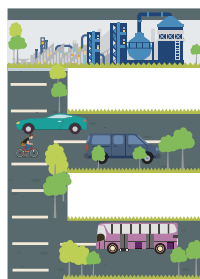
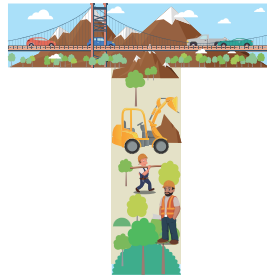




2016

ANSTEEL GROUP CORPORATION
Sustainability Report



ABOUT THE REPORT

Dear readers,

Welcome to read the tenth *Ansteel Group Corporation Sustainability Report*. Based on feedback information and suggestions from various channels, the report elaborates on social responsibility practices of Ansteel Group in business operation, products and services, environmental protection, staff support and community development.

> Reporting Period

The report discloses information dated between January 1, 2016 and December 31, 2016. Part of the report may refer to previous years as needed.

> Report Boundary

With Ansteel Group Corporation (hereinafter referred to as Ansteel Group, Ansteel, or the group) as the main body, the report covers Anshan Iron & Steel Company Limited (hereinafter referred to as Anshan Iron and Steel) and Panzhihua Iron and Steel Company Limited (hereinafter referred to as Pansteel) as well as their non-steel industry sectors and directly affiliated entities.

> Release Cycle

This report is released annually.

> Reference Standards

GB/T 36001-2015, *Guidance on Social Responsibility Reporting* issued by Standardization Administration of the General Administration of Quality Supervision, Inspection and Quarantine

Guidelines for the State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities issued by State-owned Assets Supervision and Administration Commission of the State Council (SASAC)

Sustainability Reporting Guidelines (G4) issued by Global Reporting Initiative (GRI)

ISO 26000: 2010, *Guidance on Social Responsibility* issued by International Organization for Standardization (ISO)

Guidelines for Fulfilling Social Responsibility by Chinese Industrial Enterprises and Industrial Associations (GSRI-CHINA 2.0) issued by China Federation of Industrial Economics (CFIE)

China Corporate Social Responsibility Reporting Guidelines (CASS-CSR 3.0) issued by Chinese Academy of Social Sciences (CASS)

> Report Guarantee

The financial data included in the report conform to *Accounting Standards for Enterprises* and relevant accounting systems issued by the authority, and have been audited in accordance with *Internal Audit Standards of China*, thus releasing actual financial indicators and operational conditions of Ansteel Group. All the sums of money in the report are in the unit of CNY unless otherwise stipulated. The report has been internally audited, which ensures its authenticity, accuracy and completeness.

> Access to the Report

The report is issued in printed and electronic versions in both Chinese and English. For the electronic version, please visit Ansteel Group's official website (<http://www.ansteel.cn>).

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A Letter from Ansteel Group



Tang Fuping

Secretary of CPC, Chairman of the Board

State-owned enterprises (SOE) are the material basis and political basis of socialism with Chinese characteristics, and the backbone and powerhouse of the Party to govern and rejuvenate the country. SOEs' fulfilling of social responsibilities is not only an effective method to maximize economic, social and environmental values, but also an important step of improving the performance of and upgrading China's economy, and transforming the development mode.

2016 was the first year of China's supply-side structural reform. Ansteel Group strictly implemented the overall arrangement of the CPC Central Committee and the State Council in accelerating strategic adjustments of the economic structure, and regarded fulfilling social responsibilities as its own duties, as the key to improving comprehensive competitiveness and as the essential foundation of long-term sustainable development. Holding the thought of transforming and innovating, we vigorously promoted adjustment, reform and innovation efficiency strengthened the implementation in Party building as "four priorities". We made a long distance by piling up small steps, rose abruptly after accumulating strength and took a solid step forward in transforming and development. We gained progress in improving the performance of and upgrading Ansteel, achieved a stable performance while securing continuous progress in production and operation, kept improving our ability in practicing social responsibility and proactively contributed to the sustainable development of the economic society.

We insisted on leading development through deepening the reform. Through deepening supply-side structural reform, we focused on transforming from external extension to slimming administrative agencies and optimizing the structure, and to upgrade and improve performance. We improved the industrial layout and readjusted the industrial structure, transformed traditional industries while developing emerging ones, and eliminated outdated production capacity and improved the integrity, harmony and sustainability of enterprise development. We vigorously reformed our enterprise's systems, built a differentiated management and control system, deepened three institutional reforms, granted more power and responsibilities to subsidiaries, built a flexible and highly-efficient internal management mechanism and greatly improved the vitality and ability of subsidiaries when they independently face the market.

We insisted on accelerating innovation-driven development. We firmly held the pulse of the era of innovative development and consolidated our development mode which was mainly guided and supported by innovation. We improved the system and mechanism of innovation, comprehensively pushed forward market-oriented reform in scientific and research institutions, and built an innovation pattern where the enterprise could gain profit, scientific and research institutes as well as R&D teams could be encouraged, and individual contributions could be paid back. We rebuilt and optimized technologies with creative thinking and paced up cutting costs and improving economic performance. We continued to carry forward the spirit of "Ansteel Constitution", let the innovation culture be deeply rooted, encourage the staff to innovate through setting up staff innovation studios, advocate craftsmanship and further motivate the vitality and enthusiasm of all staff members in innovation and benefit-making.

We insisted on energy saving, emission reduction and green development. We held the philosophy of green development, followed the principle of transforming development mode and realizing green development, prioritized in implementing the accountability system oriented by the goals of energy saving and emission reduction. Through improving the plans and goals in energy saving and emission reduction, strengthening recycling of second-hand energy, executing the new environmental protection law and new standards in pollutant emission in the iron and steel industry, improving standards in transforming and upgrading, and conducting management in strict accordance with standards, we effectively ensured all work in energy saving and emission reduction are implemented, and achieved good performance in major indicators in energy saving and emission reduction. Ansteel Group was awarded "Outstanding Enterprise in Energy Saving and Emission Reduction During 2013-2015" by State-owned Assets Supervision and Administration Commission of the State Council (SASAC).

We insisted on strengthening Party building to ensure development. We implemented the spirit of the meeting on Chinese SOEs' Party building, stuck to the major political principle of "the Party leads SOEs", and integrated the Party's leadership into all parts of corporate governance to guide the direction, control the overall situation and put into practice. We fulfilled the main body responsibility of governing the CPC Party Committee of Ansteel and transformed the Party Committee's political advantage to Ansteel's development advantage. Based on the "root" of SOEs' Party building, we consolidated the "soul" of SOE development. Sticking to the principle of fully relying on employees to manage the enterprise, we strengthened democratic management with the human-oriented philosophy, continuously provided more benefits to our employees to let them share the achievement of reform and development, and created a better life.

Tides are rising, when the sky and the sea seem so vast and boundless, which is the time to set sail and start adventure. 2017 is a crucial year for Ansteel to stop loss and rejuvenate itself. New goal pools new strength; new task stimulates new momentum; new journey brings new mission. We will further consolidate confidence, seize the opportunity, stick to the hard-working spirit, and practically implement the five development concepts— innovation, coordination, green development, opening up and sharing, in order to promote restructuring of the national economy and achieve harmonious co-development with the society. We will deepen the reform and innovation, further develop the real economy, promote the rejuvenation and development of enterprises, advocate the green development strategy and build a resource-saving, environmental friendly enterprise. We will stick to human-oriented management, and further depend on staff members and share benefits with them. We will strengthen and improve Party building, continuously make our Party building more scientific. Let's stick to the CPC Central Committee with Comrade Xi Jinping as the core and spare no efforts to forge ahead, strive to realize the annual production and operation goal, and make new contribution to the sustainable and healthy development of the economic society, so as to realize our enterprise's grand prospect and renew the splendour of "the eldest son of China's steel industry"!



This is Ansteel Group

- The global leading producer with nuclear power steel technology and products, and the exclusive steel supplier for containment vessels top head and steel used in Class-1 safety injection tank of the first 3rd generation CAP1400 Nuclear Reactor Project in the world.
- The exclusive supplier of high-end steel used in bogies for China Standard EMU (electrical multiple unit) with the highest speed of 350km/h.
- New generation special steel was successfully applied in China's "Long March 5" launch vehicle and "Shenzhou 11" spacecraft.
- The exclusive supplier of steel used in the world's most advanced semi-submersible super-deepwater drilling platform.
- One of the top 2 suppliers for advanced automotive steel plate and home appliance steel, leading the development of the 2nd generation automotive steel and owning the ability of supplying steel for whole vehicles.
- Domestic seamless pipe producer with the most complete product mix. Ansteel Group is the leading enterprise in high-grade pipeline steel manufacturing with the products widely applied in key projects including West- to- East Natural Gas Transmission Project.
- The largest ship-building steel plate manufacturer and the only producer with a complete range of hull steel in China.
- The largest steel rail manufacturer in China. Where there is railway, there are steel rails of Ansteel.

To build a country with quality steel, and deliver benefits to the society

Ansteel Group Corporation

Founded in May 2010, combined of the Anshan Iron and Steel and Pansteel. Headquartered in Anshan, Liaoning Province, Ansteel Group is a state-owned enterprise administered by the SASAC.

Anshan Iron and Steel Company Limited

Established in 1916, the first large-scale iron and steel integrated enterprise and the earliest steel production facility established after the foundation of the People's Republic of China. Therefore, it was known as "the Eld-est Son of the Steel Industry of the Republic", "cradle of China's steel industry" and the "Ansteel Constitution" birthplace.

Panzhuhua Iron and Steel Company Limited

The world's largest vanadium producer, China's largest production facility for titanium raw materials, with the full industrial chain and an important production facility for railway steel, home appliance steel, seamless steel pipe and special steel.



Ansteel Group has formed a cross-regional, multi-facility and internationalized operation layout, and become a steel enterprise with the greatest resource advantage in China:

- We have high-end steel production facilities in northeast, southwest, southeast and southern China.
- Our products have been widely applied in dozens of industries, including railway, construction, automobile, machinery, ship-building, household electrical appliances, container, petroleum & petrochemical and aerospace engineering.
- Our marketing network system covers the world. While meeting the domestic market demand, we sell products to over 70 countries and regions across the world.

In the future, Ansteel will deepen the reform, accelerate transformation and upgrading, focus on the "Six Establishments", endeavor to build a multinational steel group with the most international competitive and become a "bellwether" in the China's steel industry.



Connotations of "Six Establishments"

Index	Unit	2011	2012	2013	2014	2015	2016
Total Operating Revenue	100 million RMB	1,557.36	1,488.25	1,551.28	1,615.10	1,297.08	1,392.55
Main Business Revenue	100 million RMB	1,518.79	1,395.90	1,430.51	1,543.51	1,229.76	1,317.93
Gross Profits	100 million RMB	1.88	-115.04	-52.28	-104.28	-107.48	-93.75
Total Assets	100 million RMB	2,717.10	2,697.16	2,845.82	3,172.31	3,045.27	3,310.92
Owner's Equity	100 million RMB	1,107.37	994.50	928.57	882.19	634.54	811.67
Asset-liability Ratio	%	59.24	63.13	67.37	72.19	79.16	75.49
Accrued Tax	100 million RMB	99.8	89.3	96.4	96.5	79.41	78.40
Iron Production	10 thousand tons	3,052.45	3,132.57	3,501.65	3,510.72	3,233.18	3,363.03
Crude Steel Production	10 thousand tons	2,975.04	3,024.24	3,368.68	3,434.80	3,250.24	3,449.67
Rolled Steel Production	10 thousand tons	2,796.27	2,885.46	3,206.51	3,245.29	3,071.05	3,242.45
High-Vanadium Iron Production	10 thousand tons	2.57	2.25	2.24	3.77	3.10	3.20
Titanium Pigment Production	10 thousand tons	5.99	9.58	7.72	8.41	9.98	12.07

Industrial Sectors of Ansteel

During the 13th Five Year Plan period, we will pace up strategic adjustments to carry out a new survival and development strategy that adapted to the new situation, which is oriented in “seeking development while ensuring survival”, adopts “reform and innovation” as two major driving forces of development, centers on three main adjustments in “market layout, industrial structure and product to make plans and adjusts the development path according to the strategy of “Four Subtractions and Four Increases”.

Development Goal

By 2020, Ansteel will significantly enhance its competitiveness in iron and steel business and other diversified businesses. It will progress in merging and reorganization in its core business, greatly increase economic value added (EVA) and become a multinational enterprise with relatively strong international competitiveness. In 2020, Ansteel aims to achieve profitability higher than the average level in the domestic steel and iron industry, rank among Top 30 in international competitiveness, and gain revenue of 200 billion RMB.

Strategy Implementation

In 2016, starting from the marketing strategy adjustment, we promoted strategic restructuring in the iron and steel industry, and eliminated outdated production capacity. We promoted product mix adjustment, enhanced efforts in developing new products, and orderly proceeded with overseas investment projects. We boosted the development of a series of non-steel projects covering industries in finance, e-commerce platforms, logistics, energy conservation and environmental protection, the new generation information technology and modern services, and proactively explored new development modes of social trade and diversified development of overseas enterprises.



Steel Sector

Ansteel Group owns complete sets of advanced steel manufacturing facilities for mining, beneficiation, sintering, iron making, steel making, steel rolling as well as coking, refractory, power and transportation, etc. The group boasts the capability for mining, iron and steel technology and output management.

Ansteel's iron & steel series products mainly include: hot rolled strip, cold-rolled sheet, galvanized sheet, colour-coated sheet, cold-rolled silicon steel, heavy rail, seamless pipe, section, building and stainless steel, etc.



Non-steel Sectors

In the area of vanadium-titanium, we stick to low-cost production and prioritize in extending the industrial chain and increasing added value. We develop high-end products including vanadium-base alloy, titanium dioxide (chloride process) and titanium alloy, and build an ecological industrial chain that vanadium-titanium resources are comprehensively utilized. Our titanium products mainly include vanadium-nitrogen alloy, vanadium trioxide, and high vanadium iron, as well as titanium series like high titanium slag, titanium pigment, titanium sponge, and other titanium materials.

In the area of mineral industry, we boast the most iron ores, the largest production scale, the advanced production technology and the low-cost operation model. Ansteel Mining Company Limited is a leading enterprise in metallurgy and mining with a complete industrial chain, integrating prospecting, mining, beneficiation, sintering, pellet production, development and design of selection technology and engineering technology output as a whole.

In the area of engineering technology, we aim to become “first-class enterprise in the metallurgical industry, leading enterprise in urban construction technology and international engineering technology service provider”, and accelerate the development of businesses including energy saving and environmental protection as well as urban construction.

In the area of comprehensive industry, we expand emerging industries including the comprehensive development and utilization of renewable resources in steel production, aluminium powder and magnetic materials. We build deep processing base for available materials, urban service base and modern agricultural base, and realized the synchronous development of real estate development, construction and building materials.

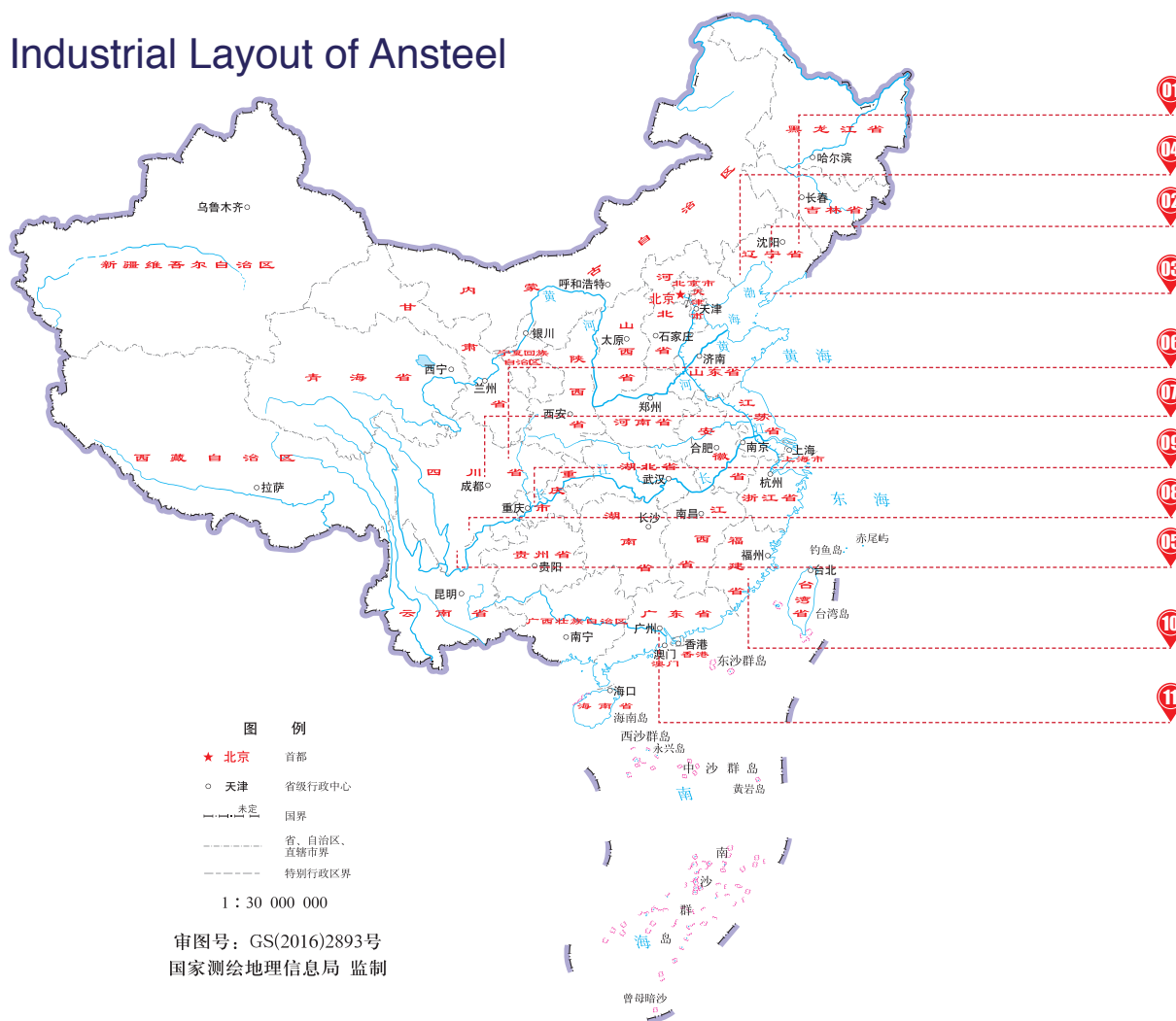
In the area of the information industry, we have formed an automation- and information-based industrial chain with complete professional supporting facilities and intensive knowledge technologies. We are devoted to transforming our businesses to smart factory, smart manufacturing and smart city, and have gradually improved our ability in providing information technology services to the market.

In the area of international trade, we build overseas industrial investment and trade financing platforms and enhanced our capacity in internationalized operation.

