang Intelligent RH Control System: The first in the industry achieving “one chief operator operating two RH furnaces at the same time”



Dual-production-line and Dual-intelligent-control Center for Hot-rolling: The first intelligent center in China with two hot-rolled production lines and two intelligent control platforms



ALL IN ONE Smart Factory for Cold-rolling: The first large-range and long-distance intelligent control center in the industry, and the cold-rolling plant with the largest centralized control scale in China



Magang Inspection Intelligent Control Center: The first inspection intelligent control center in the Chinese steel industry that pioneered the integration of inspection and metering in the industry

Case

Baorobots officially began to work, continuing the miracle of intelligence of Magang

In August 2022, the first batch of 40 "Baorobots" of the Company officially began to work, and the Company also innovatively put forward the "RaaS (Robot as a Service)" service model. Based on the robot cloud platform of China Baowu Industrial Internet, the Company enabled "Baorobots" to work as soon as possible according to unified standards and specifications for robots, and by means of the BOO business model, platform-based operation, and RaaS service.

The RaaS service model was the initial release within China Baowu and also the first robot platform-based operation service model in the industry. The model fully reflected the systematic, scaled, service-based and industrial features and the management innovation, which played a demonstrating and innovation-leading role and was worth popularizing.





**Achieving Superior
Values with
Intelligence**



Only innovators can make progress, grow stronger, and achieve victory. Masteel constantly lays a solid foundation for innovation and stimulates the vitality of innovation. We implement the concept of intelligent manufacturing and practice intelligent production. Through the advancement in the R&D of high-quality products, we create industrial values and make every effort to break new ground for the high-quality development of the Company, forging the “Great Wall of Steel” featuring self-reliance and strength in science and technology.



34 Stimulating
the Vitality of
Innovation

37 Practicing
Intelligent
Production

38 Creating Industrial
Values

Stimulating the Vitality of Innovation

Science and technology constitute a primary productive force, and innovation is the foremost driving force to lead development. Masteel persisted in leading the development through scientific and technological innovation, and kept improving the top-level design. Upholding the strategy of innovation-driven development, we attached importance to innovation achievements and increased efforts to protect intellectual property rights, with a view to unswervingly going better and further on the path of high-quality development, steadily fostering new growth drivers and new strengths. In 2022, the Company invested RMB1.167 billion in R&D.

Enhancing innovation management

The Company strengthened the top-level design and prospective layout, and established 25 management systems targeting the technological innovation system, scientific research projects, and scientific and technological achievements, so as to standardize and reinforce the management of scientific and technological innovation, and promote the high-quality development of the Company with scientific and technological innovation. In 2022, Masteel was certified as a “National High-tech Enterprise”.



The Company put more efforts in training innovative personnel with the focus on special steel, long steel products and wheels. In 2022, the “innovation team of R&D of green and low-carbon special steel for vehicles” was selected for the 15th batch of “115” industry innovation teams in Anhui Province. The “Magang R&D team of high-speed wheels” served as a candidate of the first session of Excellent Innovation Central SOE Teams Selection upon the review and recommendation of China Baowu.

Upholding innovation-driven development

Increasing input in scientific research

We increased input in strategic, critical and comprehensive technological innovation topics, and gave priority to guarantee the costs of the facilities for scientific research tests, devices for physical and chemical inspection and analysis of new materials, key scientific and technological projects, and transformation of scientific and technological achievements.

Deepening the cooperation among enterprises, universities, research institutes and users

We took full use of scientific and technological resources across the society and spurred cooperation with colleges, universities and scientific research institutions within and beyond the province.

Speeding up the transformation of scientific and technological innovation achievements

We played the function of the specialized technical management promotion commissions, tracked studies on the prospective and generic technologies in all professional fields, and conducted research on the applied technology and onsite transformation.

Attaching high importance to product development

Pivoting around accelerating the adjustment of industrial structure, we raised the enterprise’s core competitiveness and developed key products in major fields of the three types of products, i.e., high-quality special steel, long materials, and sheets and strips.

Building technological innovation platforms

Relying on the innovation platforms such as the “national and local joint engineering research center for advanced manufacturing technology of key parts of rail traffic” and the “quality control and technology assessment laboratory for wheels and H-steel industrial products”, the Company submitted the application of and undertook the national key research and development plan project in 2021 titled “development and demonstration application of sensor technology for on-line detection of key parameters in special steel production”.

Case

Magang R&D Center successfully roofed, unveiling greater creativity

On September 23, 2022, the last cubic meters of concrete of the main building of Magang R&D Center finished pouring, marking the successful roofing of the Center. The Center is mainly used for technology R&D and office work, scientific research experiments, and academic symposiums. Core laboratories for rail transit wheels and axles, excellent and special long steel products, high-quality sheets and strips, and low-carbon metallurgy will be built. The Center aims to serve innovative platforms such as the National Enterprise Technical Center, the academican workstation, the postdoctoral workstation, and the “Anhui Technology Innovation Center for Key Parts of Rail Transit”. Magang R&D Center will serve as an important innovation platform to speed up the development of domestic high-speed wheels and axles and build Magang into a global leader in excellent and special long steel products, as well as a vital component of China Baowu’s building of a world-class enterprise institute.



Major innovation achievements

The Company laid a solid foundation for scientific research and focused on product R&D through breakthroughs in core technologies in key fields, thereby contributing to building a stronger, better and larger Magang with scientific and technological innovation as a primary driving force. In 2022, the Company won 14 awards including Anhui Provincial Scientific and Technological Progress Awards, Scientific and Technological Achievement Awards in the Metallurgical Industry, and China Baowu Major Awards. Among them, we won two first prizes of Anhui Province Science and Technology Awards, two first prizes of Metallurgical Scientific and Technological Awards, and one first prize of Baowu Major Awards.

In 2022, the Company won

14 awards

including Anhui Provincial Scientific and Technological Progress Awards, Scientific and Technological Achievement Awards in the Metallurgical Industry, and China Baowu Major Awards

Case

High-speed and heavy-duty axle products polish “Magang Brand”

Through a great number of tests and research, the project of “Development and Application of High-speed and Heavy-duty Axle Products and Innovation in Key Preparation Techniques” outputted a series of products, including axle steel and axles for bullet trains with a speed of 200-350km per hour, and axle steel and axles for heavy-haul trains with an axle load of 27-45t. The project laid the groundwork for China’s comprehensive localization of key components such as high-speed and heavy-duty axles for rail transit, promoted advances in Chinese metallurgy and high-end equipment manufacturing, supported the development of China’s rail transit and the implementation of the “go global” strategy, and provided a demonstration effect for the transformation from “Made in China” to “Created in China”.



Protecting intellectual property rights



The Company deeply implemented the national strategy for intellectual property rights (IPR) and the major guidelines and policies on building an IPR power, formulated the *Action Plan for Quality Development of Intellectual Property Rights (2020-2025)*, and put more efforts into cultivating high-quality patents, thereby stimulating the vitality of innovation through IPR protection.

Patent application

Domestic patents

As of December 31, 2022

the Company has owned 2,446 valid patents, including 1,176 patents for invention.

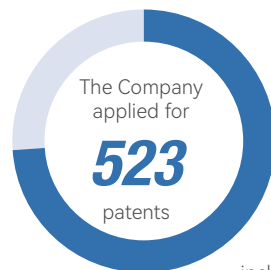


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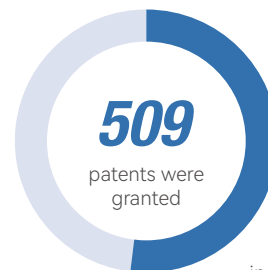
In 2022

In 2022, the Company applied for 523 patents, including 387 invention patents, accounting for nearly 74%, and 509 patents were granted, including 268 patents for invention, accounting for 52.65%.



The Company applied for **523** patents

including **387** invention patents, accounting for nearly 74%



509 patents were granted

including **268** invention patents, accounting for 52.65%

Foreign patents

Four patents including "Pre-coated steel plate for hot forming, preparation method thereof, hot-formed steel member and application thereof" applied for PCT;

Three patents including "Method for controlling solidification structure of casting blank in continuous casting process and control apparatus thereof" received overseas granting.

Intellectual property management

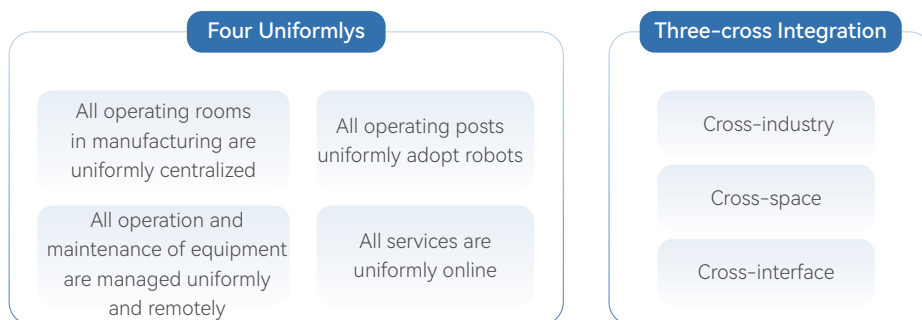
Actively implementing the national strategy for IPR, the Company carried out the certification for the intellectual property management system (IPMS), finished the preparation, review and release of the management handbook and the procedure documents, organized training for IPMS certification, and completed certification audit in November.

Practicing Intelligent Production

Practicing the concept of Baowu Intelligent Manufacturing 2.0, Masteel made major strides in the upgrading of intelligent manufacturing, tapped into internal potential, strengthened technological innovation, and continued to create a demonstration base for intelligent manufacturing, so as to keep raising the intelligent production level of Masteel.

Optimizing strategic deployment

With a focus on “Three-cross Integration” and “Four Uniformlys”, the Company intensified efforts to boost the deep integration of digitalization and modern manufacturing industry, and further enhanced the digital-intelligent top-level design. Centering around the new round of strategic development planning, we advanced the *Intelligent Manufacturing Action Plan of Magang (2021–2023)* on all fronts, sorted out and planned the work objectives, major tasks and supporting arrangements of intelligent manufacturing from 2021 to 2023, thereby promoting the implementation of the intelligent manufacturing projects.



Fostering lean culture

The Company devoted great energy to becoming a first-class enterprise empowered by intelligence. Focusing on “holistic improvement, intelligent empowerment, reform leading, standard demonstration, and talent cultivation”, we improved our total-factor productivity and created an upgraded version of “keeping lean and efficient, and striving to be the best”. We set up the “Striving to Be the Best”, prioritized the open competition mechanism to select the best candidates to undertake key research projects, carried out the special labor competition of “Intelligent Manufacturing”, held the intelligent manufacturing work promotion meeting, and continued to optimize the Magang Jingyitong APP. By doing so, we reduced management costs and created a dense atmosphere of striving to be the best among all staff around the Company. In 2022, the employees submitted a total of more than 220,000 cases via the “Snapshot”, “Micro Improvement” and “Lean Group” sections on the system platform, generating 1.28 million page views.

In 2022, the employees submitted a total of more than

220,000

cases via the system platform



On June 17, 2022, the “High-end, Intelligent and Green” Development Promotion Meeting for Provincial Enterprises was held at the Company.

Creating Industrial Values

With a concentration on our main responsibilities and businesses, Masteel gave full play to our traditional advantages in high-speed wires and section steels with the theme of promoting high-quality development. We accelerated the building of a “specialized platform company in excellent and special long steel products” and an “excellent base for high-quality special steel”, improved our ability while expanding the market, and devoted ourselves to “becoming the global leader of excellent and special long steel products”.

Leading the industry

Comprehensively implementing the new development philosophy, the Company actively undertook the strategy of China Baowu, transformed from the “largest one” to the “strongest one”, and continued to explore the high-quality coordinated development of the industries, and committed to becoming a promoter of industry growth and a demonstrator of high-quality development.

Participating in preparing industry standards

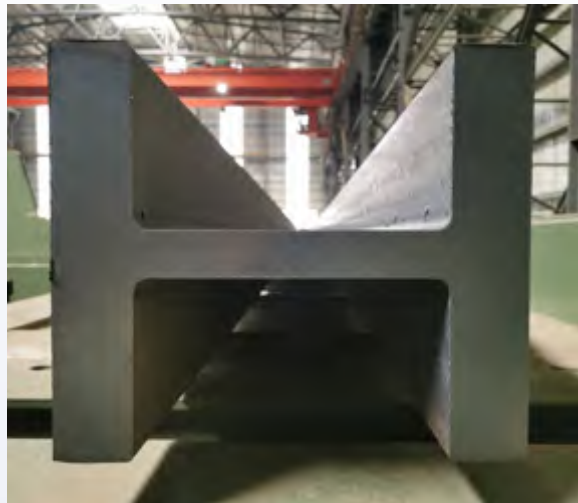
The Company actively participated in industrial exchanges and discussions over industry standards, propelled the preparation and improvement of relevant industry standards, and kept improving the industrial quality management level. In 2022, the Company took the lead in preparing and revising two national standards and 11 industry standards.