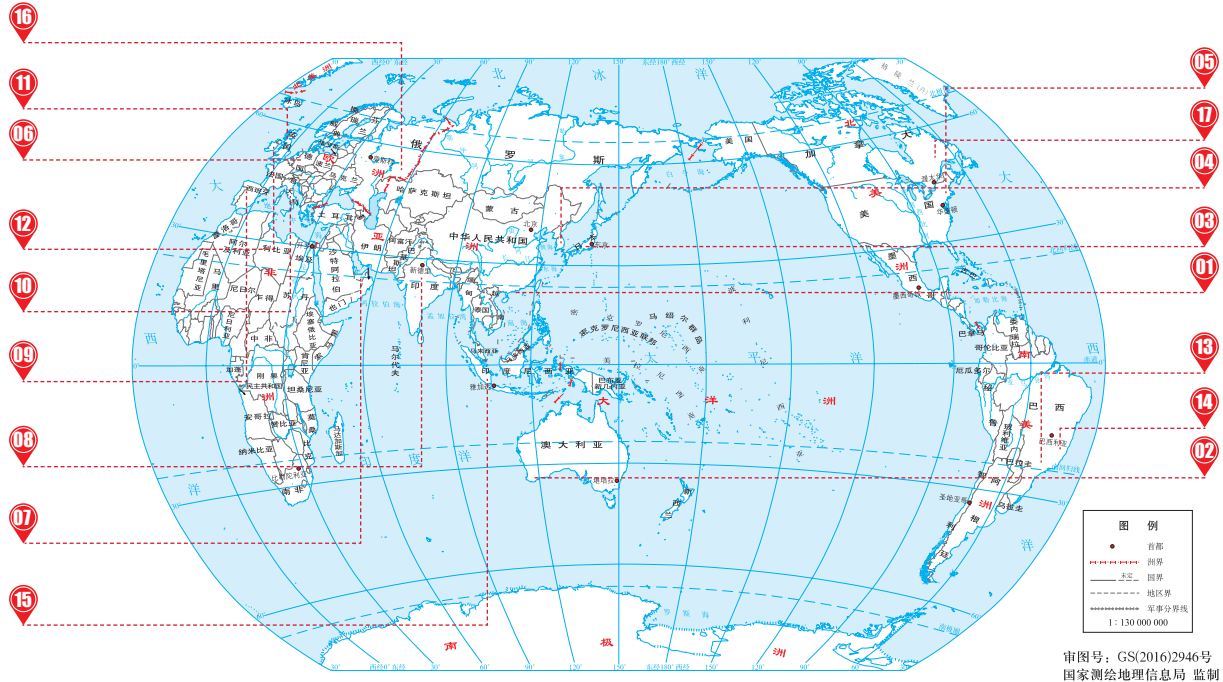
In the area of financial services, we seize opportunities to develop investment trade and continuously improve our financial services capacity. We promote the integration of industry and finance to support the main business sector; proactively apply for financial service license to enhance the profitability.

In the area of chemical engineering industry, we make full use of abundant raw material resources for developing the coal chemical industry, and built China’s leading coal chemical enterprise.

Industrial Layout of Ansteel



Areas		Company Name
Northeast China	01 Anshan	Anshan Iron & Steel Company Limited
	02 Bayuquan	Angang Steel Co.,Ltd. Bayuquan Steel Subsidiary
	03 Dalian	ANSC-TKS Galvanizing Co., Ltd.
	04 Chaoyang	Ansteel Group Chaoyang Iron & Steel Co., Ltd.
Southwest China	05 Panzhihua	Panzhihua Iron and Steel Company Limited
	06 Jiangyou	Pansteel Group Jiangyou Changcheng Special Steel Co., Ltd.
	07 Chengdu	Pansteel Group Chengdu Steel & Vanadium Co., Ltd.
	08 Xichang	Pansteel Group Xichang Steel & Vanadium Co., Ltd.
	09 Chongqing	Chongqing Titanium Industry Co., Ltd. Ansteel ThyssenKrupp (Chongqing) Auto Steel Co., Ltd.
Southeast China	10 Fujian	Ansteel Cold-rolled Sheet (Putian) Co., Ltd.
South China	11 Guangzhou	Ansteel Lianzhong Stainless Steel Corporation



Areas	Company Name
01 Hongkong, China	Angang Group International Trade Corporation Pan Kong Company Limited
	Angang Group Hong Kong (Holdings) Limited Ansteel Hong Kong International Investment Limited
	An Steel International Co., Limited China Niobium Investment Holdings Limited
02 Perth, Australia	Ansteel Australia Pty Ltd Karara Mining Limited
	Angang Group Investment (Australia) Pty Ltd. Gindalbie Metals Ltd
03 Osaka, Japan	Angang Group Japan Co., Limited
04 Seoul, South Korea	Angang Group Korea Co., Ltd
05 New Jersey, USA	Angang America, Inc.
06 Dusseldorf, Germany	Ansteel Europe GmbH Pangang Europe GmbH
07 Dubai, UAE	Ansteel Middle East FZE
08 New Delhi, India	Angang India Steel Pvt. Ltd.
09 Madrid, Spain	Ansteel Spain S.L.
10 Lecco, Italy	Ansteel Vigano Srl
11 London, UK	Ansteel Holdings (UK) Limited
12 Halesowen, UK	USS Ltd
13 Sao Paulo, Brazil	Ansteel Do Brazil Acos LTDA
14 Minas Gerais, Brazil	CBMM
15 Jakarta, Indonesia	PT Glory Fortune Trading And Investment
16 Chelyabinskaya Oblast, Russia	Ansteel Construction Group Russian Ltd
17 Vancouver, Canada	Ansteel-CapitaAsia Global Engineering Inc.

Corporate Governance

Based on the overall restructuring requirement of the Corporate System, Ansteel Group continuously improves its corporate governance structure, builds a decision execution and supervision mechanism with coordinated operation and effective checks and balances, so as to provide systematic guarantee for ensuring the enterprise's position as a market player. In 2016, according to the requirement of the SASAC and the *Articles of Association*, Ansteel finished the new round change of members of the Board of Directors. Moreover, Ansteel included promoting corporate legal construction into the *Articles of Association*, clarified the investigation and survey mechanism to make sure outside directors fully know the conditions of the enterprise, which provided support for reasonable and scientific decision-making. Work in 2016 mainly included:

- Official operation of the second Board of Directors
- Strengthening institutional construction of the Board of Directors
- Improving the operational mechanism of the Board of Directors
- Perfecting the authorization system of the Board of Directors
- Promoting the construction of Boards of Directors in subsidiaries

Board of Directors and Committees (Up to June 30, 2017)

Board of Directors	Strategy and Risk Management Committee
Tang Fuping, Yin Li, Na Xizhi, Yang Haibin, Dai Deming, Diao Qinyi	Tang Fuping, Na Xizhi, Yang Haibin, Diao Qinyi
Nomination Committee	Remuneration and Evaluation Committee
Tang Fuping, Yang Haibin, Diao Qinyi	Na Xizhi, Yang Haibin, Dai Deming, Diao Qinyi
Audit Committee	
Dai Deming, Na Xizhi, Yang Haibin, Diao Qinyi	

Leadership Team (Up to June 30, 2017)

Tang Fuping	Secretary of CPC, Chairman of the Board
Yin Li	Vice Secretary of CPC, Chairman of the Labor Union, Employee Director
Yu Wanyuan	Standing Committee Member of CPC, Vice President, Chief Accountant
Yao Lin	Standing Committee Member of CPC, Vice President
Bai Jingpu	Vice President
Xu Zhiwu	Standing Committee Member of CPC, Secretary of Discipline Inspection Commission
Wang Yidong	Standing Committee Member of CPC, Vice President
Jing Fengru	Standing Committee Member of CPC, Vice President
Shao Anlin	Standing Committee Member of CPC, Vice President
Duan Xiangdong	Standing Committee Member of CPC, Vice President

Organizational Structure



Responsible Ansteel

As a key SOE directly under the administration of the SASAC, Ansteel Group focuses on enhancing sustainable development capacity, combines the industrial features, its own characteristics and practical social responsibilities to maximize the comprehensive economic, social and environmental values and promotes the sustainable development of itself and stakeholders. It built a social responsibility organizational system, formulated *Regulations on Corporate Social Responsibility of Ansteel Group Corporation* and regularly published sustainability reports to the public to demonstrate its performance and achievements in practicing social responsibility and realizing sustainable development.

Culture of Corporate Social Responsibility

Sustainable development concept system

Core values: To build a country with quality steel, and deliver the society with benefits

Mission: To regard building a country with quality steel as our own responsibility, and to create value for customers, staff, shareholders and the society

Spirits: Innovation, Practicality, Striving and Devotion

Corporate Vision: To build Ansteel into the most internationally competitive multinational steel group

Environmental protection concept: Green production and green Ansteel

Management concept: People orientation, pursuit of excellence, strict standards and strict execution

Safety concept: The greatest value is life, the highest responsibility is safety, system is the guarantee of safety and execution is the key to safety

Staff code of ethics: Dedication and race to the top

Corporate Culture Building

Cultural system building

AAAnsteel Group is promoting the cultural system construction to form its draft of value system including seven main parts—the vision, mission, core value, management philosophies, cultural inheritance, staff behaviour and corporate image of Ansteel Group, and upgrading the visual identity

system. It studied and formulated Guidelines on Ansteel Corporate Culture Construction so as to make its cultural philosophy kept in mind by every staff member, integrated into institution and fully practiced, and have strong influence in the society.

Comprehensively improving the brand value and brand image

Ansteel Group proactively expands the channels for stakeholder engagement, reflects on its brand building progress and further improves its brand impact and social image. In the selection of Top 500 Most Valuable Chinese Brands by World Brand Lab, the brand value of Ansteel Group reached 44.718 billion RMB.

- Ansteel Group organized the first “Ansteel Model Worker” evaluation and commending activity. Over 50,000 people took part in the voting session, and the activity was searched over 36,800 times on Baidu in that year
- Convening the Seminar on Advocating the Spirit of “Ansteel Constitution”

- Convening the Seminar on “Building a Century-old Enterprise and Making Great Success”
- Organizing the Special Exhibition on “500 Ansteel Leaders”
- On the Third National Corporate Culture Media Forum organized by China Research Institute of Corporate Culture, the Publicity Department of Party Committee of Ansteel Group, Ansteel Daily Newspaper Office and Pansteel TV Station were separately awarded as “Outstanding Corporate Culture Media Organizer During the 12th Five-Year Plan”, “Outstanding Corporate Culture Media During the 12th Five-Year Plan” and “Outstanding Corporate Culture Media Work During the 12th Five-Year Plan”

- Participating in exhibitions home and abroad including the 16th China International Metallurgical Industry Expo and MMMM (Minerals Metals Metallurgy and Materials) India 2016 and highlighting Ansteel's brand image as "insisting on innovation and focusing on quality"
- Co-organizing China's first large-scale live video streaming activity in iron and steel with Netease and Zhaogang.com - "How the Steel Was Tempered - the Past and Present Lives of a Steel Rail"

Case



Awarding the first batch of "Ansteel Models"

In order to proactively practice socialist core values and carry forward Ansteel's elite culture, Ansteel Group held the first awarding ceremony for and released the list of "Ansteel Models" in September 26, 2016. "Ansteel Model" is the highest honor to be awarded for Ansteel staff in terms of occupational ethics. "Contemporary Lei Feng" Guo Mingyi and "National Model of the Era" Li Chao were awarded the special prize as the first batch of "Ansteel Models". A total of 20 employees were awarded as "Ansteel Models" and 14 employees were nominated as "Ansteel Models" in the first awarding ceremony. Among them, ten employees including Yu Shujuan were honored as "Models for Devotion and Excellency" while ten employees including Sun Lidong were honored as "Models for Ethics and Compliance".

Ansteel Group calls on the staff to learn from "Ansteel Models" and create a favorable atmosphere of devotion and excellency, innovation and efficiency, ethics and compliance, and mutual learning and development, providing strong spiritual support to build Ansteel Group into a transnational steel group of the most international competence and the bellwether in China's steel industry.



Promoting cultural front building

Ansteel Exhibition Hall attaches great significance to functional development. It is committed to demonstrating the glorious history and great corporate culture, and has organized multiple themed exhibitions. Ansteel Group developed and improved its Exhibition Hall, which was recommended as a part of the classic red tourism route (revolution historical tour) in China and has won the title of "Science Popularization Education Base in Liaoning Province" and "Patriotism Educational Base in Anshan City". Nearly 80,000 people have visited the Exhibition Hall.



Case



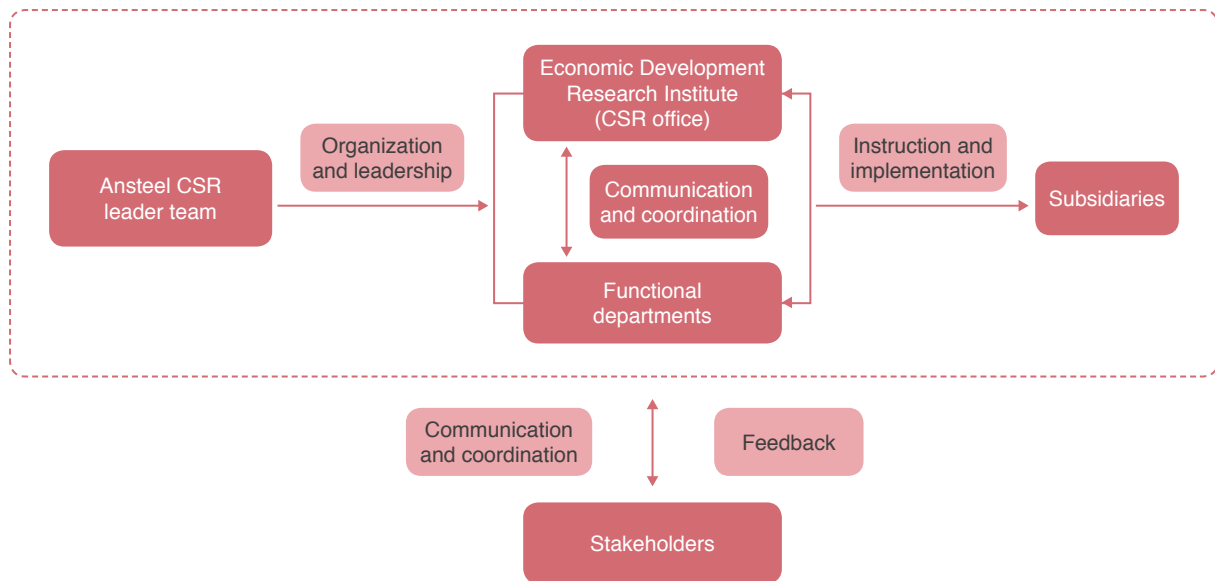
Online Museum project of Ansteel Group Exhibition Hall

To help the public know the Ansteel culture, learn the development history of China's iron and steel industry and metallurgy knowledge more quickly and conveniently, and build an online learning platform integrating panorama view and science popularization education, Ansteel Group carried out the online library project of Ansteel Exhibition Hall, which was officially put into operation since September 23, 2016. The online Museum has over 80 virtual visiting spots which exhibit 1,467 pictures, over 60 e-books, over 500 items and over 50 videos. It shows the external environment, theme park and exhibition hall of Ansteel Group Exhibition Hall to netizens from all perspectives and in all dimensions.

Sustainable Development Management

Sustainable Development Management System

Ansteel Group has established and improved the organizational system in social responsibility, clarified the management principle, organizational structure, duties, content, leaders' responsibilities and centralized management departments in social responsibility work, and formed a social responsibility management system with complete structure and high efficiency, so as to realize scientific, systematic and standardized social responsibility management.



Sustainable Development Management Promotion

In June 2016, Ansteel Group participated in the “2016 CSR Reporting Press for Chinese Industrial Companies & the 2nd Honor Listing Press for Chinese Industrial Companies held by CFIE (China Federation of Industrial Economics) and released the sustainability report of the year.

In December 2016, on “the ninth International Conference on CSR Reporting in China”, Ansteel Group Sustainability Report was awarded “GoldenBee Excellent CSR Report—Leading Enterprise”.

Award-winning comment:

The report centred on Ansteel's mission— “Regarding ‘to build a country with quality steel, and deliver benefits to the society’ as the duty and creating value for customers, employees, shareholders and the society, and highlighted that Ansteel integrated sustainable development with all-dimensional upgrading and transforming, guided reform and innovation, promoted industrial progress and served the society with its advanced “model worker” culture. The report fully reflected the characteristic of social responsibilities in the iron & steel industry, and could be regarded as a leading CSR report.

Social Responsibility Honors and Awards

Economic operation

Date	Awarding Organization	Honors and Award
April 2016	China Iron and Steel Association	2015 Outstanding Iron & Steel Enterprise in Price Monitoring in Financial Settlement (Ansteel Group)
June 2016	World Brand Lab, iCEO.COM	The brand of Ansteel Group was rated the 56th among Top 500 Most Valuable Chinese Brands
September 2016	China Iron and Steel Association	2016 Outstanding Enterprise in Statistics Work in the Iron & Steel Industry (Ansteel Group)
July 2016	China Iron and Steel Association	2016 Outstanding Enterprise in Information Work (General Office of Anshan Iron and Steel)
October, 2016	Ministry of Finance	2015 Outstanding Enterprise in Financial Statements (Ansteel Group)
December 2016	China Iron and Steel Association	2 First Prizes, 4 Second Prizes and 11 Third Prizes in 2016 National Modern Innovation Achievement for Metallurgy Enterprise Administration (Ansteel Group)
January 2017	China Enterprise Confederation	Second prize of the 23rd National Modern Innovation Achievement for Enterprise Administration (<i>Construction and Implementation of Smart and Ecological Logistics System in Iron & Steel Enterprises</i> published by Anshan Iron and Steel)

Scientific innovation

Date	Awarding Organization	Honors and Award
December 2016	China Iron and Steel Association, The Chinese Society for Metals	1 First Prize, 2 Second Prizes and 4 Third Prizes (Projects of Anshan Iron and Steel including <i>Core Technology Development and Industrial Application of Cold Rolled Electrical Steel Edge-drop Control</i>) 1 First Prize and 2 Third Prizes (Projects of Pansteel including <i>Development and Application of Digitalization Technology of the Rolling of High-quality Steel Rail and Complex Profile Steel</i>)
September 2016	Liaoning Scientific and Technological Progress Award Review Committee	2 First Prizes, 2 Second Prizes and 2 Third Prizes (Projects of Anshan Iron and Steel including <i>Development and Application of New Technologies in Recovering and Recycling Ferric Dust with High Efficiency</i>)
November 2016	Sichuan Province Government	1 First Prize, 5 Second Prizes and 17 Third Prizes of Sichuan Scientific and Technological Progress Award (Projects of Pansteel's including <i>20KtV2O5 Vanadium Slag Calcification and Roasting—Development and Application of Key Technologies of Sulfuric Acid Leaching Production Line</i>)

Environmental management

Date	Awarding Organization	Honors and Award
July 2016	SASAC of the State Council	Outstanding Enterprise in Energy Saving and Emission Reduction During 2013-2015 (Ansteel Group)

Social evaluation

Date	Awarding Organization	Honors and Award
September 2016	Organizing Committee of the National Iron and Steel Industry Vocational Skills Competition	First Prize in the Eighth National Iron and Steel Industry Vocational Skills Competition (Anshan Iron and Steel)
January 2016	Liaoning Association of Quality, Liaoning Province End User Council	"Liaoning Province Customer Satisfactory Product" (Ansteel S95 granulated blast-furnace slag powder manufactured by Anshan Slag Development Company)
November 2016	China Corporate Culture Institute	"Outstanding Corporate Culture Media Organizer During the 12th Five-Year Plan", "Outstanding Corporate Culture Media During the 12th Five-Year Plan" and "Outstanding Corporate Culture Media Work During the 12th Five-Year Plan" (Respectively awarded to the Publicity Department of Party Committee of Ansteel Group, Ansteel Daily Newspaper Office and Pansteel TV Station)
2016	The Office of Poverty Alleviation and Development Leading Group in Liaoning Province	Outstanding Enterprise in fixed-point poverty alleviation of Liaoning province (Ansteel Group)

Stakeholders Engagement

Ansteel Group is dedicated to having active interaction and communication with all stakeholders. Ansteel Group takes full account of stakeholders' needs, timely responds to stakeholders' concerns, and includes stakeholders' requests into corporate business strategy and operation in order to promote mutual benefits.

Stakeholders	Expectations and Requirements	Means of Communication	Our Response
Governments	<ul style="list-style-type: none"> Promote employment Pay taxes according to law Compliance management Promote local economic development 	<ul style="list-style-type: none"> High level meetings Meet of exchange Information submission Attend meetings Consultation and full- time Liaison organization between the corporation and the local government 	<ul style="list-style-type: none"> Provide jobs Pay taxes Operate according to laws and regulations Promote the development of local related industries Improve local infrastructure
SASAC, Shareholders	<ul style="list-style-type: none"> Maintain and increase the value of assets Improve the profitability of the enterprise Improve the rate of return of investment projects Safe production 	<ul style="list-style-type: none"> Special report Information submission Shareholders' Meeting Management performance assessment Company announcement 	<ul style="list-style-type: none"> Deepen reform Reduce costs and increase profits Informatization construction Improve technological innovation capability Protect shareholders' equity Strengthen safe production management
Employees	<ul style="list-style-type: none"> Salary and welfare guarantee Democratic management Common development Humanistic care Occupational health 	<ul style="list-style-type: none"> Workers'congress Disclosure of corporate affairs Complaint mailbox Rationalization proposal Symposium Communication through the internet 	<ul style="list-style-type: none"> Provide competitive salaries Establish career development path Offer training and education Care for the employees Provide protective instrument and infrastructure
Customers	<ul style="list-style-type: none"> Abide by commitments Provide good- quality products and services at a reasonable price Improve capability for customized services Open communication channels 	<ul style="list-style-type: none"> Daily contact with sales representatives Exhibition Client meeting Regular visits Opinion solicitation 	<ul style="list-style-type: none"> Pay attention to customer needs Improve the quality of products and services Provide high-quality customized services
Environment	<ul style="list-style-type: none"> Save energy and reduce emissions Conserve resources Cope with climate change Protect ecological environment 	<ul style="list-style-type: none"> Manage environment Make rational use of resources Implement energy- saving and emission- reduction Strengthen ecological construction 	<ul style="list-style-type: none"> Conduct energy and water resources management Make rational use of solid wastes, surplus heat and clean energies Build ecological mines Plant trees and vegetation in the enterprise Practice green office

Stakeholders	Expectations and Requirements	Means of Communication	Our Response
Suppliers	<ul style="list-style-type: none"> • Fair & equitable • Honest & faithful • Information confidentiality • Policy stability • Mutual benefit and win- win 	<ul style="list-style-type: none"> • Site visit • Contract negotiation • Regular visits • Tendering conference • Opinion solicitation 	<ul style="list-style-type: none"> • Conduct sunshine procurement • Consultation on the basis of equality • Abide by contracts • Disclose procurement information • Conduct compliance procurement
Associations	<ul style="list-style-type: none"> • Fair competition • Industry development and progress 	<ul style="list-style-type: none"> • Join in associations and take on duties • Participate in activities organized by the associations 	<ul style="list-style-type: none"> • Participate in activities such as standard setting and industry research
Community, Media and the Public	<ul style="list-style-type: none"> • Improve community environment • Respect community culture • Support public welfare undertakings • Disclose corporate information in an open, transparent and timely fashion 	<ul style="list-style-type: none"> • Joint community building • Joint project development • Regular exchanges • Convene community communication meeting • Press release • Media communication 	<ul style="list-style-type: none"> • Participate in community building • Support culture and education • Undertake volunteer action • Disclose information



Responsibility Topics

Topics 1

Promoting the Integration of Informatization and Industrialization and Building Smart Mines

The most important thing in building “Smart Mines” is not technical means, but wise thoughts and the awareness of innovation.

Shao Anlin, General Manager of Ansteel Mining Company Limited

In 2015, ranking first in the comprehensive evaluation of China’s mining industry, Ansteel Mining (hereinafter referred to as Ansteel Mining) was selected into pilot demonstration projects of Chinese smart manufacturing in 2015, and became a model enterprise in smart manufacturing since then. In 2016, the Ministry of Industry and Information Technology issued *National Plan for Restructuring and Upgrading the Iron and Steel Industry (2016-2020)* (hereinafter referred to as Plan). Ansteel Mining’s project of promoting the integration of informatization and industrialization and the “smart mine” project were enlisted in the Plan, and Ansteel Mining was the only enlisted enterprise in China’s metallurgy and mine industry.



The three-dimensional mining geographical information management figure

Being strategy-oriented and pushing forward the integration of informatization and industrialization

Ansteel Mining is an industrial leading enterprise with the most abundant iron ore resources and first-class technologies in the world. Its strategic objective is to expand the resource industry and build a world-class iron-ore mining enterprise. Being strategy-oriented, Ansteel Mining has formed an innovation mechanism that drives its sustainable development and made use of information technology to transform traditional industries. It took the lead to propose the idea of developing smart mining in China and drew up plans in implementing digital mining, technological innovation and industrialized operation to comprehensively optimize production and management and to ensure maximum benefits. In this way, the company not only improved its core competitiveness, but also gained a large amount of economic benefits. Besides, it promoted the development of the metallurgical and mining industry and accelerated the popularization and application of smart mines to the whole country.

Pushing forward informatization steadily

Since 2008, Ansteel Mining started large-scale informatization construction. In the beginning, it made a five-tier working plan to continuously deepen informatization construction.



The five-tier informatization construction working plan

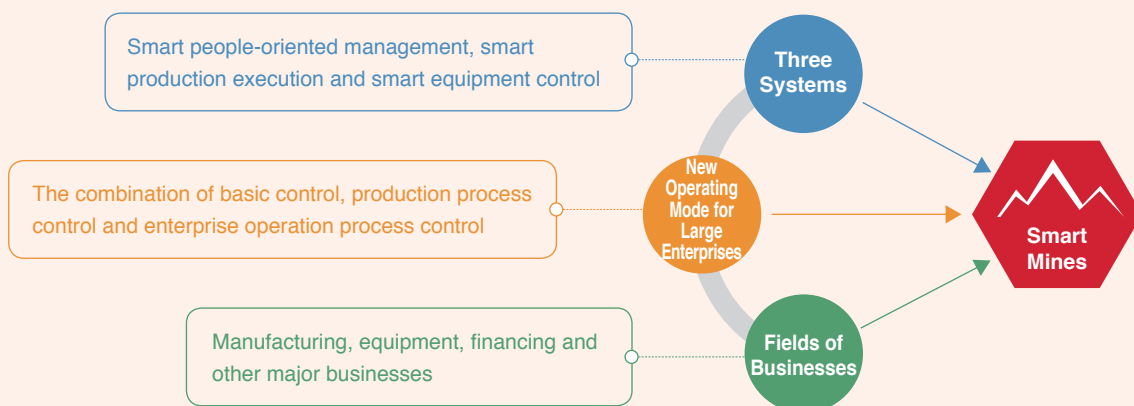
By the end of 2016, Ansteel Mining had finished the construction of 460 square meters of standardized computers rooms, backbone networks with the bandwidth of tens of thousands of megabits per second, GPS vehicle dispatching system, tri-cone drill accurate positioning system, GIS Integrated Geological Information System, basic data auto-collecting system, manufacturing execution system (MES), the decision analysis system and other supporting facilities. Besides, it conducted specified management under the support of the informatization platform, and realized strategic cost management based on value chains.


Long-distance operation and control of “smart mines”

Ansteel Mining has 36 affiliates in Anshan, Liaoyang and Dalian. Based on the achievements of building digital mines, the group developed and applied cloud computing technologies, built a leading mining management platform in the world and

fully promoted the construction of smart mines to realize the long-distance real-time control and constant improvement of enterprise operations.

This digital and smart management platform is further integrated with mining production processes through advanced information technologies such as the Internet of Things, big data and smart management and control, thus realizing smart command, automatic control and highly efficient allocation of resources. Ansteel Mining built a resource operation and control platform involving all 36 affiliates. The platform solved many problems in the industry such as the complex and changeable production and management in mines, high uncertainties of raw materials and poor working environment, and achieved the comprehensive management goals of analyzing mineral reserves, alarming hidden dangers, optimizing supply chain management, optimizing production and logistic control, reducing energy consumption and increasing economic returns.



Case  **The remote control of “smart mines”**

One day in 2016, the electronic screen of the production information platform in Ansteel Mining’s data center displayed that one of the M01 electric-wheel truck in Qidashan mine was under repair. The Smart Mine System had already accurately marked the problems of the truck. Therefore, the one-time completion of checking and repairing of several components or even the maintenance work can be achieved. In the past, these tasks had to be done in several times.

In the measuring department, thanks to the accurate positioning of the Smart Mine System, mistakes in the accuracy of drilling holes were avoided. Merely the money saved from using fewer explosives was no small amount. This was a direct manifestation of Ansteel Mining’s “Smart Mine” philosophy featuring pursuit of safety production, environmental protection and the dynamic balance between resources utilization and economic returns.

Taking the lead in making the first medium- to long-term development plan in China’s iron-ore mining industry

Ansteel adheres to “innovation driving development, quality first, green development and structural optimization”. In recent years, Ansteel Mining has been guided by the smart mining construction and has been issued four international certifications. Now its technology is in the leading place in China, and its beneficiation technology and quality of iron concentrate as the main product also take the lead in the world. Ansteel Mining has won four second prizes in National Science and Technology Progress Award.

Ansteel Mining also formed an industry alliance with other domestic mining enterprises. Ansteel Mining took the lead in establishing China’s first medium- to long-term development plan in the iron-ore mining industry, undertook the task of setting up eight industrial standards and 15 national standards. It made the top-level design and set the development orientation for the integration of informatization and industrialization in metallurgic and mining industry. It successively conducted several application innovation research projects and achieved the overall optimization of production and management.

Topics 2

Building the platform for Innovation and Making More Profits

As the “Eldest Son of the Steel Industry of the Republic”, Ansteel’s staff members hold on to the spirit of “innovation, pragmatism, striving, devotion” and the perseverance to solve difficulties. Taking advantage of the Staff innovation studios and the Youth Innovation Growth Project, they base themselves on their positions and make contributions to stopping losses and making profits for Ansteel Group.

Building an innovative platform to make more profits

The staff innovation studio is led by skilled talents, technical leaders and model workers. It focuses on problems in technology development and quality improvement and carries out innovative activities such as tackling technical problems and making technical innovation. It constantly transforms advanced technologies, methods and achievements into productivity.

Ansteel Group attaches great importance to activities in the staff innovation studios. It issued *Guidelines on Promoting the Construction of Staff Innovation Studios* to transform the innovation of staff members into a driving force which can boost its economic growth and become the “think tank” or “result database” of enterprise development. Anshan Iron and Steel encouraged staff members to study operation techniques, strengthened cross-regional and multi-base training, and established an Innovation Fund to encourage and support employees to take part in mass technical innovation activities. Ansteel Group approved first 59 programs supported by the fund with a total amount of 2.526 million RMB, summarized 145 advanced operating methods and established an online innovation studios named “Blue Collar Innovator Space”. Pansteel summarized the advanced operating methods of its employees and increased the popularity rate of new knowledge and technologies. It also carried out the activity of “Looking for Star Employees in Making Profits”, and selected nearly 30 “Star Employees”. It advocated their stories to pass on development energy.

By the end of 2016, Ansteel Group had established **172** staff innovation studios, **8** of which were from the group company, **62** were from regional enterprises and industry sectors, and **102** others were from factories. In 2016, these staff innovation studios had launched **1,676** technical problem-solving projects. The returns will exceed **50** million RMB after all projects are completed.

Promoting young people's contribution to the enterprise through innovation growth

Ansteel Group carried out the Youth Innovation Growth Plan for three consecutive years, conducted cluster management of programs, built a platform for the cluster and integrated management of programs, and carried out youth contribution activities themed by “Youth Making Profits to Ensure Survival, Innovation for Further Development”. As a consequence, a powerful resultant force was generated, and it improved the contribution of the Youth Innovation Growth Plan to corporate production and operation.

The Communist Youth League in Anshan Iron and Steel, Ansteel Mining and other enterprises organized a batch of demonstrative programs in Ansteel subsidiaries such as pipeline lightning program and mud cleaning program in flood-cutting channel, thus gaining different advantages from the major technological reform projects determined by production, technology and management departments.



Staff members taking part in pipe coating and lightning in the demonstration zone

Ansteel summarized and shared successful experience in innovation work of its subsidiaries and publicized a series of videos, short movies and other forms of new media works titled “Cartoon on the Process of the Youth Innovation Growth Plan”, “One Picture to Know the Youth Innovation Growth Plan” and “Handbook of the Youth Innovation Growth Plan” to extend the spreading scale and enhance the impact of the activity.

In 2016, **1,238** Youth Innovation Growth Plan were approved, breaking the historical record. The completion rate of these programs reached **91%**. The direct returns amounted to **22.21** million RMB and the indirect returns was **33.63** million RMB.

Making the Youth Innovation Growth Plan more attractive to young people

For three consecutive years, Ansteel Group has held conferences to commemorate the May Fourth Movement and commend “Double Top Ten” employees in the Youth Innovation Growth Plan, which has become a mechanism to launch the Youth Innovation Growth Plan annually and a widely influential gala for youth innovation. Ansteel Group organized the competition on 2015 Best Program in the Youth Innovation Growth Plan, made a short film on the third season of the Plan, a publicity film for the Best Program of the Year, a prospective video on the Youth Innovation Growth Plan to improve the cultural influence of these brand programs.

In 2016, leaders of the Development Department of Central Committee of China Communist Youth League (CCYL) visited Ansteel Group to have a special research on the carrying out of the Youth Innovation Growth Plan and spoke highly of the group’s achievements. Leaders in Liaoning Provincial Committee of the CCYL communicated with personnel leading the Youth Innovation Growth Plan. The Anshan Municipal Committee of the CCYL advocated the experience of Ansteel in the Youth Innovation Growth Plan throughout the city, thus improving the influence and demonstrative effect of Ansteel Youth Innovation Growth Plan in the CCYL.



Leaders from Youth Development Department of the China Communist Youth League did special research on Innovation Growth Plan in Ansteel and spoke highly of it



The “Double Top Ten” for commemorating May Fourth Movement and published Innovation Growth Plan

Topics 3

Following Guo Mingyi to Learn from Lei Feng Spirit and Building the Team of Youth Volunteers in Ansteel

Guo Mingyi, a road supervisor of Qidashan Mine of Ansteel Mining, is an alternative member of CPC Central Committee, part-time vice-chairman of All-China Federation of Trade Unions, outstanding CPC member, national moral model, May First Labor Medal winner, representative of the 18th CPC National Congress and reserve officer of the communication regiment in Anshan military subarea. He also won the Outstanding Contribution Award of the Hope Project, Gold Prize of National Blood Donation Dedication Award and honorary titles such as star volunteer of the National Red Cross Society and outstanding communist party member in SOEs. Over the past decades, Guo Mingyi worked diligently at the grassroots level while actively participating in many public welfare activities such as the Hope Project, blood donation, hematopoietic stem cell donation and organ donation. He encourages others to follow the example of Lei Feng, and he himself becomes the first to win the honor of Contemporary Lei Feng in China.



Guo Mingyi— “Contemporary Lei Feng”

General Secretary Xi Jinping pointed out that the energy of faith, universal love, selflessness and the spirit of forging ahead held by Lei Feng, Guo Mingyi and Luo Yang, best reflected our national spirit. All of them are our “nation’s backbone” in building a harmonious socialist society.

In August 2010, General Secretary Hu Jintao made important instructions: “Comrade Guo Mingyi is a moral model who takes pleasure in helping others as well as an outstanding representative practicing Lei Feng’s spirit in the new era. We should promote and spread his exemplary deeds and morality so as to provide strong spiritual strength for building a harmonious socialist society.”

Improving organizational building and laying a solid foundation for development

Since 2008, Ansteel organizations at all levels have encouraged their employees to follow Guo Mingyi’s example, and learn from his dedication and selflessness. Over the years, the Ansteel volunteer team has continued to grow. In 2016, Ansteel Youth Volunteer Association was established to help develop the Guo Mingyi “Loving Heart” Team, Guo Mingyi Dedication Team and the Union of Learning from Guo Mingyi, and to build a network system for developing Ansteel youth volunteer services at the basic level. The association also helped subsidiaries of Ansteel to build their youth volunteer associations, and then absorbed them into the Ansteel Youth Volunteer Association, in which Guo Mingyi is the honorary president. The association formed a work pattern led by the communist youth league committee of Ansteel Group, and managed by the association itself in accordance with regulations, with all the members working actively, so as to improve the brand impact of Ansteel youth volunteer services and boost public welfare.



Guo Mingyi presented a flag to the Ansteel Youth Volunteer Association

Promoting public welfare and spreading the energy of youth

Ansteel Group gives full play to youth volunteers, actively carries out activities including free blood donation, donation for the poor, voluntary work and services. In 2016, Ansteel Youth Volunteer Association was awarded Outstanding Youth Volunteer Organizer.

- Ansteel organized the large-scale voluntary activity of hematopoietic blood stem cells sample collection and donation themed “Following Guo Mingyi to Learn from Lei Feng”. A total of 131 youth volunteers donated blood stems samples, spreading the positive energy of Ansteel to the society.
- Ansteel actively participated in the “Light it up” action organized by the CPC committee of Liaoning province and donated money to poor families in Xiuyan County.
- Ansteel carried out a series of activities themed by “Youth’s contributions to building beautiful Ansteel”, and organized communist youth league members to clean up and maintain the Zhuoxiu Garden. In 2016, over 1,200 people participated in voluntary work, renewing the “Green name card” of Ansteel.
- Ansteel organized the formation of the Ansteel Youth Volunteer Association to participate in the Ansteel commendation conference, swear an oath and fly their dreams.
- Ansteel organized over 200 youth volunteers to weed the area and clean the office of the veteran cadres, to fulfill their responsibilities as a youth through actions.
- Ansteel organized 173 youth volunteers to establish a general team of volunteer service, serving for the Eighth “Ansteel Cup” National Vocational Skills Competition in the Iron and Steel Industry.



The voluntary activity themed “Youth’s contributions to building a beautiful Ansteel”



Ansteel youth volunteers swore an oath at the “Ansteel Models” commending conference



Group photo of youth volunteers on the Eighth “Ansteel Cup” National Vocational Skills Competition in the Iron and Steel Industry

In 2016, the number of young volunteers in Ansteel Group reached **28,561**. A total of **168** sites of youth volunteer service were established, and **225** volunteer service teams were set up. A total of **1,321** volunteer service activities had been carried out with **28,951** youths’ participation. A total of **433** Saturday Dedication Day activities were organized involving **15,567** youths. A total of **3,276** people participated in voluntary blood donation, **213** donated blood stem cells and **32** donated their corneas. A total of **503** pairs were matched as “hand in hand”, “one to one” and “several to one” assistance. Donations for poor students amounted to **283.3** thousand RMB, benefiting **601** students.

01



Building the Competitive, Strong and Leading Ansteel

Background of sustainable development

The iron and steel industry is an important basic industry of the national economy, and a pillar industry of realizing industrialization, and an industry intensive in technologies, funds, resources and energy with a decisive role in the whole national economy. As an important basic industry, the iron and steel industry is relatively highly subject to the business cycle, and has relatively obvious periodical features. That state-owned iron and steel companies comprehensively deepen the reform, proactively consolidate the management foundation, enhance the management level, promote technological innovation, optimize product structure and realize quality development, which is an inevitable path to adapt to the economic “new normal”, and a basic condition for enterprises to achieve sustainable development.

Measures of sustainable development

Ansteel Group sticks to the main principle of “pursuing development while ensuring survival”, sets “improving the ability of value creation and comprehensive competitiveness enhancement” as the core objective, and transforms to development with high quality, efficiency and more profits. Ansteel Group insists on two red lines of positive marginal profit and positive operational cash flow, and promotes four priorities of adjustment, reform, innovation and Party building. It strives to bring new momentum in deepening reform, build up new advantages of innovative development, and practically enhance the ability of social responsibility fulfilment, making more contribution to the sustainable development of the economic society.



Sustainable development performance

In 2016, Ansteel undertook **16** national projects.

1 management achievements won the second prize of the 23rd National Modern Innovation Achievement for Enterprise Administration.