In 2022, the Company took the lead in preparing and revising **2** national standards

11 industry standards

Case Masteel boldly took the lead in preparing the national standard on ocean engineering and got approved

At the 2022 Annual Meeting & Review Meeting for Six Standards of the Steel Sections Branch of the National Steel Standardization Technical Committee, the *Test Method for Weldability of Ocean Engineering Structural Steel*, a national standard prepared by Masteel Technology Center as the leader successfully passed the examination and approval. Through discussion and evaluation of the panel, the standard was recognized as an advanced international level. Furthermore, a complete set of standards for ocean engineering structural section steel products and relevant inspection was formed together with GB/T 34103-2017 *Hot-rolled H-section Steel for Ocean Engineering Structure* and YB/T 4831-2020 *Through-thickness Characteristics of Hot-rolled H-section Steel*, both prepared by Masteel as the leader. The standard system provides support for the high-quality development of the Chinese ocean engineering industry.





Promoting strategic cooperation

Masteel made constant progress in cooperation with strategic users. Through strategic cooperation, we jointly promoted the transformation and upgrading of the industrial chain. Meanwhile, we actively explored the business cooperation pattern of “base management + brand operation”, and organized the round-table conference of the pattern. In 2022, we signed 17 cooperative technical agreements with 13 brand operation cooperative steelworks, with a view of expanding the regional advanced steel production cluster and working with our strategic partners to co-build a steel ecosystem.

Case

The round-table conference of “brand operation cooperative steelworks” explored a new development pattern

“Brand operation cooperative steelworks” is a crucial path for steel enterprises to adapt to new development trends in the industry and grasp the initiative in development, which contributes to improving the operational efficiency and competitiveness of cooperative steelworks and promotes the high-quality development of the regional steel industry. On July 5, 2022, Masteel held the round-table conference of “online steelworks” themed “base management + brand operation”. In total, 22 brand operation partners, potential partners, users and traders were invited to attend the conference and discuss cooperative development together. All sides aimed to co-build a steel ecosystem with strategic partners and join hands to write a new chapter of cooperative development among central SOEs and private enterprises.





**Creating Eco-friendly
Steelworks with Green
Development**



Masteel has always been adhering to the concept of “lucid waters and lush mountains are invaluable assets” in our development. We make sustained efforts to strengthen environmental management by improving the environmental management system. We boost green production by promoting green manufacturing, developing green products, and exploiting the green industry. To achieve the carbon peaking and carbon neutrality goals through concrete actions, we take tough measures to reduce pollution and emissions and actively cope with climate change. We also insist on green operations to better practice and safeguard the approach of green development.

42 Strengthening Environmental Management

44 Boosting Green Production

48 Reducing Pollution and Emissions

51 Fostering Green Culture

Strengthening Environmental Management

Under the principle of “ultra-low emission of exhaust gas, zero discharge of waste water, and no solid waste leaving the factory” of China Baowu, Masteel focused on finding the gap by comprehensive benchmarking. We kept improving the environmental management system, fulfilling environmental protection responsibility, and enhancing systematic capability. Moreover, we deepened the “treatment of three wastes – waste gas, waste water and solid waste” and “cleaning, greening, beautifying and civilizing”, and cemented the “two better and one integration” achievement, thereby building green urban steel mills with fast but steady steps.

Environmental management system

In 2022, considering the development status, the Company changed the version of the *Management Measures for KBI Evaluation of Environmental Professional Performance*, promoted the management system building of “one headquarters, multiple bases”, re-sorted out the management documents for the environmental system, and drew up the 2022 Revise Plan for Environmental System Documents to constantly improve the environmental management system. In 2022, the Company finished the revision and release of system documents including the *Responsibility System of Environmental Protection Management*, the *Management Measures for Evaluation of Environmental Professional Performance in Energy*, and the *Management Measures for Environmental Protection*.

Fulfilling environmental protection responsibility

The Company rigorously worked to “assign equal responsibilities for environmental protection to Party committees and governments, and charge officials with environmental protection responsibilities in addition to their prescribed duties”. We put environmental protection responsibilities into practice through various measures, such as signing letters of commitment to energy-saving and environmental protection goals, strengthening the inspection and evaluation mechanism, and executing the restraint mechanism of rewards and punishment. In 2022, the Company signed letters of commitment to energy-saving and environmental protection goals with nine manufacturing plants, five departments and three subsidiaries to delegate the responsibilities for the goals.

Environmental protection warning and emergency response mechanism

In consideration of worst-case scenarios and risks, the Company constantly standardized emergency management and implemented the *Contingency Plan for Environmental Emergencies of Maanshan Iron and Steel Co., Ltd.* Meanwhile, the Company conducted drills according to the contingency plan in different themes, thus improving our ability to control the risks of and deal with environmental emergencies. In 2022, all subsidiary units conducted drills according to the contingency plan together with the Company.

Environmental impact assessment of new projects

The Company strictly observed the environmental impact assessment (EIA) for construction projects and the “Three Simultaneities” system. In 2022, the Company took the initiative to communicate with the responsible government departments and organized special sessions to solve the issues restricting EIA examination and approval through coordination.

The EIA for 12 projects, including B blast furnace overhaul, C sintering machine, R&D center, and finishing and grinding of special steel, received approval.

The EIA for 11 projects, including the dual silicon steel acid regeneration eco-friendly upgrading and desilication system reconstruction project of the Cold Rolling Plant, finished registration form filing.

In 2022, key projects, including the belt-type roasting machine, new 1# and 2# coke oven, water treatment upgrading and reconstruction of the south slag disposal pit, and silos in the South District, successfully passed acceptance.



Training, publicity and education for environmental protection

By multiple means such as the online learning platform and onsite theory and skill training, the Company carried out special training on green and environmental protection topics. In 2022, a total of 12,183 people participated in the training for 81,969 hours.



An environmental protection section went live on the Company's online learning platform.



Training of Grade-A environmental performance criteria for steel enterprises and operation management and control

In 2022, a total of

12,183

people participated in the training

The total training lasted

81,969 hours



Boosting Green Production

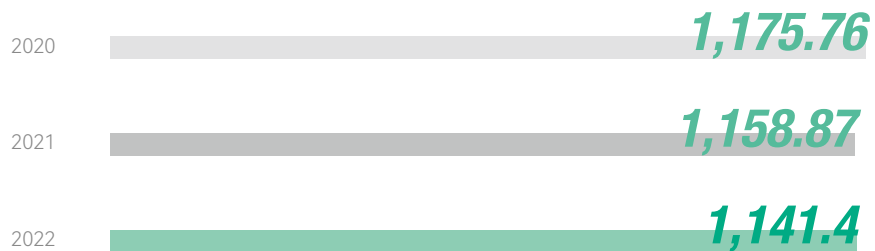
Masteel has been actively practicing “green manufacturing, green products, and green industry”. The Company continued to improve the energy management system, actively promoted energy conservation and carbon reduction, and outputted more green products, thus contributing to achieving the carbon peaking and carbon neutrality (“Dual-Carbon”) goals.

Energy management

Focusing on the new version of the energy systems standard (ISO 50001:2018), the Company took many concrete actions such as revision of system documents, policy identification, internal auditor training, and multi-level system review, so as to enhance the energy management system building, improve the energy management system institutions, and revise and release the energy-related management measures.

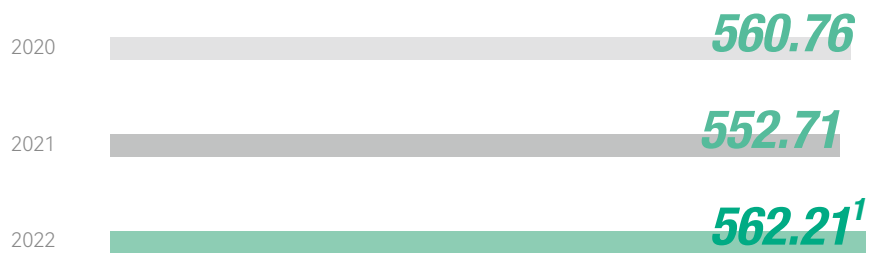
Use of Main Energies in the Past Three Years (based on 2022)

Comprehensive energy consumption/Ten thousand tons of standard coal (equivalent value)

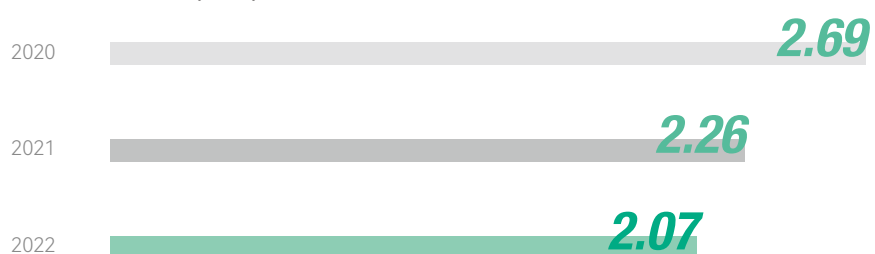


¹Note: To make the Company's production and operation more coordinated and stable and reduce the daily connected transactions between the Company and Anhui Magang Chemical Energy Technology Co., Ltd. ("Chemical Company"), the Company reduced the capital of Chemical Company by fixing a price for the coke oven gas purification assets of Chemical Company and making the assets return to the Company. Since July, the coke oven gas purification energy consumption has been included into the statistics of coking process energy consumption, showing an increase than before. Meanwhile, impacted by production restriction, and new coke ovens and sintering machines in operation, the Company's output before iron making and iron-steel ratio saw an obvious increase, thus causing a year-on-year increase in comprehensive energy consumption.

Comprehensive energy consumption per ton of steel/kg of standard coal



Fresh water consumption per ton of steel/cubic meter



Energy conversation and carbon reduction

Centering around the “Dual-Carbon” goals, the Company focused on comprehensively achieving the benchmark level of energy efficiency in key working procedures, accelerated the R&D, promotion and application of advanced energy-saving and carbon-reducing technologies through the low-carbon metallurgy projects, and systematically promoted to achieve ultimate energy efficiency and carbon reduction.

	Internal efforts	External efforts
Main actions	We organized labor competitions on energy consumption benchmarking of different working procedures with the theme of “ultimate energy efficiency”, and took an array of measures for energy conversation and carbon reduction such as promoting the operation of the energy economy, tackling the special difficulties in energy efficiency improvement, dealing with key challenges in energy conversation and carbon reduction, and R&D of low-carbon metallurgy technologies.	We organized and participated in the 15th “National Benchmarking Competition for Energy Saving and Consumption Reduction of Key Large Energy-consuming Steel Production Equipment”.
Achievements	In 2022, the energy efficiency of main working procedures was reduced to a varying degree. The A# sintering machine in the Iron-making North District and 2# converter of No.4 Steel Rolling Plant won the “Championship Furnace” award in the “National Benchmarking Competition for Energy Saving and Consumption Reduction of Key Large Energy-consuming Steel Production Equipment”, and all other contestant furnaces also won awards, hitting the best record of all time.	We made historic breakthroughs: A# 380m ² sintering machine in the Iron-making District and 2# 300t converter of No.4 Steel Rolling Plant won the “Championship Furnace” award, B# 4,000m ³ blast furnace and 4# 3,200m ³ blast furnace in the Iron-making District were awarded “Excellent Furnace”, and 1# 2,500m ³ blast furnace in the Iron-making District was awarded “Pioneering Furnace”.

Case Masteel successfully completed the first priced green electricity trading

To contribute to achieving the “Dual-Carbon” goals, Masteel made groundbreaking successes by completing the first green electricity trading. On September 7, 2022, online trading of green electricity was officially launched in Anhui Province. After finishing the first 73 million kilowatt-hours of green electricity trading with State Power Investment Corporation Limited Anhui Branch on that day, the Company also finished 203 million kilowatt-hours of green electricity trading in total with four organizations including Shenergy, Hongfei, Shenwan and CGN on the same day. A total of 276 million kilowatt-hours of green electricity trading were finished on the day.

In 2022, we carried out

26

scientific research projects
for energy conservation
and environment protection

Energy-saving and eco-friendly technologies

Taking the realization of “ultimate energy efficiency” as the goal, the Company put active efforts into the R&D of energy-saving and eco-friendly technologies in key areas and conducted scientific research projects. In 2022, we carried out 26 scientific research projects for energy conservation and environment protection, among which “research and application of key sludge dredging technologies with synergistic disposal of the rotary kiln”, “deep prediction and evaluation of surplus energy recovery in steelmaking and dynamic collaboration technology of energy system”, and “development of high-efficiency and green technology of steel slag wind crushing process”, and other projects were prioritized.

Case Practice of “research and application of key sludge dredging technologies with synergistic disposal of the rotary kiln”

In 2022, Masteel carried out the research and application of key sludge dredging technologies with synergistic disposal of the rotary kiln aiming at the question of “how to treat sludge at Liufenhe in an environment-friendly and low-cost way”. In this way, the proportion of sludge quantity dredged at Liufenhe with synergistic disposal of the rotary kiln reach 30% (blending quantity 150t/d), the exhaust flue gas of the rotary kiln reached the emission standard, and the leaching toxicity of kiln slag remained within the standard scope. In this way, we achieved resource utilization and did not cause any negative impact on the environment during disposal.