Ansteel Mining promotes integration of informatization and industrialization. The “smart mine” project was enlisted in the national plan of iron & steel industrial restructuring and upgrading, and became the only enlisted enterprise in China’s metallurgy and mine industry.



Deepening Reform Comprehensively

In 2016, Ansteel Group conscientiously implemented the requirements of important arrangements of supply-side structural reform and state-owned enterprises reform “1+N” policies proposed by CPC Central Committee and the State Council. Ansteel Group adhered to the mainline of “focusing on reform, ensuring survival, promoting transformation, and seeking development” to promote and deepen reform in full swing.



Strategic Adjustment

Strategic adjustments in iron and steel main sector: In 2016, Ansteel adjusted its marketing strategy to promote strategic adjustment in the iron & steel main sector. It determined the core marketing area and increased efforts in developing direct customers. Through adjusting the marketing strategy, Ansteel significantly improved the sales volume in core marketing area, eliminated outdated capacity, shut down two electric furnaces in the second and the third factories of Pansteel Jiyangyou Changcheng Special Steel Co., Ltd., and completely shut down Pansteel Chengdu Steel and Vanadium Co., Ltd.'s steel pipe rolling system. It promoted restructuring of product mix, increased efforts in developing new products based on the principle of “refined, optimized, special and strong”, and steadily improved the proportions of its exclusive new products, leading products and strategic products. Its high-strength hot galvanizing line and high-strength continuous annealing line were completed and put into operation, which improved the market position and manufacturing capacity of high-strength cold rolled steel sheets in domestic market. It built production lines of rod and wire, restructured the product mix in western Panzhuhua,

and orderly advanced overseas investment projects.

Strategic adjustments in non-steel industries: According to the principle of “simplification, streamlining, power delegation and invigoration”, we vigorously develop non-steel sector, promote the development of a series of non-steel projects covering finance, e-commerce platforms, logistics, energy saving and environmental protection, new generation information technology and modern service to improve the vitality of Ansteel's non-steel industries. We proactively explore new modes of social trade and diversified development of overseas enterprises and expand the trade scale.

Ansteel Mining explores building a flexible business model of iron ore mines with quick response, high efficiency and adaptation to global iron ore market changes, and has gained initial progress. In vanadium-titanium, it strives to adjust the product mix, improve the industrial chain and build speciality vanadium-titanium industry. It also integrates assets, management and research and development resources in the titanium industry and brings new profit growth points to the enterprise.

Reform and Innovation

Ansteel Group enhanced the top design of reform, formulated and issued the *Implementation Plan of Ansteel Group to Deepen Reform*, determined the work plan of deepening reform during the 13th Five Year Plan period, and launched 84 reform programs. Ansteel Group improved the group's differentiated management and control system and highlighted the role of head office in “designing rules, enhancing supervision, and valuing evaluation”. Ansteel Group delegated authority of marketization and operation decision making, built an improved supervision system, supported the “enaction, amendment and abolishment” of rules and regulations accordingly, promoted the

transformation of the group's management and control system, and boosted the group's management and control capability. Ansteel Group promoted the group system reform and comprehensively urged enterprises registered under *Enterprise Law* to promote company system reform, contributing to clearer property rights of enterprises at all levels, better corporate governance structure, and improved market-oriented operation mechanism. Ansteel Group implemented the requirements of streamlining management levels and reducing legal persons in SOEs proposed by the SASAC, and completed streamline governance of ten enterprises.

Ansteel Group deepened the reform of “three systems”. In particular, Ansteel Group built up a flexible recruitment and employment mechanism, improved the strict officers management system, and motivated their vitality; Ansteel Group resorted to approaches such as human resources optimization, labor jobs reduction, and compression of production service positions, leading to a considerable increase in labor productivity; Ansteel Group deepened the salary distribution system reform and achieved a moderate decline in labor costs and a moderate increase in average employee salary.

Ansteel Group implemented supply-side structural reform and underlined industrial layout, marketing strategy and

product mix adjustment. Ansteel Group enhanced governance of unprofitable enterprises, promoted streamline governance, and strengthened effective supply and improved full-element productivity from the production end to boost enterprise operation quality, innovation capacity, and market competence.

Ansteel Group deepened the science and technology mechanism reform, regarded project contracting system as the core, and delegated authority in science and research projects management, realizing the linkage between research personnel income and projects, triggering new motivation for innovation and improving innovation and efficiency capability.

Assets Disposal

In 2016, Ansteel Group scaled up efforts in clearing up and disposing low-efficiency or ineffective assets, revitalizing idle land assets by further exploitation, leasing, cooperation and selling to the government. And further disposed low-efficiency or inef-

fective physical assets through repaying debts with assets, transferring production lines, external transfers, leasing, internal adjustments, scrapping and clearing up.

Lowering Cost and Improving Efficiency Persistently

Ansteel Group promoted open tendering, and further improved the proportion of open tendering and the quality of tendering products. We implemented centralized procurement to reduce cost. Led by Anshan Iron and Steel and Pansteel, we promoted collaborative procurement within the two regions to take advantage of the scale effect and reduce procurement cost. We established a full-flow information system in procurement and the tendering platform, solidified working process, enhanced efficiency, and realized information-based and transparent procurement of the Group’s goods and materials.



Anshan Iron and Steel’s measures of cutting costs and improving economic returns: We established a special team for cutting costs and improving economic returns systematically. Guided by “three statements, two bases and one goal”, we found weak points through theoretical modelling, found the gap between advanced enterprises and us through benchmarking and found our shortcomings compared with practical indicators. Based on “iron element flow, carbon element flow and processing cost”, we set cost cutting goals systematically in 49 subjects in 9 major areas, and set the goal of reducing 200 RMB per ton materials on the basis of actual costs in the first quarter. Through continuously exploring new projects and subjects of systematic cost reduction, we achieved more goals of cost reduction. We set up a regular meeting system to analyse and conclude the performance of current cost cutting projects and subjects regularly, scaled up efforts in systematically reducing costs and tackling key

problems and accelerated the process of transforming and creating profits. In 2016, Anshan Iron and Steel made 1.33 billion RMB through cost reduction and efficiency improvement, and reduced 118 RMB of cost per ton materials.

Pansteel’s measures of cutting costs and improving economic returns: Pansteel closely centres on its operation goals to formulate eight major measures in cutting costs and improving economic returns. In 2016, it achieved 3.494 billion RMB in this realm, among which 737 million RMB of increased returns was from optimizing economic indicators, 59 million RMB from reducing procurement costs, 591 million RMB from expanding the scale, 250 million RMB from optimizing the product mix, 526 million RMB from optimizing human resources, 401 million RMB from optimizing logistics, 371 million RMB from controlling costs and 559 million RMB from favourable policies and other aspects.

Enhancing Stable Operation

Improving Management

Ansteel Group firmly sticks to the philosophy of differentiated management and control, aims to build a continuous optimization and management system and adopts specific management appraisal standards featuring “flattened management levels, streamlined institutional posts, clarified functioning system, standardized business authorization, elaborated rules and regulations, standardized work execution, accurate performance evaluation and normalized system evaluation”. It implements the motivation mechanism of management evaluation indicator, promotes the effective landing of the Group’s differentiated strategic management and control model, encourages subsidiaries at all levels to truly become independent market players and comprehensively launches management upgrading in Ansteel Group.

Centring on improving development quality and economic returns, Ansteel Group focused on important issues in enterprise reform and management, continuously improved and optimized the management system, and enhanced its management capacity. *Construction and Implementation of Smart and Ecological Logistics System in Iron & Steel Enterprises* issued by Anshan Iron and Steel won the second prize of the 23rd National Modern Innovation Achievement for Enterprise Administration; Ansteel Mining’s 17 achievements including *Management Innovation, Application and Practice Based on Finance-Sharing Model in Large Iron Mine Companies* won the Modern Innovation Achievement for Enterprise Administration in Metallurgy Companies.

Developing Diversified Industries in a Sustainable Way

Ansteel Group proactively integrates internal and external resources, builds a new pattern of diversified development, promotes the synchronized and coordinated development of iron and steel main sector, resource industry and non-steel sec-

tors, and improves its comprehensive competitiveness. It injects vitality to non-steel sectors’ operation, proactively explores new modes of social trade and diversified development of overseas enterprises, and further expands its trade scale.



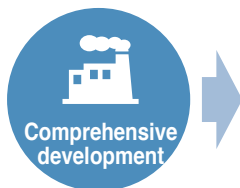
Ansteel Mining has advanced lean hematite ore beneficiation technology and low-cost operation model. It is a leading enterprise in metallurgic mine with an integrated and complete industrial chain covering prospecting, mining, beneficiation, sintering, pelletizing production, mining and beneficiation technology research and development and engineering technology export. Its main businesses include: mining, beneficiation, sintering, pelletizing production of ferrous metal, limestone, cement, saltpetre, manganese ore, ferromanganese, alloy and ores, recycling of ore, macadam processing, mechanical haulage, cargo business and import and export of technologies.

In 2016, its operation revenue was **9.932** billion RMB.



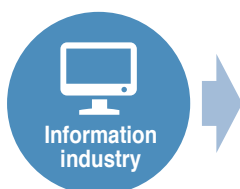
Ansteel Group Engineering Development Co., Ltd. and its affiliates have multiple Class A national qualifications and general contracting qualification, and provide full life cycle services of engineering projects including reconnaissance and measurement, engineering consulting, engineering design, project supervision, equipment supply and procurement, engineering construction, operation services, general contracting and engineering project management. Meanwhile, Ansteel Engineering Technology vigorously expands business in energy performance contracting. Devoted to developing and applying energy saving and emission reduction technologies, the company strives to contribute to sustainable development of the society.

In 2016, its operation revenue was **4.605** billion RMB.



Ansteel Group General Industrial Development Co., Ltd. mainly specializes in metallurgical engineering and machinery, metallurgy powder, metallurgy materials, production services, ferric oxide powder, comprehensive utilization, metal work, dairy industry, preschool education, transportation, real estate development, construction, building products, metallurgy renewable resources, iron recycling and processing, urban services, commerce and trade, planting and breeding, hotel services, travelling and entertainment, water treatment, chrome plated roller manufacturing and architecture design, etc.

In 2016, the company gave full play to its advantage in resources, scaled up efforts in enterprise restructuring and internal resources integration, and realized operation revenue of **3.217** billion RMB.



Ansteel Information Industry Corporation Ltd. is a high-tech enterprise specialized in automation and informatization. It mainly provides domestic and foreign customers with services of automation, design, manufacturing, technological R & D, equipment installation, debugging, system operation and maintenance, electrical machines repairing, and undertakes problem-tackling tasks in state key scientific research projects. It is also devoted to developing smart cities, smart factories, cloud computing, big data, e-commerce, energy saving and environmental protection and other strategic new-emerging businesses. It sticks to independent innovation and has formed an automation and informatization industrial chain with complete professional supporting facilities and intensive knowledge and technology that is open to the nation and even the world.

In 2016, its operation revenue was **466** million RMB.



Angang Group International Trade Corporation is the overseas agent of Ansteel products and services, a comprehensive trader of international operation, an investor and operator of overseas industries, the platform of overseas trade and financing and the platform for implementing the internationalization strategy. By the end of 2016, it had 14 overseas trade companies and two processing lines, providing strong support to the “going global” of Ansteel products.

In 2016, its operation revenue was **17.899** billion RMB.



Ansteel Capital Holding Co., Ltd. sticks to the operation principle of “building the financial sector, promoting the integration of industry and finance, strictly controlling risks, increasing revenue of financial services and boosting Ansteel's diversified operation”. It steadily carries out industrial investment, equity investment and securities investment, and provides financial services including investment and financing consultation, mandatory administration of enterprise assets and project financing.

In 2016, its operation revenue was **467** million RMB.

Promoting Technological Innovation

Ansteel Group keeps regarding scientific and technological innovation as the core driving force of corporate development, improves the scientific and technological innovation management system, and deepens the reform in scientific research system and mechanism. Ansteel Group improves the ability of independent innovation, accelerates the transformation of scientific innovation achievements, implements the scientific development plan as a part of the 13th Five-Year Plan, and comprehensively promotes innovation-driven development strategy based on the scientific innovation index.



Manufacturing the large crusher with independent IPRs

Improving the Innovation System

Ansteel comprehensively promotes innovation in the scientific research system. It has formulated *Guidelines on Improving Management System and Operation Mechanism to Scientific Research and Design Institutions*, and adopted “contract system” as the core of management and “corporate system” as the principal line of transformation. It prioritizes in accelerating yielding and transforming scientific and

technological achievements, comprehensively promotes the market-based reform of scientific research designing institutions, and has built an innovation pattern where the enterprise could gain profit, scientific research institutes and R & D teams could be encouraged, and individual contributions could be rewarded. In 2016, Ansteel Group’s proportion of science and technology input reached 4.1%.

Case



Establishing the scientific innovation index to tap enterprises’ innovation potential

Establishing the scientific innovation index and reasonably supervising and evaluating the scientific innovation level of enterprises can help enterprises adopt reasonable and effective scientific innovation strategy, maintain and improve their own competitive advantages, and gain highest economic returns and increase social welfare.

Ansteel Group’s scientific and technological innovation index covers enterprises’ research and development, innovation management, technology trade, marketing and output, etc. It is composed of ten basic indicators, which can comprehensively disclose the current situation and trend of the enterprise’s innovation development through analyzing historical and current data in a relatively long time period. Through establishing and improving the index system, Ansteel adopted product price difference or profit-making amount through scientific research as a buoy to ensure survival, and included them as guiding indicators so as to gain more profits through scientific research, stimulate the potential of scientific innovation and improve its core competitiveness.

Management of Scientific Research Projects

Ansteel Group uses projects as support and the Staff Innovation Studios as a carrier to promote technological innovation, and accelerates the research and development progress of state key scientific and technological projects, the Group’s important projects and key projects. Three of its projects including “*Research on the Mechanism of Causing Major Disasters in Metal and Non-metal mines and Prevention & Control Technologies*” were approved by the national government. Four of

its projects were approved as major scientific and technological problem-tackling projects in Panxi state-level strategic resources innovation and development pilot zone. Ansteel also applied for 24 projects in the key research and development program during the 13th Five-Year Plan period, implemented 14 major enterprise-level projects and achieved significant progress. It pushed forward five group company-level technological cooperation projects and gained outstanding results.

Case

“Made in Ansteel” entered the “core” of nuclear

The reactor core of a nuclear power reactor generates huge thermal energy due to nuclear fission, and the safety injection tank is a very important kind of safety equipment that protects the reactor core, and then protects the safety of key equipment in a nuclear power plant.

On the basis of adopting low-phosphorous and low-sulphur materials and strictly controlling the grade of non-metallic inclusion, Ansteel nuclear power steel project team further optimized rolling and thermal refining technologies and broke down monopoly of foreign technologies. The SA-533 Ty.BC1.1 steel manufactured by Ansteel and used in Class-1 safety injection tank successfully passed explosive cladding test and kept up with the requirements of various indicators. This is Ansteel's first order in steel used in Class-1 safety injection tank. The high-quality steel will protect the reactor core of the nuclear power unit.

Case

Ansteel high-end steel used in bogies filled the blank of the Chinese market

Bogie is a running gear that can rotate relative to the body of the train. It has many important functions including supporting the train body, operating and rotating. It needs to be strong but also flexible enough, and should be able to resist shock and fatigue. As the running speed of trains keeps improving, the load that the welding frame of the bogie bears becomes more complicated, which demands higher quality materials. After seven years of research, Ansteel Iron and Steel Research Institute successfully developed a material fit for the bogie structure, which passed the test of running 600 thousand km with no malfunction. Ansteel is the exclusive supplier of high-end steel used in bogies for China Standard EMU (electrical multiple unit) with the highest speed of 350km/h.



Case

Ansteel's project was selected into “2016 state key research and development projects”

The “*Research on the Mechanism of Causing Major Disasters in Metal and Non-metal mines and Prevention & Control Technologies*” led by Ansteel Mining was selected into “2016 state key research and development projects”. The project will greatly improve energy saving and emission reduction as well as safe and highly-efficient mining in mines, innovate theories and technologies in major scientific issues including mineral resources, ecological environment and mining disasters, and explore new ways for simultaneously improving safe mining, protecting the mine environment and preventing and controlling disasters.

Intellectual Property Management

Ansteel Group highly values improving the capacity building in creating, applying, protecting and managing intellectual property rights (IPRs), and promotes the standardization and institutionalization of scientific management. In 2016, the number of Ansteel's patents accepted or authorized by the national government kept improving steadily, the number of authorized proprietary technologies remained at a reasonable level and various indicators of Ansteel were all in the leading place in its industry. The number of accepted patents of Anshan Iron and Steel was 647, and the number of its authorized patents was 410.

Ansteel Group won **13** gold awards, **19** silver awards and **18** bronze awards on the Ninth International Exhibition of Inventions.



Promoting Informatized Development

Ansteel Group continuously promotes informatization, facilitates the integration of business operation and informatization, and keeps improving the level of informatization application and management. To support its strategic development goal during the 13th Five-Year Plan period and meet demands of various departments and subsidiaries in informatization supplication, Ansteel Group formulated the *Strategic Plan of Informatization Development of Ansteel Group Company During the 13th Five-Year Plan Period* and formulated *2017-2019 Ansteel Group Rolling Plan in Informatization* in 2016.



Conducting basic resource project construction, consolidating the foundation of informatization service



Promoting informatization project implementation, improving integrated business management and control service



Strengthening safety standard management, enhancing information system protection



Enhancing basic operation and maintenance management, elevating system service protection capability



Conducting informatization evaluation, guiding system functions for improvement

Ansteel Group's measures of informatization promotion

Case

Ushering in the new era of "mobile office"

In the era of Mobile Internet, "Ansteel Group mobile office platform" builds a unified enterprise-level mobile application portal which has multiple functions including official document processing, mailbox, instant messaging and collaborative office. Through "official document management" and "notification management", users can send, receive or process official documents, and finish various processing work including examining and approving, asking for instructions and reporting. The mobile office platform enables Ansteel staff members to use their carry-on mobile devices to conveniently handle daily work at anytime, anywhere, which greatly improves internal communication and collaboration efficiency in Ansteel Group.



"Ansteel Group mobile office platform"

Case



Jwell56.com was selected into 2017 China's Top 100 Commodity E-commerce Enterprises

On the second National Commodity E-commerce Forum held in Beijing, Pansteel's Jwell56.com ranked 27th among 2017 China's Top 100 Commodity E-commerce Enterprises, and 6th among enlisted iron and steel e-commerce enterprises. Jwell56.com is a successful example of Pansteel's transformation from manufacturing to service providing. It connects all services in the industrial chain including the supply side, producer and terminal users. It is an important "wing" of Pansteel's strategic plan of "one body with two wings". After about two years of development, Jwell56.com has become the largest iron and steel e-commerce enterprise in southwestern China. It is one of the first batch of pilot enterprises of "truck broker", and has the largest comprehensive industrial park in southwestern China. It is one of the first-class vanadium-titanium cross-border e-commerce enterprises in China, and is also renowned in the world.



Note: "One body with two wings" strategy refers to "restructuring the traditional industry and making it the main body" (one body) and "developing the Internet of Things and modern finance at the same time" (two wings).

Case



Jointly building "smart city"

On June 23, 2016, Ansteel Group signed a strategic cooperation framework agreement with Anshan municipal government on building "smart city", and will jointly build a model city which deeply integrates smart city and smart manufacturing. The two parties will establish wide cooperation in big data, cloud computing, innovation and entrepreneurship services and smart city construction and operation. With the construction and operation of big data and cloud computing centers, it promotes the profound integration of the Internet plus and big data with traditional industries, and solves problems in investment, operation and sharing of smart cities.