“Dual-Carbon” action

In compliance with the “Dual-Carbon” overall arrangement of China Baowu, the Company implemented the *Work Plan of Magang Group for Low-carbon Development Implementation* and planned and developed various green electricity resources in advance. We advanced the rooftop photovoltaic development and construction project in the plant and promoted the low-carbon development of the Company with the Carbon Neutrality Office as the main driving department. In 2022, the installed capacity of distributed photovoltaic power of the Company reached 45MW, and the annual green power generation was 35 million kWh, a year-on-year increase of 14 million kWh. Our green power trading achieved groundbreaking successes, with an annual green power trading volume of 265 million kWh.

The action program of Magang clarified the goals for carbon reduction. The key work promotion plan of Magang in low-carbon development advanced 27 key tasks from five aspects including ultimate energy efficiency, energy conservation and cost and carbon reduction, high-efficiency production line, comprehensive utilization of metallurgical resources, low-carbon metallurgical breakthroughs and scientific research projects, and basic management.

“Dual-Carbon” strategy and goal

Carbon reduction goal: Strive to achieve a carbon peak in 2023, possess the technological capability for carbon reduction of 30% in 2025, strive to reduce carbon emissions by 30% in 2035, and strive to achieve carbon neutrality in 2050.

“Dual-Carbon” action plan and path

“3465” “Dual-Carbon” action program

3

Center on the “three-in-one” development idea of “green manufacturing, green products, and green industry”

4

Uphold four working principles of “green development, planning guidance, thrift priority, and innovation-driven development”

6

Consider six dimensions of “carbon reduction by planning, energy conservation, process, science and technology, coordination, and all staff”

5

Combining the Company’s features in production process layout, draw up strategic initiatives in five aspects of “planning guidance, ultimate energy efficiency, green manufacturing, low-carbon metallurgy, and basic management”

“Dual-Carbon” technical research and application

- Development and application of biochar
- Comparative research of carbon capture, utilization and storage (CCUS) technical routes
- Study on CO₂ fixation technology by steel slag mineralization
- Study on the new process of carbon reduction by injection of quicklime in blast furnace



On July 12, 2022, the Company held a workshop on low-carbon development.

Coping with climate change

The Company unwaveringly forged ahead on the ecology-first, green, low-carbon and high-quality development path, make joint efforts to build a community of life for humanity and nature, actively identified, coped with and managed climate-related risks, and defused the risks and challenges brought by climate change.



Flood risk

Located on the shore of the Yangtze River, the Company faces the flood season every year. The Company established a long-acting mechanism for flood control and production protection, and drew up contingency plans to cope with the risks that might be caused by the rising water level of the Yangtze River during the flood season through preventive measures for flood control and emergency rescue and the onsite patrol. When necessary, some production lines stopped production to ensure the safety of personnel and production equipment.



Extreme weather risks such as thunderstorms and gales

The Company actively responded to extreme weather risks such as thunderstorms and gales by formulating contingency plans to ensure the raw material purchase and supply and the stable power and logistics systems.

Green products

The Company actively developed green products, advocated green design, and boosted the green development of the material user end. We also brought in the philosophy of LCA (Life Cycle Assessment) used as a standard language in the dialogue of international green and low-carbon field, carried out the systematic arrangement and scientific verification of the life-cycle parameters of series products, and promoted the Environmental Product Declaration (EPD) certification and carbon footprint assessment of key products, so as to achieve both "green manufacturing" and "creating green".

In 2022, the Company's first EPD for large hot-rolled H-beams was released on the EPD platform for the Chinese steel industry, filling the gap of the Company in EPD.

01

Three types of products, i.e., large hot-rolled H-beams, small hot-rolled H-beams, and hot-dip galvanized steel coils, completed the life-cycle carbon footprint quantitative evaluation, and the evaluation results were released on the EPD platform for the Chinese steel industry of China Iron and Steel Association.

02

Water conservation

In strict accordance with the *Water Law of the People's Republic of China*, the *Regulations on Water Conservation of Anhui Province*, and other water-related policies, the Company implemented the requirements of the *Management Measures for Water Conservation*, strengthened the management of water resource consumption from the source, and strictly executed the water-drawing permit system to ensure draw water as permitted. We improved the water metering system, enhanced the management of the water user side, and concentrated efforts to govern the prominent problems such as the imbalance between water supply and use. We controlled the total water consumption and intensity at the same time, devised and distributed the Company's water-saving and water-consuming indicators in every working procedure, and assessed the performance in a tightened way to effectively save water. In 2022, the fresh water consumption per ton of steel was 2.07 cubic meters per ton, a significant decline over 2021.

Reducing Pollution and Emissions

With a focus on synergizing the reduction of pollution and carbon emissions, Masteel continued to comply with the goal of “treatment of three wastes” of China Baowu, i.e., “ultra-low emission of exhaust gas, zero discharge of waste water, no solid waste leaving the factory”, and governed the pollution of “gas, water and solid waste” in an all-round way. Meanwhile, we implemented the noise pollution prevention and control campaign by centering on ultra-low emissions.

Ultra-low emission of exhaust gas

By implementing the relevant requirements of the *Opinions on Promoting the Implementation of Ultra-low Emission in the Steel Industry* and the *Technical Guidelines for Assessment and Monitoring of Ultra-low Emission in the Steel Enterprises*, the Company organized ultra-low emission training and project scheduling meetings, provided irregular assistance and guidance for the subordinate units in inspection, and fully promoted the ultra-low emission transformation projects. Furthermore, we also finished the organized and unorganized monitoring and evaluation of ultra-low emissions. In 2022, the Company continued to promote ultra-low emission transformation, and invested a headquarters project fund of RMB 1.12 billion to implement and complete 17 ultra-low emission transformation projects. The ultra-low emission rate of exhaust gas reached 100%.

Indicator	2020	2021	2022
Total emissions of sulfur dioxide (ton)	7,792	5,175	4,297
Total emissions of particulate matter (ton)	22,372	9,285	8,095
Total emissions of nitric oxide (ton)	18,430	9,362	6,457



Flue gas desulfurization project of the blast-furnace hot blast stove

Zero discharge of waste water

The Company enhanced operation management and control of the waste water treatment facilities to maintain the efficient, stable and uninterrupted operation of the facilities. We increased the routing inspection frequency of the pipe network to timely make rush repairs on the leakage and damage of the pipe network and control the leakage and damage to the minimum. Furthermore, we ensured low-level operation by optimizing the operation mode of the circulation cooling system, and increased the concentration multiple of the system to strengthen the control over water quality. In 2022, the Company discharged 18.36 million m³ of waste water, 256 tons of chemical oxygen demand (COD), 13 tons of ammonia nitrogen, and 3.69 tons of oil.

Total COD
emissions
(ton)

564.97

2020

367

2021

256

2022

“Zero discharge of waste water” transformation projects in 2022

Rain and sewage water diversion transformation and industrial waste water advanced treatment project in the North District, advanced waste water treatment and comprehensive utilization project in the North District, biochemical waste water upgrading and salt zero discharge project in the North District, rain and sewage water diversion project in the North District.

No solid waste leaving the factory

According to the *Three-Year Plan for “Solid Waste Does Not Leave the Factory” of Masteel (2020-2022)* and the *Full Quantitative Disposal Plan for “Solid Waste Does Not Leave the Factory of Masteel”*, the Company set an overall goal for “no solid waste leaving the factory”, made steady progress in reduction from the source of solid wastes, minimum solid wastes leaving the factory, resource regeneration products, standard storage, and intelligent management, thereby gradually improving the indicators of “no solid waste leaving the factory”. In 2022, the Company produced a total of 77,700 tons of hazardous wastes and 81,100 tons were disposed of in compliance with the regulations, including 5,740 tons of silt and electric furnace ash at Liufenhe stored last year. 2,340 tons were stored in compliance with the regulations, and the disposal of hazardous wastes reached 100% compliance.

Waste Discharge Goals and Achievements in 2022

Indicator	Goal	Achievement
Comprehensive utilization rate of solid wastes	100%	99.97%
Return-to-production utilization rate of solid wastes	27%	27.24%
Productization rate of export solid wastes	100%	98.99%
Non-leaving-factory rate of solid wastes	100%	99.24%
Non-leaving-factory rate of metallurgical dust solid wastes	99.5%	100%

Implementing full quantitative disposal of “no solid waste leaving the factory”

28.86%

In September 2022, the return-to-production utilization rate of solid wastes reached 28.86%, hitting a new record.

27.24%

The cumulative return-to-production utilization rate of solid wastes in 2022 was 27.24%, achieving the challenging goal and ranking at the forefront among the organizations under Baowu.

Reducing noise pollution

Strictly abiding by the *Law on Prevention and Control of Noise Pollution* and other requirements, the Company took integrated measures for noise pollution prevention and control targeting the noise caused by the mechanical operation of equipment during production and the air power noise. These measures included sound insulation, sound absorption, shock absorption, and using low-noise equipment. In 2022, the Company invested more than RMB 6.8 million in noise treatment in the iron-making belt-type roasting area by adding silencers, noise enclosures and soundproof rooms, thereby effectively protecting the environment and reducing occupational injuries to the employees.

Noiseless urban rail transit wheels

Through re-design of the structures of the subway wheels and light rail wheels, the Company added acoustic damping materials to greatly reduce the noise caused by wheel and rail vibrations. With the development of urban rail transit, the low-noise experience has brought benefits to more passengers and residents along the line.

Green and clean transportation

Clean transportation is an important part of the ultra-low emission of steel enterprises. In close alignment with the green development goal, the Company actively adjusted the logistics mode and continued to increase the proportion of clean transportation. Moreover, we fully implemented the clean transportation of bulk materials and products, replacement of transport vehicles in the factory, replacement of non-road moving machinery, building of the access control system, and vehicle management. In 2022, the Company finished the clean transportation transformation and finished the identification of ultra-low emission requirements.

Measures for clean transportation

Clean transport ratio: Increase the proportion of cleanly transported bulk materials and products in and out of the field.

Access control system: Build and use the intelligent access control system.

Other raw and auxiliary materials and transport vehicles in the factory: Replace the non-new energy vehicles that fail to reach the national V emission standards for motor vehicles or above.

Non-road moving machinery: Replace the non-road moving machinery that fails to reach the national III emission standards for motor vehicles or above.



Fostering Green Culture

Limited exploitation of resources and controlled use ensure sufficiency. Upholding the principle of thrift priority, Masteel took various measures to build a green office. We actively spread green concepts to lead the employees to conscientiously develop green and low-carbon work habits from the little things. Moreover, we organized colorful green thematic activities such as green thematic publicity and competition for environmental protection knowledge, making the concept of green office take its root at Magang.

Upholding green operation

The Company practiced a green and low-carbon style of production and life, conscientiously fulfilled the obligations of energy conservation and emission reduction, advocated to make our life more low-carbon and beautiful, and guided and cultivated the saving consciousness and habits of all staff. We set up groups for daily management to make timely feedback, rapid response and proper treatment, so as to reduce waste. In this way, we converted the green and low-carbon concepts into a specific code of conduct, actively created a dense atmosphere of energy conservation and carbon reduction, and co-built a clean, beautiful and green homeland. In 2022, the Company's office buildings consumed 6.78 million kilowatt hours of electricity and 310,000 tons of water.

Saving electricity

Use the outdoor light source in the daytime as far as possible. Control the temperature of the air conditioner precisely, making the cooling temperature no less than 26°C in summers and the heating temperature no more than 20 °C in winters. Timely turn off the lamps and the power supplies of the air conditioners and office equipment when no one is in the office or all staff gets off work. Power off as long as leaving the room.



Saving paper

Proofread and check the correctness of the documents before printing. If there is no requirement, print or copy the documents on two sides. Reuse the reverse side of the one-sided printed documents without classified content and recycle after reuse. Pass around the notice materials and documents electronically for a paperless office.

Saving water

Enhance water consumption control in the office. Eliminate leakage, venting, and running water. Turn off the tap after use. Establish water-saving awareness among all staff.

Spreading green concepts

Nobody can stand by when it comes to resource conservation and environmental protection. The Company intensified efforts to create a green atmosphere, made green concepts deeply rooted in everyone's mind, and carried out diversified green thematic activities to practice green concepts.

Publicizing green concepts

We posted more than 100 picture posters with the green theme at eye-catching positions in the headquarters building, the Magang Intelligent Park, and the office buildings and canteens of all subordinate units. The online media platform also forwarded green and low-carbon publicity materials.

Conducting green thematic activities

- For internal activities, we carried out the competition for environmental protection knowledge on "June 5th World Environment Day", the thematic activity of "Make Progress for Grade-A", unorganized diffusion of waste gas in the furnaces and kilns, and the labor competition of clean transportation;
- For external activities, we organized to declare six cases of advanced pollution control technology, and participated in the thematic activity hosted by the local government on "June 5th World Environment Day".