Ansteel Group was Signing a Strategic Cooperation Framework Agreement with Anshan Municipal Government on Building "Smart Cities"

02



Building the Honest and Excellent Ansteel

Background of sustainable development

Conducting operations with integrity is the cornerstone of the survival and development of enterprises, the trump card and intangible asset for corporations to participate in the market competition, and a new form of capital in their operation in the market. In production and operation, enterprises must fulfill their promises in their contracts to build a good credit and a healthy corporate image, provide quality services and products for customers, and conduct management activities for sustainable development.

Measures of sustainable development

Ansteel regards operating in accordance with laws and regulations as the bottom line, and sticks to the operating philosophy of “providing customers with high-quality products and realizing win-win outcome through adhering to integrity”. It follows the principle of operating with honesty and integrity and in accordance with the law, and fulfills contracts in a faithful manner. It strengthens auditing supervision and management and carries out anti-corruption work with great strength in order to protect the legitimate rights and interests of shareholders to the greatest extent. Ansteel also strengthens quality management by providing quality products and services to customers so as to improve customer satisfaction and create incremental value for them. In addition, Ansteel group establishes long-term cooperation with suppliers and industry partners to jointly promote sustainable development of the industrial chain, facilitate industrial progress and seek common development and win-win results.



Sustainable development performance

In 2016, “Ansteel corrosion-resisting steel for freight wagons” Won 2016 Annual Chinese Steel Industry Products’ Market Development and Exploration Award.

3 achievements of Ansteel Group Won the 18th National Outstanding Patent Award.

Ansteel led or participated in the formulation and revision of **5** international standards.

33 national and industrial standards.

Ansteel’s rate of electronic invitation to tender and submission of tender reached **100%**.

The customer satisfaction rate of Ansteel Co. Ltd. was **92.43%**, and that of Pansteel was **89.32%**.





Operating Abiding by Laws and Integrity

Following the principle of governing the enterprise according to laws, Ansteel strictly abides by international and national laws and regulations, conducts operation with honesty and integrity, sticks to business ethics and opposes unfair competition. It strengthens auditing supervision and efficiency monitoring, and promotes anti-corruption work so as to ensure its sound and stable development. Hence, for 15 consecutive years, Ansteel Iron and Steel has been honored as business enterprise of national "Observing Contract and Valuing Credit".



Compliance Management

Ansteel Group released the *Implementation Measures of "Three Important and One Big" Decision-making Mechanism and Management Method of Risk Assessment and Compliance Review of Major Events*, so as to improve the legality review mechanism for major decisions, strengthen the legal guarantee of major reform events and promote corporate system reform and mixed ownership in an orderly manner in accordance with laws and regulations.

Ansteel rigorously follows international rules and China's relevant laws and regulations when developing overseas business. In major projects such as the Belt and Road Initiative and international capacity cooperation and in overseas operations, Ansteel strengthens the management of compliance and rigorously abides by the requirements of compliance such as anti-monopoly, anti-unfair competition and anti-business bribery. Hence, we have never been punished for violating rules.

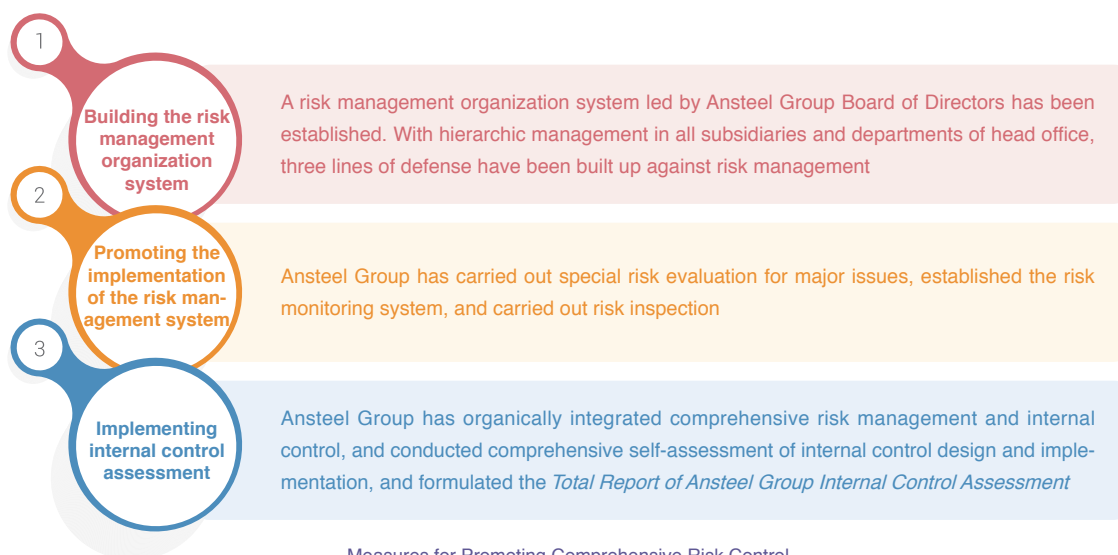
Strengthening Auditing and Supervision

Ansteel learns from problems and sets the goals of promoting reform, controlling risks and creating profits. It conducts its operation and fulfills its auditing duty in a targeted and creative manner, which improves the level of internal control. In 2016, Ansteel Group further strengthened internal auditing. It completed 216 auditing projects and proposed 646

recommendations, which increased revenue and reduced expenditure of a total of 560 million RMB. Ansteel also further strengthened rectification of auditing problems, urged the audited units to improve 11 systems, and punished 56 responsible staff members. It has achieved a remarkable result in rectification.

Comprehensive Risk Control

Ansteel Group sets up and improves the risk management organization system, formulates risk management strategies and risk-solving plans, and strengthens risk supervision and warning so as to incorporate risk prevention and control into the decision-making process of major events. No major risk event happened in Ansteel Group during the whole year.



Measures for Promoting Comprehensive Risk Control

Anti-corruption

Ansteel Group strictly governs itself and its CPC committee in every respect, unswervingly follows the Eight Rules of Political Bureau of the Central Committee and effectively uses “the four norms in Party building” to strengthen super-

vision, execution and accountability, continuously improves supervision and management system, establishes a long-term anti-corruption mechanism and provides strong guarantee for its sustainable and healthy development.

Building the anti-corruption and clean governance institution

Ansteel Group has established 34 institutions of Party work style clean governance such as the Regulations on *Ansteel Group Administrative Disciplinary Action (Trial Version)* and the *Temporary Regulations on Party Disciplinary Action*. An improved anti-corruption and clean governance system has been formed

Implementing the spirits of Eight Rules of Political Bureau of the Central Committee

At important time nodes, Ansteel Group has duly proposed special reminders and requirements for clean governance during festivals, urged leaders and management personnel who are Party members to strictly abide by regulations on clean governance and self-discipline, and severely investigated and punished the misconducts that violate the spirits of Eight Rules of Political Bureau of the Central Committee

Curbing commercial bribery

Ansteel Group has held meetings of anti-corruption awareness education and discipline inspection and rectification, and promoted the normalization of anti-corruption awareness and Party discipline education; compiled the *Selections of Clean Governance Risk Control Cases in Engineering Construction* and the *Selections of Marketing System Cases*, and widely conducted anti-corruption awareness education; duly compiled and disseminated the collection of special learning materials and typical model cases

Improving Customer Service

Sticking to the philosophy of “customer-centered and demand-oriented”, Ansteel Group strengthens the quality management system and improves products and services marketing, so as to meet the demand of customers, improve the quality of both products and services, and provide customers with quality products and services.



Strengthening Quality Management

Ansteel Group has established and kept improving the quality management system with full coverage. It tackles quality problems, improves product quality as well as customers' satisfaction and loyalty. In 2016, “Hot-rolled wide strip used in oil and gas transmission pipelines of Xichang Steel and Vanadium

Company” and 17 other products were authorized as famous-brand products in the province. “Bayuquan hot-rolled wide and thick sheet made of structural steel used in bridge building” and seven other steel and iron products won the “Golden Cup Award” for metallurgical products physical quality.

In 2016, in Pansteel,

4

QC teams won “National Outstanding”

2

Teams won “National Credible”

36

Groups won “Provincial (Industrial) Outstanding Award”

40

Teams won “Provincial (Industrial) Credible Teams”

28

Famous brands passed provincial review

Anshan Iron and Steel enhanced the construction of quality management system by:

- Implementing the spirit of Conference on Product Quality held on China's Consumer Rights Day (March 15) and consolidating the foundation of quality management
- Improving the quality management system to ensure that the quality formation process is under control
- Facilitating the tackling of quality problems and improving the quality of products
- Improving two rates of blanks and encouraging technological innovation projects so as to significantly improve the quality
- Improving product packaging to improve the image of Ansteel products

Pansteel enhanced the construction of quality management system by:

- Continuously promoting and improving the construction of the quality and safety responsibility system, quality measurement and laboratory management system, quality index control system, quality index benchmarking system and quality evaluation system
- Conducting the “Quality Month” activity themed as “Quality Innovation and Excellence Pursuing”
- Vigorously promoting Lean Six Sigma management to improve basic management level
- Actively organizing and promoting the certification of the intellectual property right system to ensure work is advanced in an orderly manner
- Deepening and improving supply-side quality extension service

Case

“Made in Ansteel” prevailed in the market for its high quality

Focusing on the two keywords of “market” and “product”, Ansteel Co. Ltd innovated its quality management evaluation system, issued “Nine Evaluation Guidelines”, fixed loopholes in quality management and keeps improving the market competitiveness and profit-making ability of “Made in Ansteel”.

- Improving the system of quality index evaluation
- Setting up product internal control evaluation standards
- Evaluating major quality problem solving projects
- Evaluating quality visual billboard management
- Evaluating craft spot inspection and equipment listing
- Evaluating original variety yield of orders
- Evaluating quality management and supervision
- Evaluating amendments in regulations of craft technologies
- Evaluating quality management system training

Providing Premium and Innovative Products

In 2016, Ansteel Group developed many new representative products to promote national economic and social development:

- China’s first enterprise in manufacturing crack-arresting steel used in large container vessels with the maximum thickness of 90 mm which push ship-building industry towards more high-end manufacturing areas
- Self-developed steel used in bogies for standard EMUs passed the test of running 600 thousand km with no malfunction, which successfully broke down the monopoly of foreign countries
- Ansteel Co. Ltd is China’s only qualified supplier of F-class ultra-high-strength TMCP offshore platform steel used in the world’s most advanced semi-submersible super-deepwater drilling platform
- The new generation special steel material developed by Pansteel Jiangyou Changcheng Special Steel Co., Ltd. (Pansteel Changcheng Special Steel) was successfully applied in China’s “Long March 5” launch vehicle and “Shenzhou 11” spacecraft
- Ansteel Information Industry Corporation Ltd overcame difficulties in developing technologies to control hot-rolled sheet coiling machine. The outfit and technology of color-coated steel sheet for exporting to Europe have been put into production.



In addition, “core technology development and industrial application of cold-rolled electrical steel edge-drop control” and other 9 achievements won Metallurgical Science and Technology Award; “Ansteel’s corrosion resisting steel for freight wagons” won 2016 Annual Chinese Steel Industry Products’ Market Development and Exploration Award. Three achievements of the group including “High strength cold-rolled and hot galvanized dual phase steel sheet and the manufacturing method” won the 18th National Outstanding Patent Award, ranking 1st in the steel industry. In total, 30 achievements won provincial-level Science and Technology Progress Awards.

Improving Customer Satisfaction

As a customer-oriented enterprise, Ansteel Group continuously strengthens its customer management and communication. It promotes customer service experience by meeting customers’ personalized needs in variety and quality, and continuously improves the quality of product packaging. The Group also strengthens and consolidates customer complaint management system so as to follow and verify their complaints in a timely manner, improve clients’ satisfaction and build new-type cooperation with customers featuring honest cooperation, mutual benefits and win-win result.

Ansteel Group has set up a strict confidentiality system which effectively protects customers’ information by applying restrictions on customers’ administration authority and prohibiting the sales management system from being connected to the Internet. In 2016, no customer confidential information was leaked.

In 2016,

The customer satisfaction rate of Ansteel Co. Ltd. was **92.43%**

The customer satisfaction rate of Pansteel was **89.32%**



Building the Responsible Supply Chain

Ansteel Group highly values responsibility supply chain management, establishes and improves the procurement management mechanism, and follows the management principles of “strict admission, proper quantity, classification and grading, dynamic evaluation, survival of the fittest” in order to continuously improve suppliers’ awareness and capability in fulfilling their responsibilities, sets up a sustainable supply chain, and achieves common development with suppliers.

Supplier Management

Ansteel Group has improved the procurement management mechanism by including social responsibility clauses into the suppliers’ admission conditions and strengthening suppliers’ admission review. The Group also specified requirements of suppliers’ requirements in law and regulation compliance, environmental protection, protection of workers’ rights and interests, and honest operation. In addition, regular evaluations and assessments were conducted in the aforementioned aspects. In 2016, Ansteel’s responsible procurement ratio reached 100%.

By establishing rigid review procedure of supplier admission, Anshan Iron and Steel enlisted suppliers with legitimate business qualifications and the corresponding capacity into qualified suppliers. It also carries out dynamic management of qualified suppliers to ensure the suppliers’ sustain-

able capacity of honoring contracts. In addition, Anshan Iron and Steel has set up an annual assessment mechanism of suppliers in order to optimize the supplier team, and ensure and improve the overall quality of the Group.

When selecting suppliers, Pansteel requires suppliers to have good business reputation and performance and no law-violation record in last three years. It also urges suppliers to protect rights and interests of employees, conduct follow-up investigation of workers’ wage payment, and prohibit delayed wage payments. It puts importance on dynamic supervision and management of suppliers. Suppliers will be forced to quit the project when supplier violations are detected, such as law-violation, serious breach of the contract, and serious dishonesty acts.

Transparent Procurement System

Aiming at establishing a “transparent, cost-saving, safe and efficient” procurement system, Ansteel Group has set up a unified bidding platform which separates bidding from procurement. It strictly implements unified bidding management by strictly following national laws and regulations as well as *Regulations on Ansteel Group Procurement Management, Regulations*

on Ansteel Group Bidding Management and other procurement management systems formulated by its subsidiaries. In 2016, Ansteel Group’s rate of electronic invitation to tender and submission of tender reached 100%, and public bidding rate 73.05%. Thanks to highly centralized procurement information, the procurement process became open and transparent.

Promoting Strategic Cooperation

Ansteel Group actively builds a strategic cooperation platform to deepen strategic cooperation with the government, enterprises, financial institutions and scientific research institutions and other stakeholders. It also continuously improves cooperation level, expand cooperation fields so as to build comprehensive partnership and achieve common development of the enterprise and the society.

	Cooperation Content and Significance	Cases of Cooperation
Government-enterprise cooperation	To make full use of local resources and talents to develop programmes with the government and jointly promote regional economic, social and environmental development	Signed the 13th Five-Year Plan strategic cooperation contract with Guangdong Province. The two sides will explore flexible and effective cooperation and implementation approaches, conduct “three-dimensional cooperation” that is all-around, multi-faceted and multi-method, and promote the cooperation between the enterprise and the local government; Ansteel Group signed a strategic cooperation framework agreement with Anshan Municipal Government on building “smart city” and will jointly build a model city which deeply integrates smart city and intelligent smart manufacturing
Enterprise-enterprise cooperation	To form a strong cross-industry union to bring complementary advantages in scientific application, engineering projects, environmental protection, clean energy and industrial development fields	Established cooperation with China Petroleum & Chemical Corporation, COFCO Corporation, China Resources Power Holdings Co., Ltd. Chongqing Port Logistics Group Co., Ltd. and Pearl River Delta Inter-city Rail Transit Co., Ltd
International cooperation	To expand and deepen technological exchanges and cooperation in steel and mine industries to complement each other and improve competitiveness	Signed a MoU with Pratt & Whitney to build a full-cycle cooperation partnership





Promoting Progress of the Industry

Ansteel Group actively promotes external exchanges and cooperation, expands development space and vigorously uses its professional advantages to promote healthy progress of the industry.

Promoting Standardization Work

Ansteel Group actively promotes standardization work at international, national and industrial level so as to ensure its technology meet the international and national standards and contribute to the development of the steel industry. In 2016, Ansteel Group chaired and participated in the for-

mulation or revision of 5 international standards and 33 national and industrial standards, among which the revised international standard ISO5003—*Symmetrical Flat Rail of 43kg and Above* led by Pansteel was officially issued and put into practice.

Anshan Iron and Steel Standardization Work

- Led amending of ISO4978 international standards of *Flat Steel for Welded Gas Cylinder Steel* and participated in the amendment of two international standards
- Completed the amendment of 13 national standards including *Wire Rod for Steel Cord*
- Completed the work on review, amendment, version upgrade or abolition of 256 company standards
- Formulated or amended 165 company standards including *Hot-rolled Steel Plates (Sheets) and Strips for Automobile Frames*, instructions for 34 foreign standards, and 36 technical reports of standards comparison

Ansteel Group Standardization Work

- Led amending and releasing one international standard, and participated in the amendment of one international standard
- Pangang Changcheng Special Steel compiled, amended and released GB/T15260-2016 *Nickel-based Alloys-Determination of Resistance to Intergranular Corrosion*. Pangang Steel and Vanadium and Research Institute carried out the work as scheduled on amendment of 11 national standards released by the Standardization Administration of the P.R.C
- Pangang Steel and Vanadium completed industrial standards approval and release; Pangang Steel and Vanadium and Research Institute carried out work as scheduled on the formulation of 9 industrial standards which are required by the Ministry of Industry and Information Technology

External Communication and Cooperation

Ansteel Group actively participates in international standardization conferences and academic symposiums, and has established cooperation with international peer enterprises and international agencies, with an aim of improving the influence of Chinese enterprises and Chinese standards in the international steel market. Through bilateral and multilateral communications, Ansteel learns new trends of the

steel industry in a timely manner, provides valuable foreign exchange and learning opportunities for technological R&D teams, and improves its international operation capacity. In 2016, Ansteel attended 12 meetings including the Ninth International Steel Conference, the 50th Annual Meeting of the World Iron and Steel Association and the International Conference on Standardization and so on.

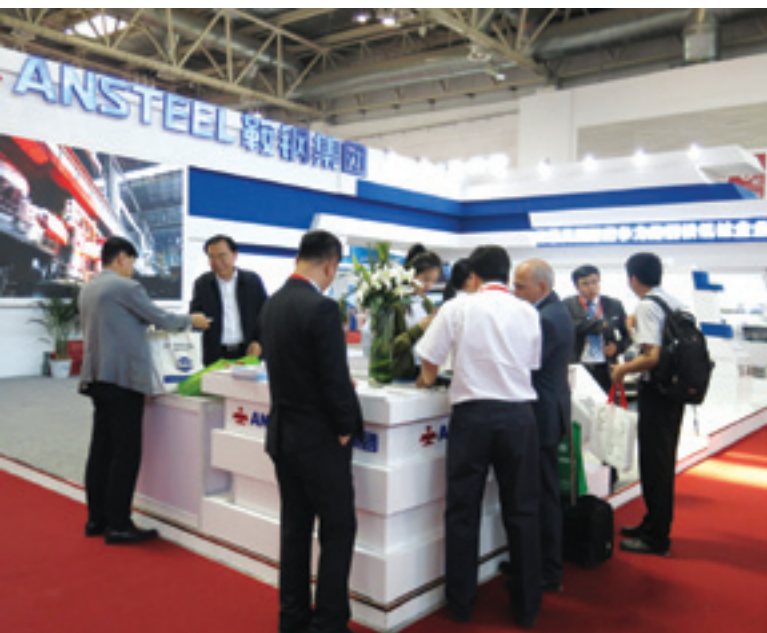


Ansteel Group keeps exchanges with Korea Automotive Technology Institute, and strengthens communication with the institute in new technologies, techniques and development trends of automotive steel

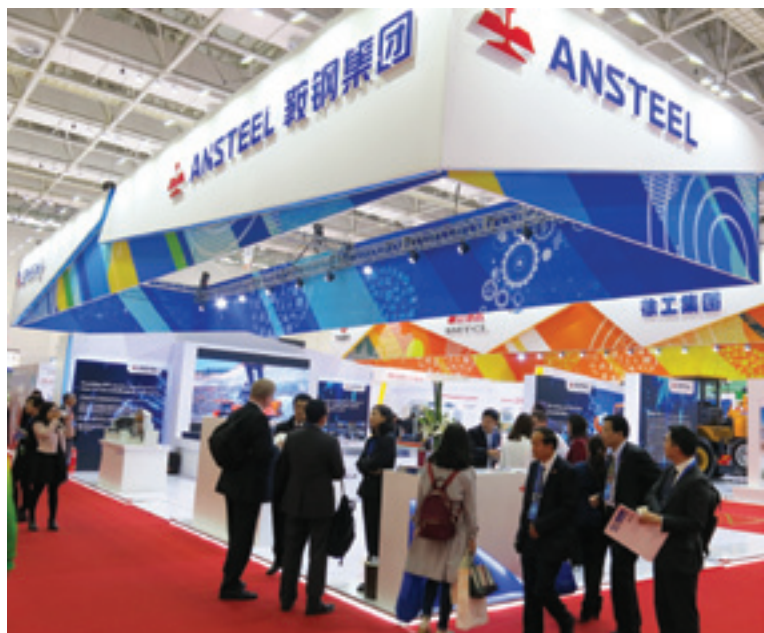


Ansteel Group keeps long-term technological communication with German Association of the Automotive Industry and American Automobile Manufacturers Association, and holds teleconference or video conference with them every two or three months to discuss the development of automotive steel

Participating in Industrial Communication



Took part in Metallurgy Industry Expo 2016 China



Took part in 2016 China-LAC Industry Cooperation exhibition

03



Building the Green and Environmental Friendly Ansteel

Background of sustainable development

Climate change, environmental pollution and ecological degradation are common challenges faced by human society. The Chinese government has upgraded the construction of ecological civilization into a national strategy and incorporated it into the overall layout of the “five in one” of socialism with Chinese characteristics. The Chinese government made arrangements for speeding up the construction of ecological civilization system and for improving the legal system of ecological civilization. Green transformation is an inevitable choice for sustainable development of the steel industry and cleaner production is the inevitable demand for coexistence of steel mills and cities. The governance of iron and steel enterprises should continue to be strengthened. It is necessary to solve realistic problems and pay attention to the long-term development. The enterprise’s capacity of environmental protection should be enhanced in order to create favorable conditions for corporate sustainability.

Measures of sustainable development

Over the years, Ansteel Group has attached great importance to ecological protection. Ansteel has always fulfilled the social responsibility of a SOE and took environmental protection as a work vital to the survival and development of the enterprise. Environmental management was strengthened, the new *environmental protection law* and new environmental standards of steel industry were strictly followed, and the concept of environmental protection was integrated into the whole production and operation process. Adhering to green manufacturing, have built a green Ansteel and achieved the synchronized and coordinated development of production management and environmental protection.



Sustainable development performance

The main production process of Anshan Iron and Steel adopted advanced cleaner production technology and equipment from home and abroad, with industry-leading environmental protection facilities.

Ansteel was therefore awarded as “excellent energy saving excellent enterprise” by SASAC State Council.

In 2016, Ansteel completed the annual targets of China’s energy saving and emission reduction with good performance in major indicators.







Intensifying Environmental Management

Seizing the opportunity of building of a resource-saving and environmentally-friendly iron and steel enterprise, Ansteel regarded green development as a new evaluation standard and focused on energy saving and emission reduction accountability, continually improving management and environmental protection systems to promote the construction of ecological civilization.

Building the environment management system

Ansteel Group attaches importance to improving the environmental protection system, setting up Division of Safety and Environmental Protection in headquarters and Department of Environmental Protection and Energy Saving in subdivisions. Energy saving and environmental protection work were integrated into the group's strategic performance and remuneration evaluation and assessment system. Secondary energy recycling and process supervision were strengthened, renovation and upgrade standards were elevated, and management standards were reached. In this way, Ansteel ensured the implementation of all energy saving and emission reduction work.

Anshan Iron and Steel established an environmental management system and integrated environmental management platform, promoted the circular economy and cleaner production, and adopted pollution-free and less-polluting new process and technology, so as to control pollution through origin treatment and management. Pansteel established safety and environmental management department and committee group. Subsidiaries, factories and mines all established energy saving and environmental protection management agencies. An effective top-down energy saving and environmental protection system was formed in order to promote the optimization of energy saving technologies and the implementation of technological transformation projects.

Enhancing environmental training

Ansteel provides the staff with diversified training opportunities and educational platforms. Through the combination of both external and internal trainings, Ansteel carried out

education and training of laws and regulations, standards, technologies, management about energy saving and emission reduction.

Case

Pansteel actively carried out environmental training

In 2016, Pansteel invested 100 thousand RMB in environmental training. Pansteel sent 156 employees, in three batches, to attend special trainings of radiation safety and protection, hazardous waste inspection, assessment and supervision organized by municipal Environmental Protection Bureau. Meanwhile, Pansteel organized 240 employees to attend several internal trainings about new environmental protection standards and management systems.



Energy Saving and Emission Reduction Experience Communication Meeting in Pansteel

Green Office

Ansteel takes a variety of ways to improve employees' awareness of environmental protection, vigorously promote green office and put the concept of "green development" into practice.



- The minimum temperature of air conditioner in summer is 26 Celsius degree and maximum in winter is 20 Celsius degree; it is suggested that opening air conditioner one hour later and closing it one hour early during working time; people should pull off electricity system after work
- Natural lights are used in office room and meeting room; lights should be turned off when rooms are empty
- Office automation equipment standby time should be reduced
- High power consumption appliances are prohibited



- The usage of water-conserving equipment is promoted
- Daily inspection and maintenance management of water pipe network and equipment should be strengthened
- The flow of each valve and faucet should be controlled
- It is encouraged to save green belt sprinkling and promote water reuse



- Ansteel strengthened daily management, inspection, maintenance, insurance, retirement, update and energy management of corporate' cars
- Carpooling should be used as much as possible; staffs should reasonably choose routes so that several stations are contained in one route and several businesses can be completed in one station



Cold-rolled Recycling Water Pumps of Pansteel Group Steel Vanadium & Titanium Co., Ltd.



Pansteel Group Xichang Steel & Vanadium Co., Ltd. Awarded as Environmentally-friendly Enterprise for Cleaner Production in 2016



Landscape Slopes of Pansteel Group Xichang Steel & Vanadium Co., Ltd.



Keeping the Sky Blue and Clean

Ansteel comprehensively implements the *Air Pollution Prevention and Control Action Plan*. Based on eight new standards of steel industry and the reduction requirements of China's 12th Five-Year Plan, Ansteel has formulated the *Implementation Plan of Blue Sky Project since 2013*.

Reducing Emission of Greenhous Gases

Ansteel reduced greenhouse gas emission in an orderly manner and actively carried out carbon dioxide emissions verification work. Effective energy management measures were adopted in order to save cost, improve economic efficiency and achieve emission reduction targets at the same time.

Anshan Iron and Steel strengthened the management on carbon dioxide emission, with emission condition checked

by a third-party verification agency. Pansteel completed the declaration of the list of carbon trading enterprises and carbon emission benchmark and helped the third-party verification agencies to carry out on-the-spot verification in Panzhihua Iron and Steel Company Limited, Pansteel Group Xichang Steel & Vanadium Co., Ltd. and Pansteel Group Jiangyou Changcheng Special Steel Co.,Ltd. etc. from 2013 to 2015.



Pansteel TRT Waste Heat Power Generation



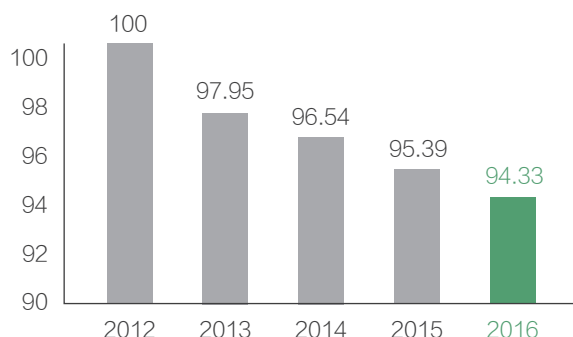
LED Energy-saving Lamps Installed in Resource Utilization Center of Pansteel Group Steel Vanadium & Titanium Co., Ltd.

Energy Saving and Emission Reduction

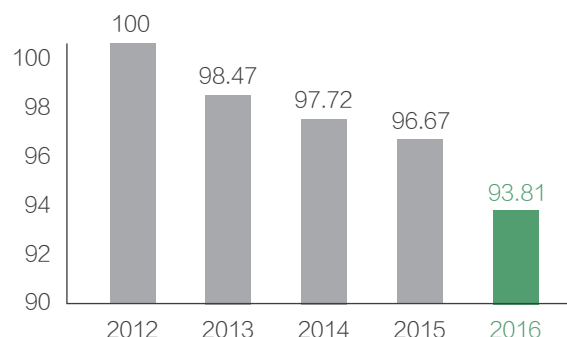
In 2015, Anshan Iron and Steel actively carried out energy saving and emission reduction work, accomplishing environmental protection and renovated sintering machine tails and reconstruct limekilns in Anshan headquarters and Ansteel Group Chaoyang Iron & Steel Co., Ltd. , greatly reducing the smoke dust emissions. Pansteel accelerated the implementa-

tion of energy saving and emission reduction projects implementing 23 energy saving and emission reduction programs. Through measures like engineering, emission reduction management, technology improvement and environmental equipment classification, Pansteel continually improved environmental indicators.

Rangeability of Anshan Iron and Steel Comprehensive Energy Consumption Per Ton of Steel (%) (Compared with the Year of 2012)



Rangeability of Pansteel Comprehensive Energy Consumption Per Ton of Steel (%) (Compared with the Year of 2012)



Case



Pansteel promoted the application of advanced technology and equipments

In 2016, Pansteel replaced steam pumps with mechanical pumps and promoted the application of green lighting, energy-saving motors (fans, pumps) and regenerative heating technologies and equipment. In 2016, the total power of completed and ongoing green lighting renovation projects reached five million kWh, saving one million kWh per year. Ansteel put into operation four regenerative reheating furnaces, 27 renovated energy-saving water pumps and three energy-saving fans, saving 1,760 tons of standard coal, 31.26 million kWh and 9.2 million kWh respectively.

Case



The CCPP unit of Anshan Iron and Steel Second Power Plant was operated with a lower heating value

In December 2016, Anshan Iron and Steel Second Power Plant made huge breakthrough in the innovation work of the CCPP unit burning blast furnace gas with a lower heating value. In order to achieve this goal, Ansteel Second Power Plant revamped the logic, reduced the gas calorific value setting, regulated the switches of multiple valves, changed the proportion of the gas into the furnace and reduced the consumption of coke oven gas. Under the premise of guaranteeing the load, a total of 150 kJ was saved per cubic meter in the unit and more than 20 million RMB was saved every year. This method has been authorized with the National Invention Patent.



The CCPP Unit of Anshan Iron and Steel Second Power Plant

Conservation and Utilization of Resources

Ansteel treats the development of circular economy and the promotion of energy saving and emission reduction as an effective way and primary measure of fulfilling social responsibility and becoming a better, bigger and stronger company. Ansteel accelerated the pace of enterprise transformation and upgrade, improved the efficiency of resource utility and actively built the brand of “Green Steel”.

Cleaner production

Ansteel achieved sustainable development in ways of promoting cleaner production and circular economy, reducing pollutant emission and building resource-conservation and environmentally-friendly steel enterprises. In 2016, Ansteel fully met discharge standards after renovating the industrial wastewater treatment and recycling system.

Anshan Iron and Steel organized the inspection work of cleaner production of Ansteel Steelmaking General Factory, Large-scale Plant and Seamless Steel Pipe Plant and the other three subdivisions. The report has been completed and submitted to relevant government departments for review.

Pansteel Vanadium Co., Ltd. optimized the desulfurization process of ionic liquid and reduced the cost of desulphurization. Pansteel Xichang Steel and Vanadium Co., Ltd. was honored as “cleaner-production and environment-friendly enterprise” by China Iron and Steel Industry Association.

Ansteel Mining invested nearly 100 million RMB in upgrade and renovation of ore belt, crushing and other parts of dust removal system and the spray project of desulfurization of east-burning boiler and ore belt drainage, meeting the discharge standards of pollutants.

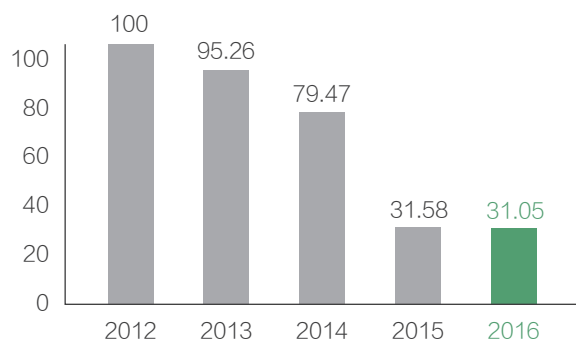


Fume Desulfurization for Boilers of East Anshan Sintering Plant

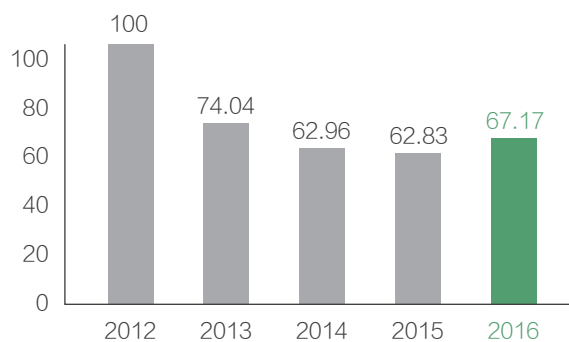


Water Removing Dust of the Crushing Station

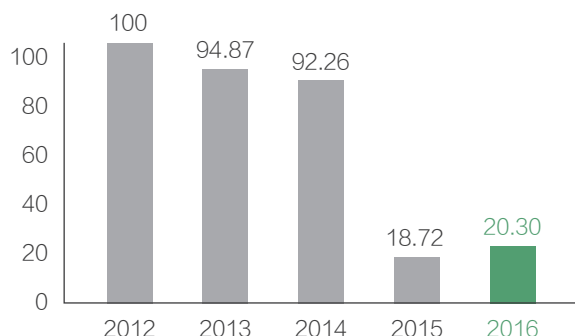
Rangeability of Anshan Iron and Steel Waste Water Emissions Per Ton of Steel (%) (Compared with the Year of 2012)



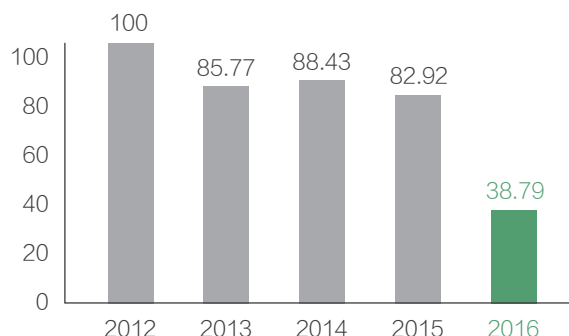
Rangeability of Pansteel Waste Water Emissions Per Ton of Steel (%) (Compared with the Year of 2012)



Rangeability of Anshan Iron and Steel COD Emission (%) (Compared with the Year of 2012)



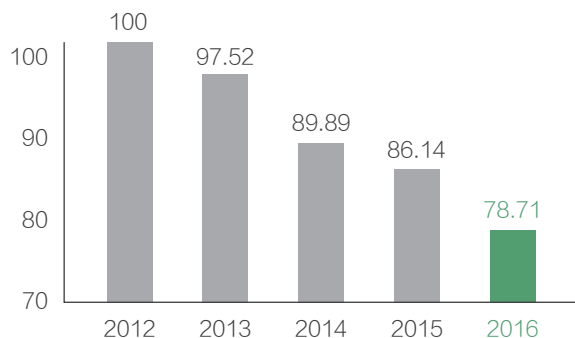
Rangeability of Pansteel COD Emission (%) (Compared with the Year of 2012)



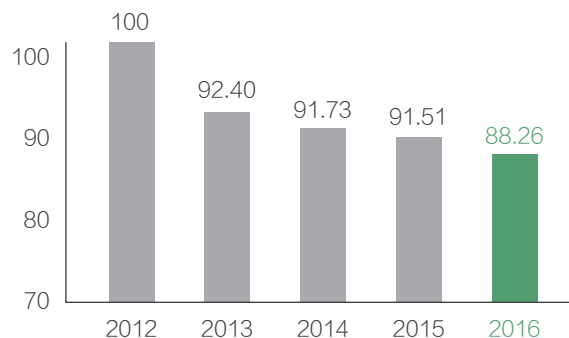
Improving Utilization Efficiency of Water Resources

Ansteel promoted water conservation and emission reduction and improved the long-term mechanism of water conservation. Comprehensive improvement was made in the new water system operation and water-saving technology was promoted. Ansteel continuously increased the rate of industrial wastewater discharge up to standard.

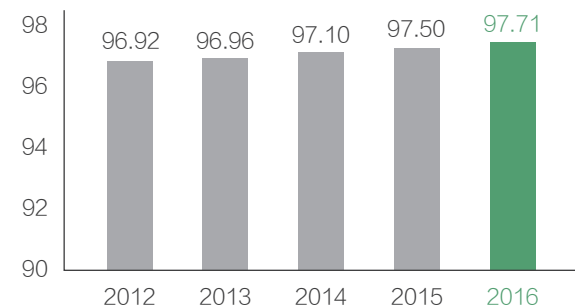
Rangeability of Anshan Iron and Steel New Water Consumption Per Ton of Steel (%) (Compared with the Year of 2012)



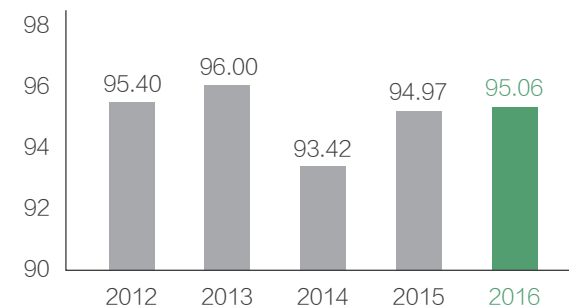
Rangeability of Pansteel New Water Consumption Per Ton of Steel (%) (Compared with the Year of 2012)



Anshan Iron and Steel Water Recycling Rate (%)



Pansteel Water Recycling Rate (%)





Water saving measures of Anshan Iron and Steel

- Ansteel increased the reuse water in Xidagou wastewater deep process plants and 1,200 tons of new industrial water was reused per hour
- Ladder pricing was adopted to raise water conservation awareness.
- Ansteel brought in Dahuofang water delivery project and reduced the exploitation quantity of underground water to reduce the loss rate of water.
- Ansteel reduced the pressure of Atmospheric purifying ring system, saving 3,000 tons of circulation amount per hour.
- Ansteel operated the living water and new water system under reduced pressure.
- Ansteel strengthened the control of new water pipes, operated new industrial water in steady pressure and implemented the dynamic management of water system production and operation.
- Ansteel stopped the water supply of non Ansteel users along the water pipes and accomplished the transfer work of groundwater users at Qidashan area, standardizing Ansteel's water management.



Pansteel's water saving measures

- On-site supervision was carried out in strictly prohibiting water waste.
- Ansteel conducted surveys on water utilization system and improved it. Water reuse was strengthened to effectively reduce new water loss.
- Ansteel set up water usage quota and adopted inspection systems such as charging more money on overused water.
- Pansteel Jiangyou Changcheng Special Steel Co., Ltd invested 5.6 million RMB on the transformation projects on the utilization of circulating water facilities for steel rolling in District Four, saving new water annually 6.6 million tons.