MA STEEL 马钢

特钢智控中心

智慧管控

欢迎领导莅临指导！

Co-building a
Wonderful Future
with Partners



When the path is just, the common good will reign over all under Heaven. Masteel cares for our employees, wholeheartedly serves our customers, and grows with our partners, working hand in hand with all stakeholders for a win-win and wonderful future.

54 Creating a Happy Workplace

59 Wholeheartedly Serving Customers

62 Driving Partners to Perform Responsibilities

Creating a Happy Workplace

Masteel always sticks to putting people first. Our development is for the benefit of the employees, backed by the employees, and shared with the employees. We protect the basic rights and interests of the employees, improve the employee training mechanism, expand development channels for the employees, and show care for them. We take measures to enrich the life of the employees and actively respond to the expectations of the employees for a wonderful life, thereby enhancing their senses of security, gain and happiness, and co-building a better and harmonious Magang.

Fully protecting the rights and interests of the employees

To deeply implement the statement of General Secretary Xi Jinping at the gathering to honor model workers and exemplary individuals in 2022 that “we should put more efforts to realize, protect and develop the legitimate rights and interests of workers”, the Company followed the right approach to selecting, appointing and cultivating talents, and strictly executed the personnel management system according to the laws and regulations. We optimized the compensation system and completed the relevant transition. Moreover, we also safeguarded the democratic rights of our employees to strive to make the Company’s development achievements cover more employees in a fair way.

Upholding equal employment

Strictly observing the *Labor Law of the People’s Republic of China*, the *Labor Contract Law of the People’s Republic of China*, and other laws and regulations, the Company standardizes personnel employment, abides by the employment policies of equal pay for equal work, gender equality and ethnic equality, eliminates child labor, and prohibits forced labor and workplace harassment. We formulated the *Employee Recruitment Management Measures* to standardize and ensure an open and transparent recruitment process, made proper result announcements, and assigned the Discipline Inspection Commission to investigate and check the reality in case of any objection.

Strengthening positive incentives

The Company actively improved the compensation and benefits system, committed to creating a differentiated compensation system that matches the responsibility and ability, adapts to the business type, takes market competition into account, and aligns with performance. In 2022, through the preparation of the *Management Measures for Post Performance-based Salary System* and the *Transition Plan for Post Performance-based Salary System*, the Company optimized the existing compensation system to establish a diversified compensation system with post performance-based salary system as the core and post performance-based annual salary system and capability level-based salary system as the supplementary. With these efforts, we ensured the qualitative change of the development space for employees from “hordes of soldiers and horses passing a single-log bridge” to “all roads leading to Rome”. Meanwhile, the Company continued to optimize and put in practice all kinds of benefits for the employees, pay all types of social insurance in time and in full amount, implement the occupational pension system and the supplementary medical insurance, and the system of assistance for treating major and serious diseases, and insure all staff against major and serious diseases, unintentional injury, and commercial property insurance for home in a unified manner.

Safeguarding democratic rights

The Company continued to treat the workers’ congress as the basic form of democratic management. We respected the principal position and pioneering spirit of the employees, standardized and improved the workers’ congress system at all levels, and deepened the open and democratic management of factory affairs. Moreover, we protected employees’ rights to participate in democratic management and supervision, further promoted innovative practices in democratic management, and broadened channels for employees to participate in democratic decision-making, so as to build a brand of democratic management with our own characteristics.



**Masteel factory
affairs disclosure
and democratic
management**

We organized employee representatives to carry out inspections, thus effectively protecting the rights of employees to know, to participate, to express, and to supervise;

We held workers' congresses to vigorously promote the spirit of model workers, labor and craftsmanship and commend outstanding representatives who made contributions to the science and technology field, as well as youth and model workers;

We conducted democratic surveys on improving working practices and the practical activities of "Doing Practical Things for the People" to create a valuable, available and enjoyable life for employees;

We implemented the system of assigning employees as directors and supervisors, incorporated the system into the Company's Articles of Association, and integrated the democratic management of employees into corporate governance;

We organized trade union officials to attend the skill level training for labor relations coordinators and conducted online and onsite democratic management ability training.



Case Masteel held the Third Session of the Ninth Workers' Congress

In January 2022, the Company held the Third Session of the Ninth Workers' Congress to fully protect employees' rights to know, to participate, to vote, and to supervise. Considering three categories of employee opinions, including the proposals of the workers' congress, reasonable suggestions, and employee appeals, the Company guaranteed the rights of the employees to participate in the Company's democratic management through unimpeded communications ways and channels. Moreover, the Company also organized the employee representatives to carry out onsite inspections, thereby giving full play to the important function of the employee representatives in participating in the deliberation and administration of corporate affairs, and further impelling all staff to contribute wisdom and strength to building a new Magang with sustained growth.



Supporting employee growth

Employees are the valuable wealth of an enterprise. Masteel upholds the principle of respecting talents, builds platforms for employee growth, and broadens job promotion channels for them. We put more efforts to cultivate talents through all kinds of special training programs to meet the development requirements of different employees. We also organized labor and skill competitions in various forms to provide a fast lane for employee growth.

Providing unimpeded promotion channels

Talents are the first element, first resource and first driving force for enterprise development. To build a talent team with high-level, high-quality and high-caliber personnel, we increased efforts to attract and cultivate talents and improve the employees' professional skills. Masteel built an all-round and fully opened career development channel for every staff that matches their comprehensive management quality, professional technology level, skill innovation level, and business operation ability. In this way, we endeavored to make the employees who do a good job and make innovations and contributions receive a proper job grade, a good salary, a raised position and sufficient respect.

Providing platform for employee growth

Following the guiding principle of "stimulating the vitality of employees and unveiling enterprise impetus", we further enhanced post system optimization and building;

Post system optimization and building

We build a multi-channel promotion mechanism through the measures of "strengthening post management, setting up posts according to the actual business, matching personnel with posts, and expanding the horizontal development space of the posts";

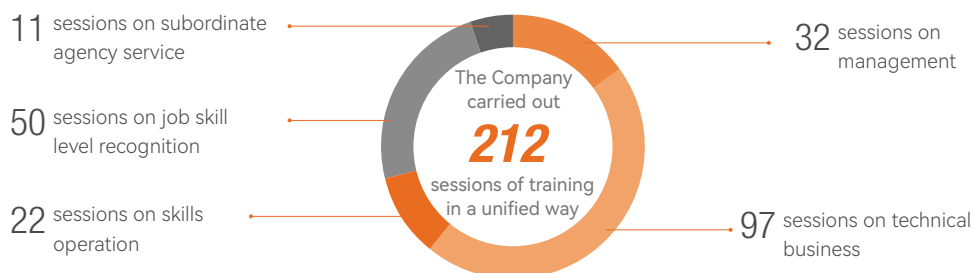
Multi-channel promotion mechanism

Under the principle of "keeping lean and efficient, creating values, and layering and classifying", we divided the posts into three post sequence development channels, including management posts, technical business posts, and operation and maintenance posts. By doing so, we provided multiple promotion approaches for employees and diversified paths for personal development, thus raising the overall human resources management level.

Broadening promotion approaches for employees

Improving the training system

Attaching great importance to the development of the talent team, the Company implemented the systematic personnel training project in a precise way and enhanced the building of three teams, i.e., management team, technical team, and operation and maintenance team. We developed and designed three types of the employee training system, i.e., operation management, technical business, and operation and maintenance, for the management personnel, technical personnel, and skill personnel, respectively, and formulated plans for youth development from the above three dimensions. We assisted youth employees in improving their comprehensive quality, professional skills, and operational capabilities through building question banks, opening training classes, all-staff training, induction programs, mentoring, and other methods, so as to provide talent support for the enterprise's sustainable development. In 2022, the Company carried out 212 sessions of training in a unified way, with 20,272 trainees, including 32 sessions on management, 97 on technical business, 22 on skills operation, 50 on job skill level recognition, and 11 on subordinate agency service.



Caring for employees' welfare

Masteel deeply implemented China Baowu's shared development concept of creating "a valuable, available and enjoyable life", vigorously carried out all kinds of recreational and sports activities, and struck a balance between the work and life of the employees. We provided warmhearted assistance for grassroots employees with difficulties, cared for retired staff, frontline staff, staff with disabilities or difficulties, and other special populations, and effectively solved the urgent, difficult, worried and expected issues of the employees in need, such as assistance for treating major and serious diseases of needy employee families, children's schooling, etc., so as to make the employees' life happier.

Employee care and assistance

The Company attaches great importance to humanistic care. We continued to focus on the employees' demands, actively improved the living conditions for the employees, and increased their happiness index. We kept improving the assistance and rescue system under the new situation and served the employees in an inclusive way. To build a better regular long-term assistance and support mechanism, we continued to support and visit the employee's family with living difficulties caused by serious diseases or heavy disasters. We organized many special caring activities such as sending warmth in two festivals, providing financial aid to students in autumn, sending coolness in summer vocations, etc. In 2022, the Company granted funds for "providing financial aid to students in autumn" of RMB 50,000 in total, helping 10 children of employees with difficulties have the opportunity to study at school.

Case Helping the retired staff in need in a down-to-earth way

Before the "July 1st" anniversary of the founding of the CPC in 2022, the Company organized personnel to visit the home of retired staff for precise assistance and put more efforts into door-to-door surveys to find out the real situation, so as to understand the basic conditions of the needy staff in a full and true manner and effectively and precisely identify the needy employees. The Company kept paying onsite visits and conducting investigations. We visited, sat down with, and talked with the retired staff with diligence, patience and sincerity. When visiting and interviewing the elderly, we extended the age of interviewees downward. With these efforts, we helped them out and conveyed care to every needy retired employee's family to make them feel the warmth of the organization.



The Party Committee of the Center for Retirees held an activity to deliver learning materials to old staff's home

Work-life balance of employees

The Company actively carried out cultural and sports activities and integrated the online and offline platforms to enrich the spare cultural life of the employees, so as to create a harmonious and pleasant working atmosphere for the employees, make them feel the warmth of the Company as a big family, and constantly increased the enterprise's cohesiveness.

Case Female employees celebrated the "March 8th" International Women's Day

As the "March 8th" International Women's Day was coming, the Women's Committee of the trade union took the lead to organize the reading exchange, visits and learning, and other activities for celebrating the festival. Female staff at the trade union organized excellent female employee representatives to visit the achievements of the Company in green development and intelligent manufacturing and experience the Company's building of a "garden-style factory" and the great change from bonsai to scenery. In this way, we stimulated the sense of belonging and pride of the female employees, built consensus about the spirit of female workers, and converged the power of females.



"Enjoy Reading" reading exchange activity



"Magang Females for a Better Future" visiting and studying activity

Case Joining the "Baowu Corporate Song Exercise" competition

On August 2, 2022, Masteel held the "Baowu Corporate Song Exercise" employee competition at the indoor tennis hall of Magang cultural and sports center. A total of 12 grassroots units signed up for the competition, with 237 participating employees. The competition highlighted mass, engagement and wide coverage, showing competitiveness and originality at the same time. Through the popular exercise form among the employees, we showed a positive mental outlook of our employees to celebrate the 20th CPC National Congress.



"Baowu Corporate Song Exercise" competition

Wholeheartedly Serving Customers

Masteel makes positive efforts to build a good environment for doing business, effectively fulfills corporate responsibilities and duties, upholds consistent system of quality management, and wholeheartedly serves customers. By operating with integrity, keeping appointments and promises, and creating high-quality products, we aim to create value for customers, play our part in social development, and polish the brand of “Magang” with high-quality products and services.

Enhancing quality management

Quality management system

The Company kept following the quality management awareness, focused on production and operation performance, deepened customer-centered consistent system of quality management, and finished the revision of the *Quality Manual* and process performance indicators. To ensure the completeness, appropriateness and effectiveness of the system, we identified and formulated 62 management measures for the quality management system. In 2022, we finished the revision of 16 management measures.

Strengthening quality management

The Company implemented the requirements of “consistent system”. To meet the demands of the users, we started with advanced product quality planning to carry out full-process control from the entry of raw materials according to different product series, with dynamic quality management as the center and the procedures and quality control system as the basis.

Organizing quality activities

Leveraging the “Quality Month”, the Company strengthened organizational leadership and made solid progress in all kinds of quality activities. We actively organized employees to participate in the quality activities and guided them to bear in mind the quality-first awareness. We carried out diversified quality activities such as QC activity, knowledge training, calls for papers, and visits to the users, in an effort to enhance the employees’ quality awareness, create an environment where everyone values quality, and improve the quality of products and services. In 2022, the “*Reduction in the Incidence of Edge Warping Defect of Hot-rolled Non-oriented Silicon Steel*” of the Company won the first prize in the 5th QC Group Achievements of Central Enterprises and was also qualified be a candidate for the national excellent QC group.