Case



Undertaking national project of centralization and optimization of water conservation and pollution reduction technology

In February 2016, the contract of national project of “the centralization, optimization and application of water conservation and pollution reduction of mega-sized iron and Steel Industrial Park by Liao River” was successfully signed, which means that Ansteel's water conservation and pollution reduction technology has won the recognition from experts in this industry. This project was led by Ansteel Group Engineering Development Co., Ltd., with participants from Institute of process engineering, Chinese Academy of Sciences, Shenhua Guoneng Group, Tianjin University and Beijing University of Technology.

Through the implementation of the demonstration project and efficiency evaluation studies of the effective utilization of water resources and low emission, Anshan Iron and Steel created an three-tier (unit, enterprise and industrial park) management system and quantitative evaluation method of the pollution process, further created the demonstration projects of water conservation and pollution reduction and provided technological support to the low cost control of source water pollution in important industrial points of Taizi River Basin.



Iron Ore Tailings are Used to Improve Soda Saline-alkaline Land, Leading to a Good Harvest of Green Rice



The Clear Water and Blue Sky in Mine Areas



Wastewater Recycling and Reclaiming System

Solid Waste Utilization

Ansteel achieved a benign operation of production process in accordance with the production cycle of “Resource—Product—Waste—Renewable Resources—Renewable Products” .

Anshan Iron and Steel has built the gas mud recovery system, the iron carbon ball processing system and the mixing material processing system, achieving the recovery of iron and steel compound materials; Ansteel and Anshan Jidong Cement Co., Ltd. co-constructed cement clinker production line using fly ash and slag and produce 1.4 million tons of cement clinker annually; Anshan Slag Development Company uses the 2.4 million tons/year engineering line imported from Germany to treat steel slag on steel slag processing line, and the slag steel and granule iron are directly used for steelmaking. Blast furnace slags are provided for Anshan Jidong Cement Co., Ltd. and Anshan Slag Development

Company Development Company Development Company and other manufacturers to produce slag cement and slag powder. Blast furnace slag for Anshan Jidong Cement Co., Ltd. and Anshan Slag Development Company and other manufacturers, the production of slag cement and slag powder. The “S95 granulation blast furnace slag powder” produced by Ansteel Slag Development Company won the honor of “Satisfying products of Users in Liaoning Province”. Among over 30 slag powder production plants in Liaoning Province, only Ansteel was awarded this honor.

A Key breakthrough has been made in the process of extracting titanium from blast furnace slag in Pansteel. The whole process of the pilot line has achieved continuous and stable operation. Industrialization conditions are mature and the industrialization standard demonstration line has entered the design stage.



The Largest Domestic Tailings Settling System with a Diameter of 140 Meters



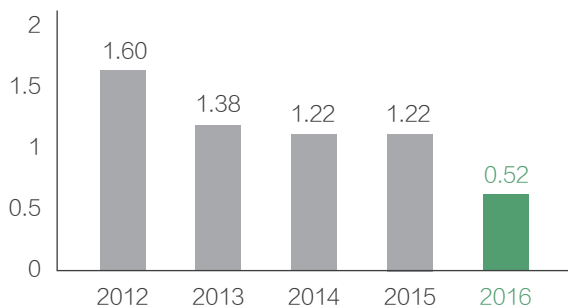
Air Bricks Made from Tailings

Waste Heat Recycling

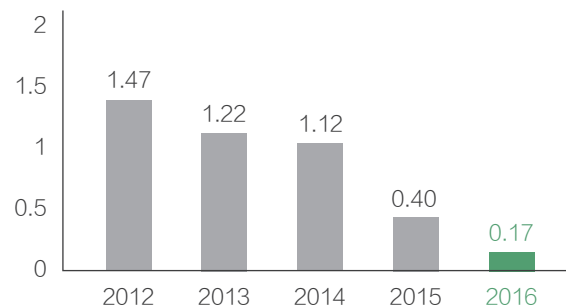
Centering on the general requirement of “more power, zero emission, higher efficiency and higher effectiveness”, Ansteel raised the level of self-generated electricity.

- Strengthening the management of the recycling rate of heat and energy waste, improving the power generation of heat waste and TRT;
- Balancing the gas to ensure the stable operation of the CCPP unit and the gas-fired boiler of second power generation, while avoiding gas emission;
- Enhanced benchmarking against international standards; organizing competitions in recycling heat waste in order to fully upgrade waste heat power generation indicators.

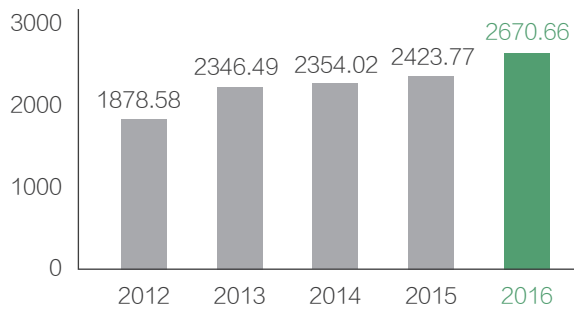
Anshan Iron and Steel Blast Furnace Gas Emission Rate (%)



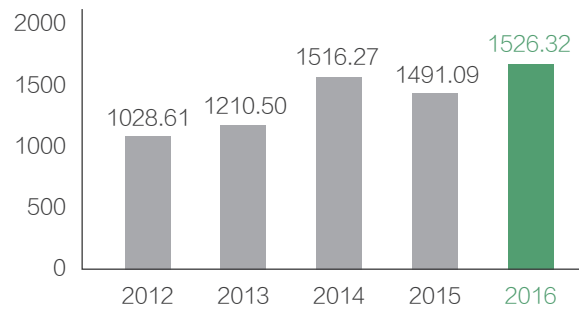
Pansteel Blast Furnace Gas Emission Rate (%)



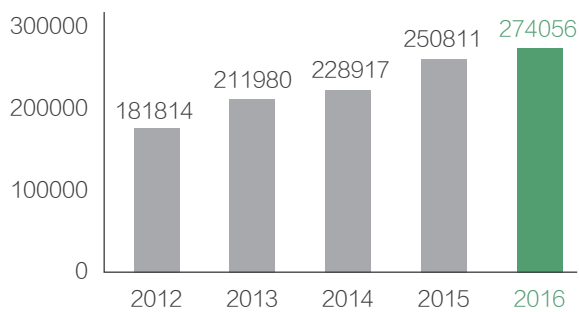
Anshan Iron and Steel Waste Heat Steam Recovery (10,000 GJ)



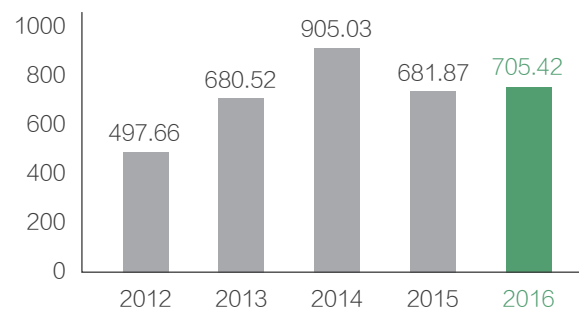
Pansteel Waste Heat Steam Recovery (10,000 GJ)



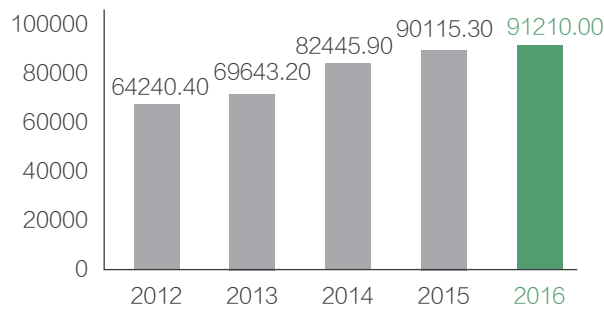
Anshan Iron and Steel Converter Gas Recovery (10,000 m³)



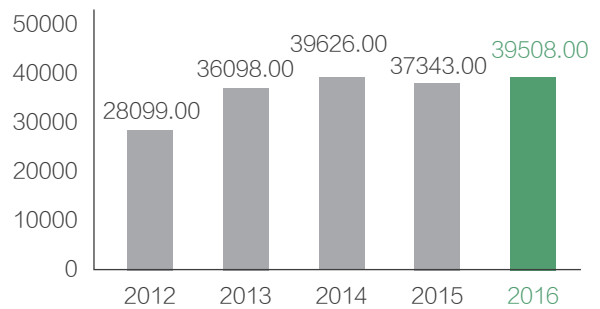
Pansteel Converter Gas Recovery (10,000 m³)



Anshan Iron and Steel TRT Generating Capacity (10,000 kWh)



Pansteel TRT Generating Capacity (10,000 kWh)



Case



Ansteel Sensible heating and releasing of Steel Slag and Recycling Power Generation Technology Project was successfully accepted

In the Zero Discharge of Steel Slag and Recycling Power Generation Technology Project, the outlet temperature of saturated steam reached 170 Celsius degree, the outlet pressure of saturated steam reached 0.7 MPa, and 70 % of the waste heat was recycled when the temperature of molten steel slag dropped from 1,600 Celsius degree to 400 Celsius degree. These results can meet the requirements of industrial power generation and other industrial applications, and they are also conducive to the treatment of steel slag and stuffy slag and the Steel material recycling in the next step. In July 2016, this technology was successfully evaluated, checked and accepted.

Strengthening Ecological Construction

During the process of production and operation, Ansteel launched green projects and tree planting programs to promote the ecological civilization construction of mines and plant areas.



The Panorama of Reclamation Ansteel Mining

Building Ecological Mines

Ansteel actively carried out mine reclamation and biodiversity identification. Native trees that are easy to grow in mine areas are selected. These trees are drought-resistant, adaptive to poor nutrient environment and have high survival rate. They are fertilized on the bottom and planted intensively. In these ways, mine areas have been reclaimed in order to further restore the ecological environment.



Ansteel Mining built Reclamation and Afforestation Base at Abandoned Rock Dump

Case



Mine reclamation

In 2016, Pansteel invested 340 thousand RMB in the reclamation of the 26th and the 27th sub-dam of Midi tailing dam, in a total area of 21,650 m². Pansteel chose adapted plants such as sisal, dense oil branch and dal to reclaim tailing dams. These plants are drought-resistant, adaptive to poor nutrient environment and have high survival rate.

Plant Greening

Ansteel group increased the investment in plant greening, carried out comprehensive environmental improvement work in plant areas and planted trees in the plant areas, so as to improve the overall environmental quality.

Anshan Iron and Steel completed the landscape project of Zhuoxiuyuan, supporting works of cold-rolled and high-strength steel projects and the reclamation of Ershao Road. In total, 33,151 arbors (whose survival rate reaches 99.5%), 27,465 shrubs (survival rate 98%), 139,475 hedgerow strains (survival rate 98%), 21,110 Vines (survival rate of

97%), 72,542 square meters of planted lawn and ground cover plants were planted. In total, 40% of Ansteel plants main area is covered by green plants.

Pansteel improved the dirty and disordered environment in plant areas in order to standardize, clean and beautify the environment. A total of 265 problems have been rectified and six environment improvement programs have been carried out. Companies at every level made full use of open spaces, slopes, and dismantled idle factories and equipment to achieve greening. In 2016, a total of 25,060 trees were planted.

04



Building the Human-Oriented and Happy Ansteel

Background of sustainable development

Employees are the cornerstone of enterprise development. The report of the 18th National Party Congress emphasizes the dominant role of the people and a better protection of the rights and interests of the people, so as to better ensure that the people are the masters of the country; the report also emphasizes the maintenance of social justice, to ensure people's right of equal participation and equal development. Working for the well-being of the staff is an important factor in the sustainable development of enterprises. Enterprises must adopt the human-oriented vision, and should achieve a development by and for its staff, as well as protect the legitimate rights and interests of employees and help employees grow, so that their sustainable development could be enduringly fueled.

Measures of sustainable development

Ansteel attaches great importance to the cultivation of high-quality talents, and takes the construction of talent teams as the guarantee of building Ansteel into the most internationally competitive multinational steel group and achieving the key goal- "enhancing the enterprise's value-creating capability and comprehensive competitiveness". Ansteel has always regarded employees as the most valuable resources and assets, and taken the initiative to protect the legitimate rights and interests of employees as well as their occupational health and safety. The group also builds development platforms for employees, respects and cares for their work and life, and is building a happy Ansteel together with employees.



Sustainable development performance

In 2016, Ansteel Group invested more than **80** million in training and started over **1,000** courses, covering **78,295** employees.

Ansteel invested a total of **570** million RMB in equipment, facilities and environmental safety improvement detected and rectified **31,324** potential accidents.

In 2016, the number of production safety accidents caused by hidden danger decreased by **18%** compared with 2015, and the million working hour injury rate is **0.15**, realizing zero major production safety accident for four consecutive years.



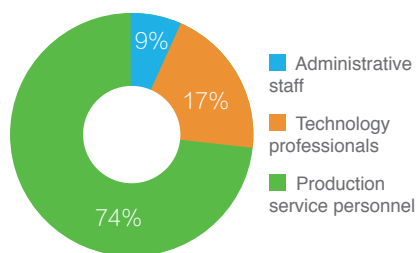




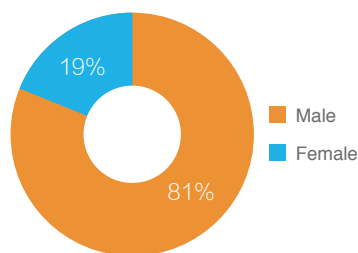
Promoting the Career Development of Employees

Ansteel comprehensively deepens the strategy of strengthening enterprises with talent, perfecting and innovating the mechanism and system of talent-oriented development, and vigorously fostering and attracting high-level talents, so as to lay a foundation for building a high ground of talented people with more competitiveness and innovation vitality and provide a guarantee for realizing the development strategy of Ansteel in the new period. In 2016, Ansteel had a total of 12,712 employees.

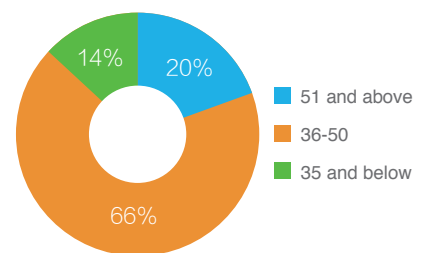
Position Composition of Employees (%)



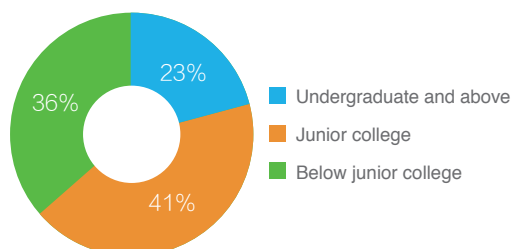
Gender Composition of Employees (%)



Age Composition of Employees (%)



Educational Background Composition of Employees (%)



Among the employees, there were **5,399** management and senior professional technical personnel, accounting for **16.37%** of the number of management positions, and **1,537** senior technicians on production and service positions, **5,484** technicians, and **30,633** senior workers. High-level skilled talents accounted for **40%** of the total number of talents on production and service positions.

Valuing Talent Cultivation

Ansteel revised *Regulations on Ansteel Employees Education and Training Management*, set up a platform for talent development, cultivated special training programs. Employees' quality and skills are improved through training, job exchanging, job evaluation, skill rating, etc.



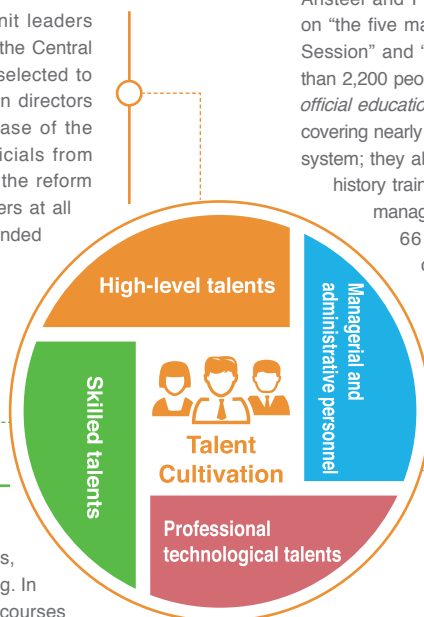
Pansteel skill developing courses for female employees

Four group leaders and 13 second-level unit leaders were selected to participate in the training of the Central Organization Department; 11 leaders were selected to participate in the SASAC training; 30 division directors were selected to participate in the first phase of the Ansteel training courses (including ten officials from Pansteel); advanced classes on deepening the reform of SOEs were held, and more than 450 leaders at all levels and from government departments attended the courses.

Ansteel and Pansteel opened 22 training courses that focus on "the five major development concept of the Eighth Plenary Session" and "Two Studies, One Action", etc., covering more than 2,200 people; they organized specialized courses on *senior official education and training regulations* and the *Party Charter*, covering nearly 600 managerial officials from the human resource system; they also organized two reading classes, and two party history training courses for leaders and officials, training 200 management staff; in the Training Center (Party School), 66 courses were started, including innovation, capacity enhancing, party secretary skill training, discipline inspection and supervision officials quality training, and legal practice, which were participated by more than 11 thousand people.

To enhance the professional skills of talents, Ansteel organized various types of skills training. In the training center, 454 professional training courses that cover ten areas were opened, providing education to nearly ten thousand people. One experienced technician was chosen to take part in the national enterprises high-skilled talents training courses, and one team leader participated in the national enterprises outstanding team leader training courses. Pansteel held the "group leader ability enhancing training course" for eight times, giving training to a total number of 519 people. Pansteel also kept cooperating with universities; it sent 15 electricians and 19 fitters to Tianjin University of Technology and Education to study in a technician training courses for three months.

A total of 41 department officials were selected to study in the legal personnel training class, which is was co-organized by Tsinghua University for the first time (including eight officials from Pansteel), for a 7-month full-time training. Three people were selected to study in high-tech projects and "One Belt One Road" strategy and the international management of iron and steel industry research class that belongs to the national knowledge update project of the China Iron and Steel Association (CISA). One person attended the hot-rolled sheet failure mechanism and quality control technology advanced seminar. Two people attended the enterprise trainer training course. Two people participated in the steel industry equipment inspection management training class.



Case

Ansteel-Tsinghua University forensic talent training courses

From May to December in 2016, Ansteel held a seven-month forensic talent training course at Tsinghua University. During the training period, through the study of civil and commercial law, company law, market economic law and litigation and arbitration procedures related laws and regulations and other professional learning, students' understanding of legal knowledge was substantially improved; through participating in benchmarking business inspection, course-completing examinations, industry high-end forums, and workshops, etc., students further enhanced their capabilities in legal management, compliance management, legal risk prevention and the ability to rule enterprises according to the law; three trainees passed the national judicial examination, and many other students also made remarkable performance; through the training, all students basically met the requirements of corporate legal affairs management.

Case

**Ansteel Information Industry Corporation Ltd. strengthened the training of young employees**

Ansteel Information Industry Corporation Ltd. employee training projects include the Ansteel training project and the company's own training project. In 2016, the company participated in 70 Ansteel training projects and carried out 62 independent training projects. In addition, to accelerate the growth of young technical, the newly recruited college graduates will have a tutor who is responsible for their growth and development, namely, these college graduates and the company's technical experts will sign a student-and-teacher agreement, giving full play to the role of technical experts.



Ansteel Information Industry Company Conducted Business Trainings

Case

**The first steel production simulation training laboratory was established to help improve operational skills**

In July 2016, the first steel production simulation training laboratory of Ansteel was established and put into use in Ansteel Education and Training Center (Party School). The operating system of the laboratory is completely tailored for Ansteel's production sites, and can simulate five modules of production, including furnace ironmaking and converter steelmaking, each module having four major functions—cognition, production process simulation, skill identification, and special condition response. Skill identification and special condition response are two innovative functions that not only changes the current situation where there is only paper tests, but also can simulate fault handling process and related effect, therefore operators' skills can be quickly improved.