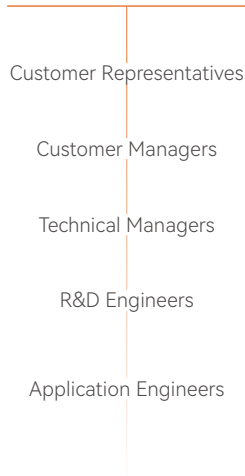
Deepening brand operation

Quality and brand are the foundation of corporate survival and development. The Company attached great importance to the building of the “Magang” brand, focused on brand cultivation, brand operation, and brand management, and established a sound brand operation and management system. We mentored the steelworks in cooperation for brand operation technically, kept track of product quality improvement, and reduced the quality risk of brand operation. Furthermore, the Company constantly enhanced trademark management in brand building and cooperated with the administrative law enforcement departments of the government in cracking down on counterfeit goods and safeguarding our rights, thereby maintaining a positive image of the Company and enhancing the brand influence of “Magang”.

Providing better customer services



“Five-in-One” Customer Service Team



Adhering to the “customer-centered” service principle, the Company provided customers with lean solutions based on their demands and offered high-quality products and services for the customers.

Service management system

The Company set up a customer return visit system, actively built customer files, and established a holistic customer view. We improved the service management system and solved the customers’ puzzling questions by focusing on their demands. Till now, the Company has formed a “five-in-one” customer service team consisting of customer representatives, customer managers, technical managers, R&D engineers, and application engineers, thereby responding to the client demands and feedback in a timely, fast and efficient manner.

Customized services

Upholding the service philosophy of “the demands of users are the direction of our efforts”, the Company put more efforts into market surveys and user visits to fully understand the customer’s demands in detail and provide customized service for the customers. The Company valued the demands of each customer, organized production according to their demands, and treated the demands as an important source of quality improvement. We set up an investigation team to visit the key accounts and collect their suggestions for our products. Aiming at the personalized demands of the customers, we timely held analysis meetings to confirm the challenging topics and solve problems within a limited period, thereby constantly improving service quality.



The first step for directly supplying H-beams to terminal customers in manufacturing: developing customized high-strength deformed H-beams according to the customer’s individual needs.

Keeping the defense line of privacy

The Company paid high attention to information management, organized all staff to sign confidentiality agreements, and publicized the importance of confidential work. We formulated the *Sales Management Measures* and other systems to clarify the scope of confidential information and confidential work management. We carried out safety promotion and skills training for the customer managers and required them to work with certificates to safeguard the nondisclosure of the customer's data and information privacy. We strengthened data safety and privacy protection and conducted safety compliance inspections for the units with a large amount of customer information, so as to summarize the common risks and make improvement plans. We promoted the R&D and achievement transformation of network security products through self-development of the software that could achieve independent application and built a network security operating system from the aspects of security command, situation analysis, and security interaction to keep the defense line of customer information protection.

Offering high-quality after-sales services

High-quality and well-rounded after-sales services are important guarantees of the Company for customers. The Company provided after-sales services in strict accordance with the agreement, solve the customers' after-sales problems in a timely, accurate and rapid manner, and strove to provide the best after-sales services for customers. Customers are our focus of attention. By implementing customer classified management, we assigned customer representatives to work at the strategic and key accounts to collect customer information, feed back their problems and maintain customer relations whenever and wherever possible. Furthermore, we optimized the allocation of service resources and improved service efficiency for automobile sheets, home appliance sheets, silicon steel, and color-coated and hot-rolled products. We assigned 26 customer representatives to work at 26 core strategic accounts in East, Central and South China and provided them with a 24-hour response, realizing one-stop and all-round customer services from pre-sales to after-sales services.



Driving Partners to Perform Responsibilities

The Company lays stress on growing together with the partners on the supply chain, building a sunshine, transparent and efficient supply chain system, and integrating the social responsibility management of the suppliers into enterprise daily management, thereby raising the level of performing social responsibility of the suppliers.

Improving the supplier management system

The Company strengthened the management of the suppliers and made clear the standards with regard to the access, evaluation and supervision of suppliers. Meanwhile, we implemented the classified review system of suppliers, strictly observed the standard procurement process and green procurement policies, and incorporated social responsibility into the evaluation and review system of the suppliers, so as to urge them to take an active part in shouldering the social and environmental responsibilities.

Management system

01

In 2022, the Company revised and improved the *Purchase Management Procedure*, the *Supplier Management Procedure*, the *Bidding Management Measures*, and other system documents to further standardize the procurement process and improve the procurement management system;

03

We strengthened supplier evaluation, improved the mechanism of survival of the fittest, and revised and issued the *Management Measures for Dynamic Evaluation of Suppliers*;

02

We strictly controlled the supplier access threshold, conducted supplier access review in accordance with the *Supplier Management Procedure*, and required new suppliers to sign the *Subcontractor/Supplier Social Responsibility Commitment Letter* and the *Agreement on Standardizing Business Behavior* to ask suppliers to fulfill their social responsibilities;

04

We strictly implemented the requirements of the *Safety Management Responsibility Agreement in Safety, Fire, Public Security, Energy, Environmental Protection, Road, and Traffic Safety Management* signed with the incoming suppliers.

Bidding management

To standardize the Company's tendering and bidding management, improve the supervision and restriction mechanism, and safeguard the legitimate rights and interests of both parties, we prepared and issued the *Bidding Management Measures* in accordance with relevant laws and regulations on tendering and bidding and China Baowu's *Bidding Management Measures* as well as the principles of openness, fairness, justice and good faith. Meanwhile, we conducted independent research and development of an efficient bidding system, which covered the whole process of bidding.

Sunshine procurement

According to the promotion requirements of China Baowu on sunshine procurement management, we vigorously promoted sunshine procurement via the Ouyeel purchase platform. We carried out fair and just sourcing open to all suppliers on the platform and determined the winning suppliers and purchase prices of the materials through the comparison of quality and price, so as to ensure open and transparent pricing during procurement and set the price base on the evidence.

Urging suppliers to fulfill their duties and responsibilities

The Company incorporated supplier management into routine management and conducted supplier social responsibility education and training to standardize supplier behaviors through negotiation and workshops. We regularly carried out supplier assessment and evaluation, implemented dynamic and quantitative assessment and rating, and established long-term cooperative relationships with suppliers receiving excellent evaluation results, so as to actively drive partners in the ecosystem to fulfill their responsibilities and work together to build a responsible supply chain. Meanwhile, the Company set up a blacklist for suppliers and weeded out four unqualified suppliers in 2022.



Conducting responsibility performance evaluation

The Company strictly controlled the supply quality and carried out performance evaluations for suppliers based on the *Management Measures for Dynamic Evaluation of Suppliers* to ensure that supplier's products could meet the requirements of quality, environment, energy, occupational health and safety, and measurement management system.



Clarifying social responsibility requirements

The Company encouraged suppliers to actively fulfill their social responsibilities by setting clear requirements for them in terms of environmental protection, employee health and safety, and labor codes.



Strictly implementing the exit mechanism

The Company established a complete supplier exit mechanism and defined the complete scenarios of the supplier exit mechanism: if the supplier has any major quality or delivery abnormality and fails to pass the review after rectification, or the supplier refuses to cooperate with the rectification or the rectification fails to pass the examination, or the supplier fails to fulfill its social responsibility and fails to complete social insurance payment, the supplier exit mechanism should be strictly implemented in any of the above circumstances.



**Passing on Warmth
and Power with
Goodness**



Masteel strives to fulfill safety responsibility and protect the lives and property of the people. Devoted to serving communities, we aim to build a happy and harmonious community. We throw ourselves to public welfare and contribute to the society with concrete actions. With these efforts, we keep conveying goodwill, converging warmth, and drawing the “concentric circles” of a better life.

66 Consolidating the Bottom Line of Safety

69 Building a Harmonious Community

70 Contributing to the Society

Consolidating the Bottom Line of Safety

Workplace safety is a red line, a bottom line, and even a lifeline. Bearing in mind the safety development concept of “life paramount, safety first, comprehensive governance”, we keep strengthening the awareness of keeping the red line, being prepared to deal with worst-case scenarios, and strengthening the construction of the workplace safety management system. By improving the management and control of workplace safety and deepening workplace safety education, we resolutely stick to the “bottom line” of workplace safety and make all-out efforts to create a safe, stable and harmonious working environment.

Safety management

Masteel made sustained efforts to enhance the safety management organization and team building by establishing the Workplace Safety Committee and the Workplace Safety Management Department, responsible for the Company’s workplace safety management. Meanwhile, the Maanshan Regional (Headquarters) Safety Inspection Group was established to organize and carry out regional inspections. We introduced the Safety Sympathy Training (SST), prepared the *Safety Brochure*, and delivered safety training to our staff at different positions at the same time. In 2022, we continued to comprehensively sort out and revise the safety management system, including the revision of 23 safety management systems, such as the *Workplace Safety Responsibility System* and the *Measures for the Accountability Management of Workplace Safety Accidents*. We invested RMB 0.193 billion in workplace safety, an increase of 40.88% compared with that in 2021.

Workplace safety

The Company implemented the *Workplace Safety Law* and the *Regulations of Anhui Province on Workplace Safety*, and stressed end-to-end workplace safety management in a tightened, solid and secure manner, thereby consolidating the foundation of workplace safety.

Tightening prior inspection

Taking safety oaths before work

The Company organized 20 units and 905 operation areas (shifts) to take safety oaths before work and assigned 503 people to take charge of supervision in specific aspects. In this way, we improved the safety awareness of all staff and fostered a better safety culture.



Enhancing emergency management

The Company improved the emergency response process by making major workplace safety plans and actively carried out various forms of emergency drills. In 2022, we carried out 114 drills for comprehensive and special plans as well as on-site disposal schemes in the workplace safety month.



Drills for emergency rescue plans of gas poisoning and fire accidents in major hazard areas

During the special rectification, a total of

4,188

safety problems were found

Screening potential safety hazards

Focusing on the weak links and prominent problems in workplace safety, the Company planned, organized and carried out various special rectification campaigns. During the special rectification, a total of 4,188 safety problems were found.

Consolidating intermediate supervision

By the end of 2022,
we had issued

223

copies of supervision
and rectification
orders in total

Deeply implementing the concept of “violation is a crime and hidden danger is an accident”, the Company actively investigated and punished behaviors in breach of regulations. We kept the scores of and regularly reported acts in violation of safety regulations, and intensified efforts to punish such acts, so as to urge rectification and improve the Company’s safety management level. In addition, the Company actively carried out special rectification campaigns such as “100-day Rectification” and “Self-built Houses” as well as all kinds of safety inspection work, etc. By the end of 2022, we had organized a total of 223 times of inspections by the Workplace Safety Management Department and issued 223 copies of supervision and rectification orders in total.

Stressing post-accident summary

We insisted on the principle of “assigning equal responsibilities for workplace safety management to Party committees and governments, charging officials with workplace safety responsibilities in addition to their prescribed duties, making concerted efforts to manage workplace safety, and holding the delinquents in account” and the “Three Must”, regularly summarized the workplace safety work, analyzed the workplace safety accidents, and urged improvement with cases to avoid similar accidents.

Case

“Isolation Door Falling Accident on March 5” serves as a wake-up call for workplace safety

- Accident course**
- On March 5, 2022, the No.2 dustproof and noise-reduction door of the uncoiling and blanking production line of Magang (Hefei) Materials Technology Co., Ltd., a joint venture company under Masteel, was reported for repair after it broke down. The maintenance monitor Meng and maintenance personnel Gao went to deal with the failure. When Meng walked under the door, the dustproof and noise-reduction door suddenly fell and hit Meng on the shoulder, unfortunately causing one death. The Company made an immediate response to analyze the causes and process of the accident, and immediately conducted rectification.
- Accident causes**
- Direct cause:** The maintenance monitor Meng was hit by the door that suddenly fell when walking under the dust-proof and noise-reduction door.
 - Indirect causes:** The inspection and maintenance work system and the relevant process failed to be well executed. The screening and control of hidden dangers and the identification of hazardous sources failed to be well conducted. The equipment and facilities were not intrinsically safe. Safety education training was not in place. Magang (Hefei) Materials Technology Co., Ltd. had an unsound organizational structure for workplace safety and failed to set up an independent safety management department.
- Accident handling**
- In addition to the relevant disposal at the government level, Masteel gave different degrees of disciplinary and economic punishment to the main leaders and the personnel responsible for workplace safety of Magang (Hefei) Materials Technology Co., Ltd. according to the *Management Measures for the Accountability of Workplace Safety Accidents*.
 - The Company made internal treatment of the primary persons in charge involved in this accident, and carried out an assessment according to the *Management Measures for Employee Rewards and Punishments*.
- Rectification and implementation**
- Magang (Hefei) Materials Technology Co., Ltd. learned from the accident to carry out an investigation of hidden dangers, and drew up and issued the *Notice on Immediately Launching a Special Investigation into Potential Workplace Safety Accidents* to conduct a special investigation of safety hidden dangers. A total of 223 hidden dangers were investigated and all of them were rectified.
 - Accident rectification measures: we carried out education and training covering all staff; established an independent safety management agency; implemented the night shift leadership system; revised the *Operating Procedures*, the *Inspection and Maintenance Management System*, the *Management Measures for Production Process Accountability*, and other document systems to standardize the operations of employees; carried out comprehensive risk identification and safety rectification for equipment and facilities to strictly prevent similar accidents from happening again.

Safety education

Safety education

To put people's lives front and center, the Company attached great importance to safety training to lay a solid foundation of safety. We conducted safety training with regard to hazardous chemicals, metal smelting units, and safety managers, safety technology training for gas workers with special operation certificates, as well as other safety thematic training such as the training for crane command personnel. In 2022, a total of 12,000 employees participated in the training of safety procedures and operating standards, nearly 20,000 collaborative personnel joined the Company's all-staff training program, and a total of 44 training sessions were held.

Implementing safety publicity

The Company actively organized workplace safety publicity activities to tighten the "valve of awareness" and improve the safety consciousness and ability of all staff. In 2022, the Company actively held and participated in various internal and external competitions. For example, we held the labor competition of "Implementing Workplace Safety Responsibility System Covering All Staff" and organized the "New Workplace Safety Law" online knowledge contest, with a total of 15,221 staff participating in the contest, ranking second in China Baowu. We also participated in the "New Workplace Safety Law Knowledge Contest" of Maanshan City, and our team consisting of three representatives won the second place.

Valuing occupational health

We showed great concern for the occupational health of our employees and fulfilled the responsibility of a business entity in an all-round way by earnestly implementing the requirements of the *Law on the Prevention and Control of Occupational Diseases*. Meanwhile, in strict accordance with the *Collaborative Safety Management Measures*, we put forward clear occupational health requirements for collaborative suppliers. Upon the review and confirmation of Beijing Grand Honour Certifications Co., Ltd., the Company received the Occupation Health Safety Management System (OHSMS) certificate in 2022.

We scientifically formulated and orderly carried out the on-site testing plan for occupational hazard factors, and arranged and finished the occupational health examination;

We carried out various forms of training and education, such as "Law on the Prevention and Control of Occupational Diseases Awareness Week" and the "Striving to be a Healthy Person" activity;

According to the regulations, the employees in the occupational-disease-vulnerable position should be arranged to participate in the occupational health examination, reexamination or occupational health examination plan before work, during work and when leaving the position;

If any occupational contraindication or occupational health damage is found in an occupational health examination, relevant personnel should be timely transferred out of the position;

We improved the occupational health monitoring archives and established a sound occupational health management system.

For new occupational diseases: as long as one person is identified, he or she should be regarded as one with a serious injury.

The results of occupational health examinations and the out-of-limit points of occupational hazard tests should be analyzed and evaluated, and relevant measures should be implemented.

Occupational health management of employees

Occupational health requirements for suppliers

Building a Harmonious Community

The industry is the skeleton of the urban economy, and the city is the fertile soil for industrial development. Upholding the philosophy of “fostering integrated development of the steel industry and the city”, Masteel implemented localized employment and procurement, actively pursued joint contribution and shared benefits together with the community, and made new and greater contributions to building Maanshan into the “heart of Chinese cabbage” of the Yangtze River Delta.

Localized employment

The Company deeply studied and implemented the guidelines of the 20th CPC National Congress, actively implemented employee localization policies, promoted employment through multiple channels, and created more jobs. In active cooperation with all walks of life, we drove the development of local industries and stimulated economic vitality. By the end of 2022, the Company had recruited 113 new local employees.

Localized procurement

The Company actively advanced the construction of industrial localization and attached importance to localized procurement. Centering on the work goal of “outperforming the market and beyond the self”, we adhered to ultimate efficiency, deepened lean procurement, discovered local suppliers, promoted cost reduction and efficiency improvement, and ensured the stability of the procurement supply chain. In 2022, Magang Rail Transportation Equipment Company signed procurement contracts with a target value of RMB 1.813 billion with local suppliers, effectively driving the development of the local economy.

Pursuing joint contribution and shared benefits together with the community

In pursuit of the people’s demands for a better life, the Company took an active part in community construction and endeavored to achieve city-industry integration. In recent years, while comprehensively improving factory appearance and ecological environment, we drove the government to put more efforts into the improvement of surrounding environment. To build an eco-friendly and pleasant plant environment for Magang, the government increased efforts to demolish the dirty, disorderly and bad buildings opposite the plant to improve the environment and make the urban environment more harmonious and pleasant. With these efforts, Magang aimed to realize the vision of helping each other, making concerted efforts to protect the environment and pursue industrial development, and co-building a harmonious and beautiful community together with the Maanshan Municipal People’s Government.



Pleasant environment of the community surrounding Masteel Guest Garden

Contributing to the Society

One should love one's family, love the people, and love all living things in the world. Masteel actively undertook social responsibilities, paid great attention to the people's livelihood, and continued to help boost rural revitalization. Through organizing the public welfare activities such as "One-day Charitable Donation" and blood donation, we put forth our best efforts to contribute to the society and share our development achievements with the society and the people.

Contributing to rural revitalization

There will be no national rejuvenation without a thriving countryside. Masteel took the initiative to undertake the important mission of rural revitalization and actively gave full play to organizational and resource advantages to help boost revitalization in rural industries, talents, culture, ecology, and organization, thereby stimulating the vitality of rural development and building a harmonious and beautiful countryside.

On December 22, 2022, Masteel held the "Play Magang's Part in Rural Revitalization" thematic activities to actively assume corporate responsibility.



Laying a solid foundation by organizational guarantee

Thoroughly implementing the important guidelines of General Secretary Xi Jinping on rural revitalization, the Company implemented the working mechanism featuring primary management of “top leaders” in person, and coordination and efficient cooperation among functional departments, implementation units and cadres staying in villages. The Party Committee of the Company heard the quarterly report on the progress of rural vitalization and assistance work, and held the Standing Committee Meeting of the Party Committee to deliberate the budget of fixed assistance costs in special topics. The primary leaders of the Company and the main heads of relevant units and departments went to Longtai Village of Hanshan County, Liji Village of Funan County, and Jiangcheng County of Yunnan Province several times for investigations on rural revitalization.

Case Coordinated investigation by multiple departments at Longtai Village boosts rural revitalization

In June 2022, Ding Yi, Secretary of the Party Committee and Chairman of Masteel, led a team to Longtai Village, Lintou Town, Hanshan County for field research. They donated funds for industrial assistance, visited Party members in need, and visited Pengzhuang seedling base. The Rural Revitalization Office of the Company, together with the labor union, Technology Transformation Department, Equipment Department, and other departments, jointly made assistance plans for assistance projects.



Ding Yi, Secretary of the Party Committee and Chairman of the Company, led a team to Longtai Village for field research.

Taking various measures for assistance and support

Guided by the “Teach the Fishing” Plan of China Baowu, the Company consolidated our responsibility for providing assistance and support, and made full use of our resource advantages to work hard and bring about practical results in the revitalization of rural industries, human resources, and ecology, so as to help boost the development of the regional economy and bring prosperity to the people.

Industry assistance

Industry revitalization plays a key role in rural revitalization, and the prosperity of industries is essential for solving rural problems. In 2022, the Company invested RMB 700,000 in the industry assistance projects of Liji Village and Longtai Village to support the development of the collective economy of the villages, with RMB 400,000 invested in the shareholding dividend project of the seedling base industry of Liji Village and RMB 300,000 in the standardized plant construction and rental project in the industrial park of Longtai Village.

RMB **400,000** was invested in the shareholding dividend project of the seedling base industry of Liji Village

The Company invested
RMB **700,000**
in the industry assistance projects

RMB **300,000** was invested in the standardized plant construction and rental project in the industrial park of Longtai Village

马钢集团帮扶李集村乡村振兴产业项目资金捐赠仪式



Talent revitalization

To comprehensively promote rural revitalization, talent revitalization is crucial. Actively practicing the principle that “the improvement of rural industries, culture, ecosystem and organizations depends on talents”, the Company took multiple measures for the revitalization of rural talents, broadened the channels of talent cultivation, and popularized scientific knowledge in many disciplines to help the revitalization of rural talents.

- Leveraging the advantages of Magang Technician College and Anhui Vocational College of Metallurgy and Technology under Magang Group, we publicized the enrollment policies of these colleges and encouraged students from the areas receiving assistance to study at the colleges;
- We carried out training on specific topics such as rural marketing and e-commerce, and health knowledge and first aid measures for the elderly, with a total of 137 participants;
- We implemented the “Financial Aid Plan for Students” and provided educational assistance to 32 children from families lifted out of poverty, families just outside the margin of the subsistence allowance scheme, and impoverished families in the two villages.

Fund assistance

Deeply implementing the people-centered development concept, the Company insisted on guaranteeing and improving people’s livelihood in the course of pursuing development, and stimulated the internal driving force of rural development through consumption assistance, introduction of investment, and other ways, thereby constantly turning the aspirations of the people to live a better life into reality.

○ Consumption assistance

We worked to make consumption assistance become a “new engine” for common prosperity. The Company provided consumption assistance through procurement and helping by selling in an active and steady way. In July 2022, we organized and mobilized all units to participate in purchasing the products on the platforms of central enterprises and via livestreaming. In August 2022, we helped Lying Forestry Co., Ltd. in Hanshan County sell 29,500 kg of unsalable yellow peaches, with a sales volume of about RMB 340,000. In 2022, we purchased from and helped Jiangcheng County, Hanshan County, Funan County and other places sell agricultural and sideline products worth about RMB 10.66 million.

○ Introduction assistance

Led by the Rural Revitalization Office of the Company, we introduced RMB 300,000 of free assistance funds for Jiangcheng County, Yunnan Province, which was used to purchase the equipment in the recording studio for the ethnic culture work team, thus promoting the development of the cultural tourism industry. We helped Jiangcheng Baoliang Agricultural Development Co., Ltd. and Jiangcheng Pushunliang Zhenwei Tea Processing Plant successfully register in Jiangcheng County. The two enterprises invested RMB 1.521 million and RMB 1.56 million respectively in launching the construction of a high-quality grain processing plant and the organic tea production and processing project, driving the development of the local economy.

Ecological revitalization

Ecological revitalization is an important support for rural revitalization. The Company actively boosted the construction of beautiful countryside, placed a heightened focus on improving the human-oriented environment, and worked to enhance the sense of gain and happiness of farmers. In 2022, the Company offered RMB 450,000 to support Liji Village and Longtai Village in the ecological improvement and environmental remediation, making the villages take on a better look.



Focusing on people's livelihood and welfare

With a focus on the needs of the people, Masteel stood firm to the position of the masses and constantly improved the sense of gain and happiness of the masses. The Company actively carried out free clinical treatment to provide routine physical examinations and health guidance for villagers. Hefei Company donated RMB 50,000 to Longtai Village for the procurement of 75 street lamps to facilitate people's night walks. The work team stationed in the village strengthened legal publicity and improved the legal literacy of villagers via the platforms of "College for the Elderly" and "Farmers' Library".



Case Providing warmhearted free clinical treatment for villagers in the cold winter

In December 2022, Masteel invited doctors from Maanshan General Hospital of Ranger-Duree Healthcare to Longtai Village to provide free clinical treatment for families lifted out of poverty, families prone to poverty, and other people in the area, with a theme of "Care for People's Health and Boost Rural Revitalization". They provided routine physical examinations and guidance on common diseases, healthy diets, and rational daily drug use. The activity solved the urgent problems of the villagers and enabled the people to enjoy a better life.



Free clinical treatment site

Voluntary and public welfare activities

Adhering to the original aspiration, Masteel was actively engaged in public welfare activities and carried out various forms of voluntary activities, so as to fulfill corporate social responsibilities and help write a new chapter of the bright prospects for the development of the people.

“One-day Charitable Donation”

The charity has no boundaries and welcomes everyone’s participation. Since 2006, the Company has actively carried out the “One-day Charitable Donation” to donate funds to Maanshan and call on the mass to contribute their share in charity, so as to practice and spread goodness. In 2022, the Company organized a donation of RMB 300,000.

Flower Show in Golden Autumn

In September 2022, the 31st Flower Show in Golden Autumn of Maanshan with the theme of “The Most Beautiful City of Poem with Blossoming Flowers” was held. The Company was responsible for exhibition area design, flower culture and landscape construction to show the most beautiful image of the Company.



Voluntary blood donation

The Company actively organized and encouraged employees to participate in voluntary blood donation activities. In cooperation with the municipal central blood bank, we mobilized 2,139 employees to donate blood, with the total amount of blood donated reaching 602,000 ml, and one of our employees donated hematopoietic stem cells.

Case Donating hematopoietic stem cells to show a noble virtue

Wang Hui, an assistant engineer at the Automobile Sheet Research Institute of Masteel Technology Center, has been assigned to work at Changan Automobile in Chongqing for many years to provide technical services. At the end of July 2022, when he learned that his HLA typing matched that of a patient with acute leukemia, Wang Hui immediately decided to donate hematopoietic stem cells, becoming the 13th hematopoietic stem cell donor of the Company. People in Magang like Wang Hui renew the life of others and brought a miracle with their devotion, highlighting a noble virtue.



Farewell ceremony for donation

Prospects

Stepping on the precursors' footprints, we forge ahead for a better future. The year 2023 is the first year to fully implement the guiding principles of the 20th CPC National Congress, the year for Masteel to strive for the realization of the carbon peaking goal, and the crucial year to build a new Magang with sustained growth. In 2023, we will implement the new development philosophy in a complete, accurate and all-round way, and build the new development pattern. Focusing on the main objective tasks of pursuing "excellent products, outstanding brands, leading innovation, and modern governance", we will firmly grasp the strategic approach of "High Technology, High Efficiency, High Market Share, Ecologicalization, Internationalization" to drive the high-quality development of the Company and the building of China Baowu into a leader in the global steel industry and a world-class enterprise with global competitiveness. With these efforts, we aim to make our contributions to accelerating a modernized and better Anhui and draw a new and great blueprint for the future.





Appendix

Key Performance Indicators (KPI)

Indicator	Unit	2022	2021	2020
Operating revenue	CNY100 million	1,021.54	1,138.50	816.14
Compound growth rate of operating revenue	%	8.60	11.58	-0.21
Total profit	CNY100 million	-5.61	70.16	30.81
Net profit	CNY100 million	-1.74	59.93	25.78
Operating profit ratio	%	0.29	6.47	3.51
Liquidity ratio	—	0.79	0.92	0.87
Total market capitalization	CNY100 million	197.97	260.58	189.95
Social contribution per share	Yuan	0.79	2.11	1.27
Total taxes	CNY100 million	18	37.50	18.50
Number of Board members	Person	7	5	7
Number of independent directors	Person	4	3	3
Proportion of female directors	%	28.57	40	28.57
Number of days between the notice day and the convening day of the annual General Meeting of Shareholders	Day	49	49	47
Ratio of the shares holding by equity incentive employees of the total share capital	%	0.97	0	0
Number of corruption lawsuit cases of employees	/	0	0	0
Number of directors who participated in anti-corruption related training	Person	8	5	8
Director coverage rate of anti-corruption related training	%	100	100	100
Per capita training hours of anti-corruption related training of directors	Hour	35	45	32
Number of employees who participated in anti-corruption related training	Person	7,900	8,498	6,036
Number of employees punished or fired for violating anti-corruption policies	Person	5	3	5
Costs of corruption-related fines, penalties or settlements	CNY10,000	0	0	0
Duration of law-abiding and compliance training	Hour	16	16	8
Number of participants in law-abiding and compliance training	Person	281	210	140
Times of ESG training	Time	3	1	—
Per capita duration of ESG training	Hour	16	2	—
R&D expenses ²	CNY100 million	11.67	11.48	18.13

Indicator	Unit	2022	2021	2020
Proportion of R&D expenditure in operating revenue ³	%	1.14	1.01	2.22
Year-on-year growth rate of R&D expenses ⁴	%	1.64	N/A	N/A
Annual number of patents applied	Piece	523	592	576
Annual number of invention patents applied	Piece	387	378	344
Annual number of newly granted patents	Piece	509	456	331
Annual number of newly granted invention patents	Piece	268	165	100
Total number of customers	Person	1,999	1,859	1,429
Total number of customers in East China	Person	1,325	1,258	852
Total number of customers in South China	Person	181	158	213
Total number of customers in North China	Person	153	152	101
Total number of customers in Southwest China	Person	142	166	113
Total number of overseas customers	Person	157	125	138
Inspection pass rate of products	%	100	100	100
Recovery rate of products sold or delivered due to safety or health reason	%	0	0	0
Number of customer complaints accepted	/	1,742	1,713	1,393
Customer complaint resolution rate	%	87.73	93.46	86.59
Customer satisfaction	%	88.07	88.03	89.20
Number of registered suppliers	/	2,021	2,644	3,150
Number of domestic suppliers	/	2,010	2,628	3,065
Number of overseas suppliers	/	11	16	85
Number of suppliers with second-party audits during the reporting period	/	24	24	39
Number of suppliers with whom the cooperation was ended due to non-compliance	/	0	0	0
Number of potential suppliers rejected for non-compliance	/	0	0	0
Number of suppliers receiving ESG training	/	8	1	0
Times of ESG training for suppliers	Piece	1	1	0
Number of total employees	Person	18,795	18,730	23,457
Number of total male employees	Person	19,069	17,167	21,375
Number of total female employees	Person	1,775	1,563	2,082
Number of total full-time employees	Person	20,844	18,730	23,457
Number of total part-time employees	Person	0	0	0
Number of employees aged 35 and under	Person	5,144	4,692	4,865
Number of employees aged 36-40	Person	1,938	1,739	2,069
Number of employees aged 41-50	Person	7,954	8,250	10,648
Number of employees aged 51-60	Person	5,808	5,270	5,875

Indicator	Unit	2022	2021	2020
Number of local employees registered within the province	Person	20,197	19,640	22,645
Number of non-local employees registered outside the province	Person	647	312	812
Number of new employments during the reporting period	Person	209	292	142
Signing rate of labor contracts	%	100	100	100
Proportion of female managers	%	4.59	4.92	7.38
Per capita number of paid vacation days per year	Day	9.29	11.76	12.47
Management compensation/total employee compensation	%	12.40	12.66	14.09
Total amount of social insurance payment	CNY10,000	62,084.71	67,912.64	68,774.62
Employee social insurance coverage	%	100	100	100
Total investment in employee training	CNY10,000	2,294.54	2,117.90	1,338.20
Proportion of employees receiving training	%	99	95.10	94.90
Number of male employees receiving training	Person	18,701	17,867	—
Proportion of male employees receiving training	%	99.20	97.70	—
Per capita training hours of male employees	Hour	131.90	102.40	—
Number of female employees receiving training	Person	1,732	1,538	—
Proportion of female employees receiving training	%	97.50	92.50	—
Per capita training hours of female employees	Hour	117.50	81.30	—
Number of management employees receiving training	Person	1,284	1,448	1,812
Proportion of management employees receiving training	%	100	96.34	97.42
Per capita training hours of management employees	Hour	188.80	174.40	189.67
Number of technology business employees receiving training	Person	3,383	3,939	2,749
Proportion of technology business employees receiving training	%	97	92.86	97.64
Per capita training hours of technology business employees	Hour	177	158.30	166.50
Number of operation and maintenance employees receiving training	Person	15,862	17,360	14,069
Proportion of operation and maintenance employees receiving training	%	100	93.36	94.25
Per capita training hours of operation and maintenance employees	Hour	116.50	83.80	65.96
Employee satisfaction	%	90.21	89.59	89.54
Employee turnover rate	%	0.20	0.44	0.36
Male employee turnover rate	%	0.19	0.43	0.28
Female employee turnover rate	%	0.01	0.01	0.08
Turnover rate of employees under the age of 30	%	0.08	0.14	0.16
Turnover rate of employees aged 30-40	%	0.08	0.17	0.08
Turnover rate of employees aged 31-50	%	0.03	0.05	0.08
Turnover rate of employees over the age of 50	%	0.01	0.08	0.03

Indicator	Unit	2022	2021	2020
Turnover rate of local employees registered within the province	%	0.17	0.41	0.32
Turnover rate of non-local employees registered outside the province	%	0.03	0.03	0.03
Employee physical examination coverage	%	100	100	100
Investment in workplace safety	CNY100 million	1.93	1.37	1.38
Times of workplace safety training	Number of sessions	205	136	175
Number of participants in workplace safety training	Person	43,504	37,049	39,516
Total duration of workplace safety training	Hour	500,308	430,000	470,000
Coverage rate of safety training	%	100	100	100
Rate of employment with certificate for special operators	%	100	100	100
OHSAS18001/ISO45001 coverage ratio	%	100	100	100
Times of occupational disease happened	Time	0	0	0
Number of employee work-related death accidents	/	1	2	0
Number of employee serious injury accidents	/	1	0	0
Number of employees with serious injury	Person	1	0	0
Number of employees with slight injury	Person	2	4	7
Rate of injuries per thousand persons	‰	0.32	0.41	0.26
Number of work-related death accidents of related parties	/	4	3	3
Number of work-related death employees of related parties	Person	7	3	3
Number of lost workdays due to work-related injury	Day	6,295	12,405	645
Death rate of employees due to work-related injury	%	0.005	0	0
Total external donation amount	CNY10,000	349.87	256.70	237.30
Number of employee volunteers	Person	3,126	3,337	4,266
Total duration of annual voluntary activities	Hour	7,561	8,097	7,738.04
Number of participants in volunteer activities (person-time)	Person	4,015	4,379	5,065
Total environmental protection investment	CNY100 million	40.30	20.62	30.11
Times of environmental protection training	Number of sessions	13	20	23
Number of participants in environmental protection training	Person	12,183	13,400	16,600
Duration of environmental protection training	Hour	81,969	84,078	92,061
Office electricity consumption	10,000 degree	678	613	592
Office water consumption	10,000 cubic meters	31	29	28
Office waste treatment capacity	Ton	4,500	4,300	4,600
Number of annual pollution accidents	Piece	0	0	0
Project EIA rate	%	100	100	100
Carbon dioxide emissions	Ton	36,500,432	38,190,416	39,264,441
Carbon dioxide emissions (Scope 1) ⁶	Ton	33,291,600	34,833,015	35,445,774

Indicator	Unit	2022	2021	2020
Total carbon dioxide emissions (Scope 2) ⁷	Ton	3,208,832	3,357,401	3,818,667
Carbon dioxide emissions per ton of steel	Ton	1.82	1.82	1.87
Carbon dioxide emissions per ton of steel (Scope 1)	Ton	1.66	1.66	1.69
Carbon dioxide emissions per ton of steel (Scope 2)	Ton	0.16	0.16	0.18
Total emissions of sulfur dioxide	Ton	4,297	5,175	7,992
Sulfur dioxide emissions per ton of steel	Kilogram	0.20	0.25	0.38
Total emissions of nitric oxide	Ton	6,457	9,362	18,430
Nitric oxide emissions per ton of steel	Kilogram	0.33	0.45	0.88
Total emissions of particulate matter	Ton	8,095	9,285	22,372
Particulate matter emissions per ton of steel	Kilogram	0.28	0.44	1.07
Total emissions of volatile organic compounds (VOCs)	Ton	2,715	2,804	—
Total raw coal consumption	10,000 tons	342	361.12	340.17
Total cleaned coal consumption	10,000 tons	706	644.85	658.92
Total coke consumption	10,000 tons	290	369.76	374.01
Total power consumption	100 million kwh	64	63.66	55.29
Total diesel consumption ⁸	Ton	5,300	6,181	7,280.32
Total gasoline consumption ⁹	Ton	23	257.50	277.68
Total natural gas consumption	10,000 cubic meters	3,580	5,802.64	7,186.22
Renewable energy consumption (clean energy consumption)	100 million kwh	0.33	0.21	0.05
Comprehensive energy consumption	10,000 tons of standard coal (equivalent value)	1,141.4	1,158.87	1,175.76
Comprehensive energy consumption per ton of steel	Kilogram of standard coal equivalent	562.21	552.71	560.76
Qualification rate of standardized management of hazardous wastes	%	100	100	100
Utilization and disposal quantity of hazardous wastes	Ton	81,113.03	48,696.09	285,086
Safe disposal rate of hazardous wastes	%	100	100	100
Total quantity of non-hazardous wastes generated (total amount of general wastes discharged)	10,000 tons	1,273.94	1,261.05	1,220.98
Density of non-hazardous wastes generated (intensity of general wastes discharged)	Kilogram /ton	636.97	601.44	746.20
Total quantity of hazardous wastes generated (total amount of harmful wastes discharged)	Ton	77,701.44	53,655.51	314,068.09
Density of hazardous wastes generated (density of harmful wastes generated)	Kilogram /ton	3.89	2.56	14.98
Total quantity of solid wastes generated	10,000 tons	1,273.94	1,261.05	1,220.98

Indicator	Unit	2022	2021	2020
Total quantity of solid wastes utilized	10,000 tons	1,273.50	1,260.57	1,219.40
Utilization rate of solid wastes	%	99.97	99.96	99.87
Total quantity of recyclable wastes generated	10,000 tons	1,273.84	1,261.05	1,220.98
Total quantity of non-recyclable wastes generated	Ton	1,703.64	3,195	9,302.82
Total water withdrawals	10,000 tons	17,000	18,875.39	—
Total water discharge	10,000 tons	2,036	2,511	3,607.87
Total drainage of waste water	10,000 tons	1,836	2,511	3,607.87
Total annual new water consumption (new water consumption)	10,000 tons	4,148.44	4,742.30	5,645.61
Total water consumption saved	10,000 tons	78.44	71.29	62.90
Fresh water consumption per ton of steel	cubic meters	2.07	2.26	2.69
Total quantity of industrial water repeatedly utilized (recycled water consumption)	10,000 cubic meters	232,644	265,766.92	312,122.65
Repeating utilization rate of industrial water	%	98.22	98.22	97.77
Total COD emissions	Ton	256	367	564.97
COD emissions per ton of steel	Gram	12	17.50	26.94
Total emissions of ammonia nitrogen	Ton	13	16	34
Ammonia nitrogen emissions per ton of steel	Gram	1	0.76	1.62
Total consumption of packaging materials ¹⁰ (Total quantity of packaging materials of finished goods or those used in finished goods)	Ton	41,550.70	47,593.50	40,917.20
Density of packaging material consumption ¹¹ (Total quantity of packaging materials of finished goods or those used in finished goods)	Kilogram /ton	2.09	2.32	2.06
Environmental management system (ISO14001) certification coverage	%	100	100	100

Notes:

² Originally, Masteel calculated the Company's R&D expenses according to the *Certain Opinions on Strengthening the Financial Management of R&D Expenses in Enterprises* (CQ [2007] No. 194) issued by the Ministry of Finance. Since 2022, the Company calculated R&D expenses according to the *Notice on Issuing the Interpretation No. 15 of the Accounting Standards for Business Enterprises* (CK [2021] No. 35) issued by the Ministry of Finance. Therefore, the data of R&D expenses in 2021 was corrected to 11.48;

³ Due to the decrease in the R&D expenses of 2021 according to the new criterion, the proportion of R&D expenditure in operating revenue of 2022 was decreased to 1.01, accordingly;

⁴ Due to the calculation difference of R&D expenses of 2021 under the new criterion, the year-on-year growth rate of R&D expenses in 2020 and 2021 is not applicable;

⁵ The total number of employees of the Company and its subsidiaries is 20,844;

⁶ Greenhouse gas emissions were calculated according to the Greenhouse Gas Emissions Accounting Methods and Reporting Guidelines for Enterprises - Power Generation Facilities of the Ministry of Ecology and Environment and the Greenhouse Gas Emissions Accounting Methods and Reporting Guidelines for Chinese Iron and Steel Production Enterprises (Trial) of the National Development and Reform Commission. Scope 1 covers direct greenhouse gas emissions from sources owned or controlled by the Company;

⁷ Scope 2 covers indirect greenhouse gas emissions of the energy from the electricity, heat, freezing and steam consumed (purchased or acquired) by the Company internally.

⁸ We corrected the data of the total diesel consumption and the total gasoline consumption disclosed in 2021. The former was increased to 6,181 and the latter was adjusted to 257.50;

⁹ In 2022, the gasoline management caliber was standardized to collect the actual usage amount of the enterprise (before 2022, in addition to the actual usage amount, the external sales quantity was also included in the gasoline consumption data);

¹⁰ The total consumption of packaging materials of Magang refers to the total consumption of packaging materials of the products when all the production processes have been finished, covering the data of Magang headquarters, Magang (Hefei) Iron and Steel Co., Ltd., Magang Rail Transportation Equipment Co., Ltd., and Anhui Changjiang Steel Co., Ltd. During the reporting period, after unified verification and adjustment, data in 2020 and 2021 were decreased to 40,917.20 and 47,593.50, respectively;

¹¹ Since the data coverage of the total consumption of packaging materials was verified and adjusted, the density of packaging material consumption was corrected accordingly. During the reporting period, the density of packaging material consumption in 2020 and 2021 was decreased to 2.06 and 2.32, respectively.

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	Practicing Intelligent Production	V2.1-2.2, V2.4		P37
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Creating Eco-friendly Steelworks with Green Development	Strengthening Environmental Management	E1.1-1.2, E1.4-1.9	A3 /General Disclosure, A3.1	P42-P43
	Boosting Green Production	E1.3, E1.8, E2.1-2.2, E5.2-5.3, V4.1-4.3	A2 General Disclosure, A2.3-2.4, A4 General disclosure, A4.1	P44-P47
	Reducing Pollution and Emissions	E3.1-3.6	A1 General disclosure, A1.5-1.6	P48-P50
	Fostering Green Culture	E1.7,E2.14-2.15	A3 General Disclosure, A3.1	P51

First-level Title	Second-level Title	Guidelines for Corporate Social Responsibility Report in China (CASS-ESG5.0)	Environmental, Social and Governance Reporting Guide of Hong Kong Stock Exchange	Report Location
Co-building a Wonderful Future with Partners	Creating a Happy Workplace	S1.1-1.2, S1.6, S1.10, S2.1-2.2, S2.4	B4 General Disclosure, B4.1-4.2	P54-P58
	Wholeheartedly Serving Customers	S4.1, S4.3, S4.5-4.6	B6 General Disclosure, B6.2, B6.4-6.5	P59-P61
	Driving the Partners to Perform Responsibilities	S5.1-S5.2, S5.6	B5 /General Disclosure, B5.2-5.4	P62-P63
Passing on Warmth and Power with Goodness	Consolidating the Bottom Line of Safety	S3.1, S3.4-3.7	B2 General disclosure, B2.3	P66-P68
	Building a Harmonious Community	V1.2, V3.1-3.2	B8 General disclosure, B8.1-8.2	P69
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Prospects		A1		P76
Appendix	Key Performance	A2	Reporting principles: Quantification, reporting principles: consistency, A1.2-1.4, A2.1-2.2, A2.5, B1.1-1.2, B2.1-2.2, B3.1-3.2, B5.1, B6.1-6.2, B7.1, B7.3	P78-P83
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System Certification

System Category	System Name	Certified Unit
Quality management system	GB/T 19001-2016/ISO9001:2015	Masteel, Changjiang Iron and Steel Co., Ltd., Hefei Company, Masteel Rail
	IATF16949:2016	Masteel, Hefei Company
	ISO/TS22163:2017	Masteel
Environmental management system	GB/T 24001-2016/ISO14001:2015	Masteel, Changjiang Iron and Steel Co., Ltd., Hefei Company, Masteel Rail
Energy management system	GB/T23331-2020/ISO50001:2018 和 RB/T103-2013	Masteel, Changjiang Iron and Steel Co., Ltd., Hefei Company, Masteel Rail
Occupational health and safety management system	GB/T 45001-2020/ISO 45001:2018	Masteel, Changjiang Iron and Steel Co., Ltd., Hefei Company, Masteel Rail
Measurement management system	GB/T19022-2003/ISO10012:2003	Masteel, Changjiang Iron and Steel Co., Ltd., Hefei Company, Masteel Rail
Equipment management system	ISO41001:2018 和 T/CAPE10001-2017	Masteel

Rating Report



中国企业社会责任报告
评级专家委员会
Chinese Expert Committee on CSR Report Rating

Rating Report of 2022 Environmental, Social and Governance Report of Maanshan Iron and Steel Co., Ltd.

Upon the request of Maanshan Iron and Steel Co., Ltd., the Chinese Expert Committee on CSR Report Rating invited experts to form a Rating Team and rated the 2022 *Environmental, Social and Governance Report of Maanshan Iron and Steel Co., Ltd.* (hereafter referred to as “the Report”).

I. Rating Criteria

Guidelines for Corporate Social Responsibility Report in China (CASS-ESG5.0) of the Chinese Academy of Social Sciences and *Rating Standards for the ESG Report of Chinese Enterprises (2023)* of the Chinese Expert Committee on CSR Report Rating.

II. Rating Process

1. The Rating Team reviewed and confirmed the *Confirmation Letter on Materials for Process and Accessibility Evaluation of the ESG Report of Enterprises* and related supporting materials submitted by the Preparation Team of the Report;
2. The Rating Team evaluated the compilation process and the disclosed information of the Report and drafted the Rating Report;
3. The Vice Chairman of the Chinese Expert Committee on CSR Report Rating and the leader and the expert of the Rating Team cosigned the Rating Report.

III. Rating Results

Process (★★★★★)

The Company's ESG Office organized the preparation of the ESG Report, and the departments and subsidiaries provided materials and reviewed the text. The Board of Directors was responsible for the final review. The Report was positioned as an important approach to improving CSR and ESG governance, controlling environmental and social risks, and creating social values. Material issues were identified by analyzing macro policies and industrial policies and regulations, researching authoritative ESG standards at home and abroad, and benchmarking with excellent sustainability reports in the industry. A social responsibility indicator system was established to guide the preparation of the ESG Report, and social responsibility work supervision and examination were conducted simultaneously. Therefore, the Report has excellent process performance.

Materiality (★★★★★)

The Report systematically disclosed industrial key issues, including improving ESG governance, serving the national strategy, R&D and application of green products or technologies, saving energies and resources, reducing the emissions of the “three wastes (waste gas, waste water and industrial residue)”, tackling the climate change, implementing workplace safety, product and service quality management, employee health and safety, employee growth and training, and sustainable supply chain in full and in detail. Therefore, the Report has excellent materiality performance.

Completeness (★★★★☆)

The Report systematically disclosed 88.48% of industrial core indicators from various aspects, including “Achieving Superior Values with Intelligence”, “Creating Eco-friendly Steelworks with Green Development”, and “Co-building a Wonderful Future with Partners”. Therefore, the Report has leading completeness performance.

Balance (★★★★★)

The Report disclosed negative data such as “rate of injuries per thousand persons”, “times of occupational disease happened”, “employee turnover rate”, “number of annual pollution accidents”, “number of corruption lawsuit cases of employees”, and “number of customer complaints accepted”, and described the handling process of “Isolation Door Falling Accident on March 5” in detail. Therefore, the Report has

excellent balance performance.

Comparability (★★★★★)

The Report disclosed and compared data on 154 KPIs (key performance indicators) over the past three years, including “operating revenue”, “proportion of female directors”, “R&D investment”, “investment in workplace safety”, and “total environmental protection investment”, and explained the statistical calibers of the core indicators such as “total diesel consumption”, “total gasoline consumption” and “total consumption of packaging materials”. Moreover, a horizontal comparison was made according to the “119th place in the *Fortune* Top 500 China Enterprises”. Therefore, the Report has excellent comparability performance.

Readability (★★★★★)

The Report adopted a framework combining issues and stakeholders and elaborated the annual responsibility fulfillment practices and achievements, showing a clear structure and prominent key issues. Two responsibility topics, i.e. “The Green Change of ‘A Flower Blossoming in the South of the Yangtze River’” and “The ‘Forerunner in Intelligent Manufacturing’ Boldly Draws a New Development Blueprint”, were set at the beginning to focus on the practical exploration of the Company in promoting green development and intelligent manufacturing, enhancing the readability of the Report. The hollowed-out cover design embedded with the Report's theme improved the Report's identification degree. The cross-page chapters used large real-world pictures in line with the chapter's theme to improve the Report's influence power. Therefore, the Report has excellent readability performance.

Accessibility (★★★★★)

The Report is the second ESG Report issued by the Company, which will be released together with the Company's annual report. The Report is planned to be released on the Company's official website and the stock exchanges' websites and communicated through social channels such as the official WeChat account. The Report will be presented in printed and electronic forms and available by mail and Internet download. Therefore, the Report has excellent accessibility performance.

Overall Rating (★★★★★)

Upon evaluation by the Rating Team, the 2022 *Environmental, Social and Governance Report of Maanshan Iron and Steel Co., Ltd.* is rated as a five-star and excellent ESG report.



中国企业社会责任报告
评级专家委员会
Chinese Expert Committee on CSR Report Rating

The ESG Report of Masteel wins a 5-star rating for the first time

IV. Suggestions for Improvement

More industrial core indicators should be disclosed for better completeness of the Report.

Vice Chairman of the Chinese Expert
Committee on CSR Report Rating

Leader of the Rating Team

Expert of the Rating Team



Scan the QR code to view the
enterprise's rating file

Issuing Date: March 28, 2023

Feedback

Dear readers:

Hello! Thank you very much for reading the *2022 ESG Report of Maanshan Iron and Steel Co., Ltd.*! In order to continuously improve the management of the ESG report, we particularly hope to hear your comments and suggestions. Please help complete relevant questions in the feedback table and feed it back through the following ways:

Secretary Office, Board of Directors of Maanshan Iron and Steel Co., Ltd.

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Your information

Name: _____ Work unit: _____

Tel.: _____ Email: _____

Choice questions (please tick "✓" in appropriate box)

Please evaluate the degree to which the Report reflects the significant impact of Masteel on the economy, society and environment:

Very good Relatively good General Relatively bad Very bad

Please evaluate the response and disclosure of the Report to stakeholders' concerns:

Very good Relatively good General Relatively bad Very bad

Please evaluate the clarity, accuracy and completeness of the information, indicators and data disclosure in this Report:

Very good Relatively good General Relatively bad Very bad

Please evaluate the readability of this Report:

Very good Relatively good General Relatively bad Very bad

Please make a comprehensive evaluation of the 2022 ESG Report of Maanshan Iron and Steel Co., Ltd.:

Very good Relatively good General Relatively bad Very bad

Open questions

What suggestions do you have for Masteel's ESG work in 2022?

What do you think the Report has provided you with valuable ESG information?

What other ESG information do you think shall be disclosed in the Report?

What do you think are the shortcomings of the Report?



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