Improving Career Development Channels

Ansteel improved the talent management system and the four talent teams featuring "R&D, engineering technology, purchase and sales, and advanced skills". Focusing on adopting a hierarchical manpower system, Ansteel continuously broadened the channel for talent development of all kinds. As of the end of 2016, Ansteel hired a total of 2,116 talents of various types, including two chief R&D experts, five first-level experts and six high skilled technicians of the highest level.

Ansteel focuses on selecting front-line R&D talents, and its talents were ranked as national, provincial leading talents or experts for 19 times. Among them, ten engineering and technical highly skilled talents were provided with the State Council's special government allowance, two were rated as national technical experts, and seven were rated as Liaoning Province's "Hundred, Thousand and Ten Thousand" engineering experts.

Case

**Establishment of the talent incentive mechanism**

Ansteel Group Engineering Development Co., Ltd. speeded up the implementation of talent incentive policies, defined the requirements for selecting talents, and standardized the talent evaluation process to ensure that the selection of talents of all levels goes in order and to improve the multi-channel talent development system.

Promote the implementation of the hierarchical manpower system of engineering and technical talents, strengthen the construction of professional and technical talents, and create a dual promotion channel for managerial and professional technical personnel

Speed up the implementation of the hierarchical manpower system of high-skilled talents and expand the development space of high-skilled talents

Establish and broaden the development channel for purchase and sales employees, expand the development space for sales staff, and mobilize the enthusiasm and creativity of purchase and sales personnel

Cultivating “Craftsmen of the Great Nation”

Ansteel cultivates and builds a bigger employee team with greater skills, and creates the atmosphere that pay respect to technology and talents. With the goal of enhancing employees’ quality, Ansteel focuses on building technical talents’ studio. Now Ansteel has three state-level studios, two provincial level studios, and seven municipal level studios, and 40 technical talents are working in these studios. At the same time, technical competitions among employees are held every year, which actively promote the “craftsmanship spirit” to encourage employees to love their job and keep learning and improving themselves.

In 2016, based on the Guangzhou galvanized line project, the

comprehensive utilization of energy projects in China, Ansteel high-strength steel production line project, and Ansteel 700 thousand tons of slag powder production line project, Ansteel carried out a competition with “project quality, project lasting period, scientific management, safe construction, and harmonious team” as the main content, which allows competition to play an incentive role in the construction of key projects, and produce outstanding workers of various types of work. Engineering surveyors from Ansteel Construction Group Co. Ltd., Ansteel Group Engineering Development Co., Ltd. and Ansteel Mining Construction Co., Ltd. were organized to participate in the SASAC engineering surveying skills competition and the top ten candidates were awarded with honorary titles.

Case



Ansteel Mining held production competitions

Ansteel Mining carried out the “brand-name licensing” production competition and the “team cost limit championship”, layers of decomposition of refined indicators, to achieve optimization of production targets. The company has adopted unconventional means to optimize the dike scheme, reducing the average distance and diesel unit consumption, and the vehicle efficiency increased by 1.25% year on year. East Anshan sintering plant carried out “One promotion and double protection” production competition, and the power of sintering machines reached 457.6 tons per hour. In 2016, 91.27 million RMB was made through dual improvements and savings. The number of ten-thousand RMB profit-making teams reached 299.

Case



Ansteel Group organized the National Iron and Steel Industry Vocational Skills Competition

Ansteel Group organized the “Ansteel Cup” National Iron and Steel Industry Vocational Skills Competition. More than 200 top technicians from 61 state-owned steel and iron enterprises gathered in Ansteel. The competition substantially promoted the team building of skilled talents and motivated employees’ dedication and enthusiasm for technical research, exhibiting the new image of Ansteel featuring reform and innovative development. Ansteel Group organized trainings for eight employees and appointed them to take part in the competition, who totally won four first prizes, two second prizes, and one third prize. Teams of Anshan Iron and Steel and Pansteel respectively won the first prize and the ninth prize.



The Eighth “Ansteel Cup” National Iron and Steel Industry Vocational Skills Competition



The Site of the Skills Competition



Awarding Ceremony



Guaranteeing the Rights and Benefits of Employees

To safeguard the rights and interests of workers, Ansteel pays employees in full and on time and pays pension, medical care, unemployment compensation, employment injury insurance, supplementary medical insurance, supplementary employment injury insurance and housing fund for them. Those subsidiaries that meet such conditions are allowed to establish an enterprise annuity system and provide employees with an annual leave plan. In 2016, the rate of signed contracts reached 100%.

Ansteel established a scientific salary distributing mechanism:

First, for general management, technology, production and service employees, their wage is mainly related with their performance while a variety of forms of distribution co-exist, and this is gradually transiting to the job performance wage system;

Second, for the operator, they receive annual salary. And operators' income is closely linked to the results and performance of their operation;

Third, for the R&D personnel, engineering and technical

personnel, purchase and sales staff, and high-skilled personnel, they enjoy special wage distribution method that is suitable for the characteristics of their position as an incentive to these talents.

On this basis, a long-term incentive for key talents was established, and the salary distribution system of Ansteel was further improved. In 2016, with respect, communication, voluntary as the principles, 14,793 people terminated their labor contracts.

Stimulating Enthusiasm in Management

Ansteel actively build a strong atmosphere where everyone pays attention to the group, everyone takes part in the management, and everyone provide suggestion and advice. Through upgrading the platform of "Receiving Advice Online" and improving the online advice receiving system, more advice could be collected by the group. In 2016, employees made a total number of 39 thousand comments, of which 27 thousand problems mentioned were effectively solved. The rate of democratic appraisal of officials at all levels and the rate of response to employee representatives are both 100%,

and the inspection and supervision of the implementation of collective contracts was also strengthened.

Ansteel widely solicited and selected people's "golden ideas" about its shortcomings on technology, equipment and management. 2016 produced 141 "gold ideas", 215 "silver ideas", and 267 excellent ideas. Four workers from Ansteel Co. Ltd. were rewarded with Liaoning's provincial level award for excellent advice. Pansteel launched a series of activities of self-management and reasonable advice, striving to build itself into a brand that is "innovative, effec-

tive, strong, and energetic". In 2016, Pansteel completed a total of 3,261 self-management innovation topics, collected 12 thousand comments from its employees, and adopted 4,500 ones.

In 2016, Ansteel continued to improve its Workers' Congress system and successfully held the first session to review the 2017 program on deepening the reform. The work-

ers' congress voted through the 2017 strategic performance and payment evaluation and assessment methods, gave democratic appraisal to group leaders, and elected part-time supervisors of the group. A total of 95 comments made by the employee representatives and 12 proposals from the employees of regional companies were processed in time.

Increasing Employee Satisfaction

The unions of grassroots-units of Ansteel actively carried out an activity called "Be home to model workers. Be the family that workers trust". In the 2016 annual "member's opinion on the family", 22 participating units' employee

satisfaction rate exceeded 90%. The trade unions of the steel production factory were rated as Liaoning Province advanced unit for trade union vitality construction.

Giving Much Consideration to Employees' Happiness

Ansteel provided personalized care for employees and established assistance system for disadvantaged employees. We also started extensive cultural and sports activities to enrich their life and stimulate their enthusiasm for work.

Caring for Female Employees

Ansteel protected the legitimate rights and interests of female employees, cared for female employees' physical and mental health, advocated equality between men and women, insisted that female employees get equal pay for equal work and rewarded outstanding female employees and federations.



Female Employees at Work

Rights and Interests Protection



Ansteel implemented the *Special Provisions of Female Workers Labor Protection*, *Female Workers scope of prohibited labor* and *Ansteel Female Workers Rights Protection Special Collective Contract*, and solicited advice and suggestions from female employees

Medical Security



Female employees were organized to have gynecological examination and provided with insurance services. Lectures on health knowledge were also held to help female employees prevent diseases

Festival Care



On Women's Day and Children's Day, activities were held to extend regards to poverty-ridden children, children with single parent, children with disability and children suffering from major diseases

Caring about Employees' Life

Ansteel endeavored to handle concrete affairs in a down-to-earth manner for the staff, urging the canteen, bath pools, and supermarkets to enhance their service quality, and regularly visits poverty-stricken employees and retirees. Through the Financial Aid for Schooling in Golden Autumn, more than 200 children from families of low-income employees received 300.5 thousand RMB of scholarship.

Ansteel worked to improved the long-term poverty alleviation mechanism, which centers on assistance at five levels, and started out pair assistance activities, including person-to-person and group-to-person assistance pairs, helping more than 98% poor workers; Ansteel also pays more than 38,800 visits to model works, poor workers and retirees and granted 18.48 million RMB of welfare money and goods.

Case

Helping children from impoverished family go to school

In August 2016, the Committee of Caring about the Younger Generation of Ansteel held a ceremony celebrating the schooling of children from impoverished employ family, and 40 students received the financial aid for schooling. The Committee of Caring about the Younger Generation of Ansteel has been supporting poor students since 1996, and has carried out such activities for 20 times, with a cumulative donation of 1.141 million RMB that has helped 1,506 children of poor employees go to school.



Poor students assistance

Case

The heatstroke prevention activity "Sending Coolness"

Ansteel Group Engineering Development Co., Ltd. started a wide range of forms of "Sending Coolness" activities, visiting a total of 17,298 employees in the front line, of which 6,376 are labor workers ,sending 487.9 thousand RMB of heatstroke preventing products. Through the year, Ansteel Group Engineering Development Co., Ltd. sent out heatstroke preventing products and supervision and inspection on safety protection equipment for 113 times.



Diversified Activities Themed "Sending Coolness"

Balancing Work and Life

Ansteel helped employees balance work and life, enriched their cultural life, so as to meet their spiritual and cultural needs.

Organized the activities such as long-distance running, chess games, table tennis, badminton, and mountain climbing, and offered 828 mountain climbing cards to all employees in Anshan District, making their spare time more vibrant

Paid attention to the cultural quality of employees with Lantern Festival riddles competition and provide cultural service for factories

Participated in the "Ansteel Cup" metallurgical painting and calligraphy competition, and organized the "Chinese Dream • Labor's Beauty • Poetic Flower City" poetry recitation contest and won the first place



Lantern Festival Riddles Competition



Table Tennis Competition



Basketball Competition



The Parent-Child Campaign Held on Children's Day

Case

Ansteel Tug-of-War Team Won the Championship on Behalf of China

In 2016, on behalf China, the Tug-of-War Team of Qi Dashan Iron Ore Mine of Ansteel Mining took part in the "Tug-of-War (TWIF) Indoor World Championships 2016" in Netherlands. Despite unfavorable conditions such as jet lag and lack of candidates, a total of 17 male and female athletes overcome obstacles and beat many strong teams. Finally, several prizes were won, including the golden medals for the 500-kg and 540-kg female tug-of-war competitions and the silver medal for the 600-kg male and female mixed-race tug-of-war competition, winning honors for China.



Ansteel Tug-of-War Team Won Honors for China

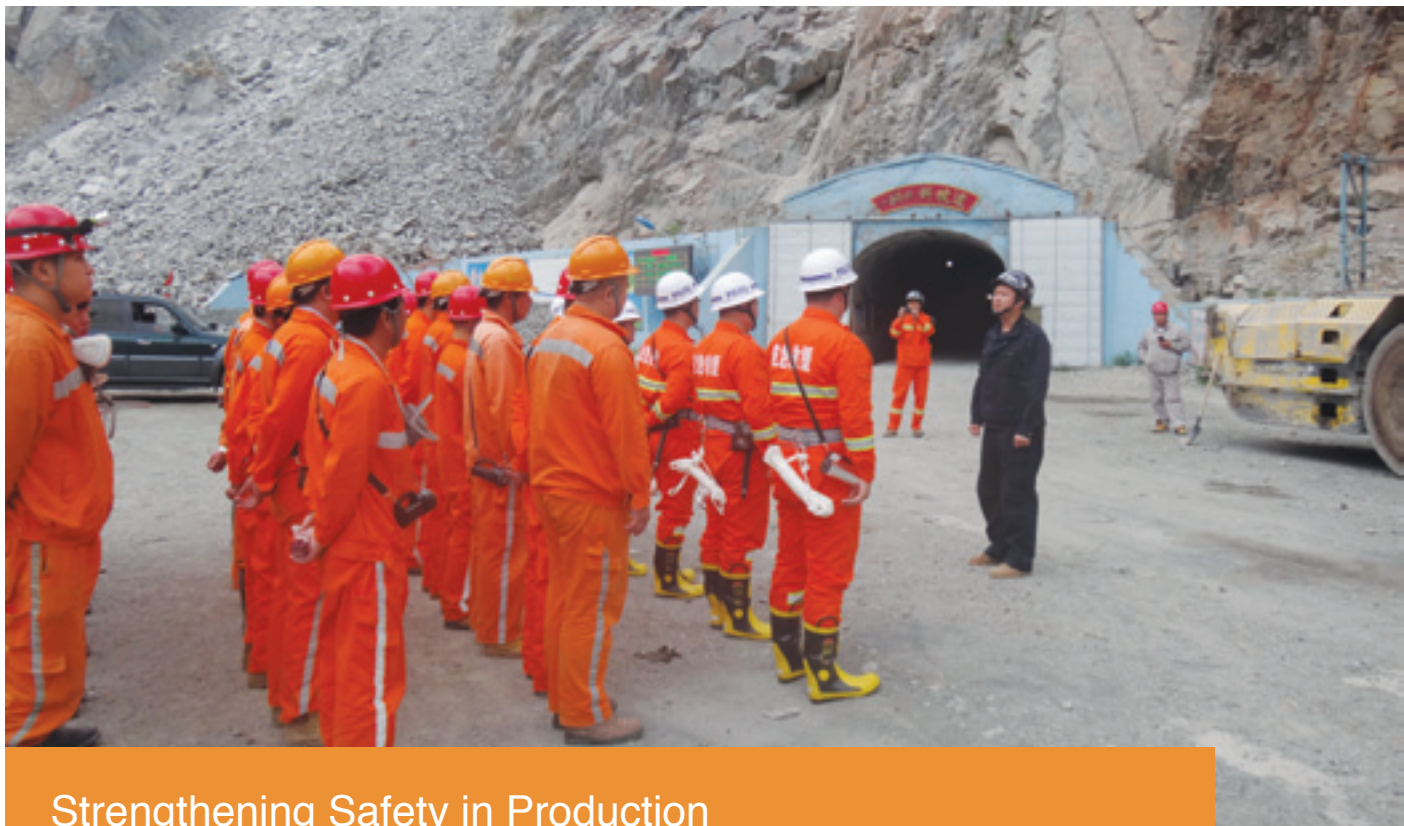
Case

Ansteel held a employees' calligraphy art exhibition

In July 2016, to commemorate the 67th anniversary of the commencement of Ansteel's business, and to celebrate the one hundredth birthday of the mining plant, Ansteel held an employee's calligraphy art exhibition with the theme "Hundred Years of Vicissitudes Create Excellence" in its exhibition hall. The exhibition presented three hundred pieces of calligraphy and painting works, and it is a concentrated display of Ansteel people's cultural and artistic achievements, reflecting Ansteel workers' artistic achievements and characteristics of the times, encouraging and enhancing employees' morale, accumulating strong positive energy for the group's development.



Ansteel's Leaders Revealed and Visited the Worker's Calligraphy, Painting and Photography Exhibition in Memory of its 67th Anniversary



Strengthening Safety in Production

Ansteel always believes that “there is no greater thing than life, and there is no greater responsibility than safety responsibility”, and always follows the principle of “safety first, prevention-based, comprehensive management”. To avoid large production safety accidents and eliminate death during work and major traffic accidents, with strengthening safety risk prevention and control management as the measure and emphasizing accountability as the guarantee, Ansteel enhanced training and investigation and remediation of hidden troubles in a problem-oriented way, and learned from previous lessons, comprehensively enhancing its overall safety management level.

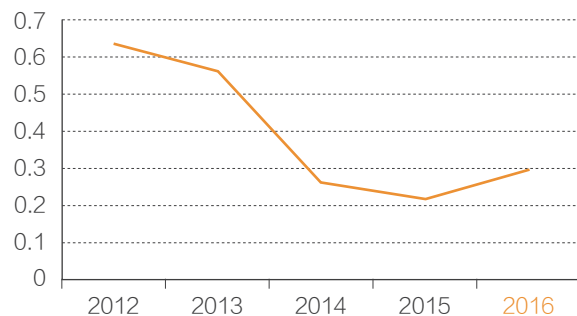
Safe Production Management

In 2016, Ansteel revised the safety production responsibility system, production safety and fire accident management approach, as well as the fire safety management approach, improved the accountability system. Ansteel and 12 units signed a safety production responsibility agreement on reporting safety production condition every month, holding professional meetings to guide the implementation of key work every four months, and implementing strict accident assessment and accountability. A total of 51 leaders were held accountable for accidents.

In accordance with *Regulations on Ansteel Group Corporation Occupational Health Management*, Ansteel improved the occupational health management system and operating procedures, established and improved the occupational health records and workers' health monitoring files. Employees were provided with individual protective equipment and on-site occupational disease prevention equipment and

facilities, job safety procedures were strictly implemented, and employees will take physical examination before taking the position, during work and after leaving the position. This year, the rate of occupational disease incidence decreased by 10.3% compared with 2015's.

Ansteel Group's Injury Rate Per Thousand People (%)



Safety Emergency Management

In 2016, following the new emergency plans management approach and emergency plan guidelines issued by State Administration of Work Safety, Ansteel conducted compliance review on safety production comprehensive plans, special plans, and on-site disposal program, organized more than 2,600 field rehearsals for emergency rescue and danger relief exercise for

anti-poisoning, fire and explosion, and flood control combining actual conditions of safety production month and the water movement. Over 60 thousand people participated in the exercise, which helped improve the emergency disposal procedures and the rescue team, enrich the emergency equipment to enhance employees' self-help and rescue capabilities.

Case



Ansteel Mining carried out emergency exercise

The emergency rescue leading group of Ansteel Mining's grassroots plants and mines went to the operation areas to supervise, participate in and guide the emergency exercise to ensure the effectiveness of the activities. Since the middle of June, factories, mines and operation areas have carried out 230 special and comprehensive emergency rescue exercise, including firefighting and fire escape self-rescue, cardiopulmonary resuscitation after electric shock, trauma emergency rescue and flood rescue, involving 184 desktop exercise and more than 3,300 people.



Exercise for Fire Prevention under Eye Mines and Poisoning and Suffocation Prevention



Exercise for Heat Stroke Prevention

Safety Management Training

Ansteel provided pre-job training to new employees, workers that transferred other positions, and workers in major types of work or with double positions. Workers in charge at all levels and safety management personnel will receive training and assessment. Training for special operators and special equipment operators is strengthened and these workers are required to have certificates in work.

Anshan Iron and Steel's all-round safety management model, which is called "0123", provides special training to Chaoyang, Bayuquan and other related branches; 12 themed activities on safety, such as "Eliminating hidden dangers" and "Strengthen the management of hazardous operation", were carried out every month. Pansteel opened safety management personnel national qualification and ability training courses, educating a total of 746 people, and

organized 7,546 special operations personnel to take part in examinations and issued 6,123 special operations personnel certificate; Pansteel also provided safety management education and training for 3,417 workers and 61 managerial personnel whose work involves dangerous chemicals; 60 workers received the honorary title of "Worker with Safe Working Behavior"; a fire safety knowledge contest was held and 30 thousand employees participated in it.

Ansteel Mining organized the propagation and implement of the production safety ban formulated by the SASAC and Ansteel, training the grass-roots units of the plant length, production and other departments responsible for the operation and a total of 356 people, and effectively improved the safety awareness and sense of responsibility of main directors of safety of lower-level units.

05



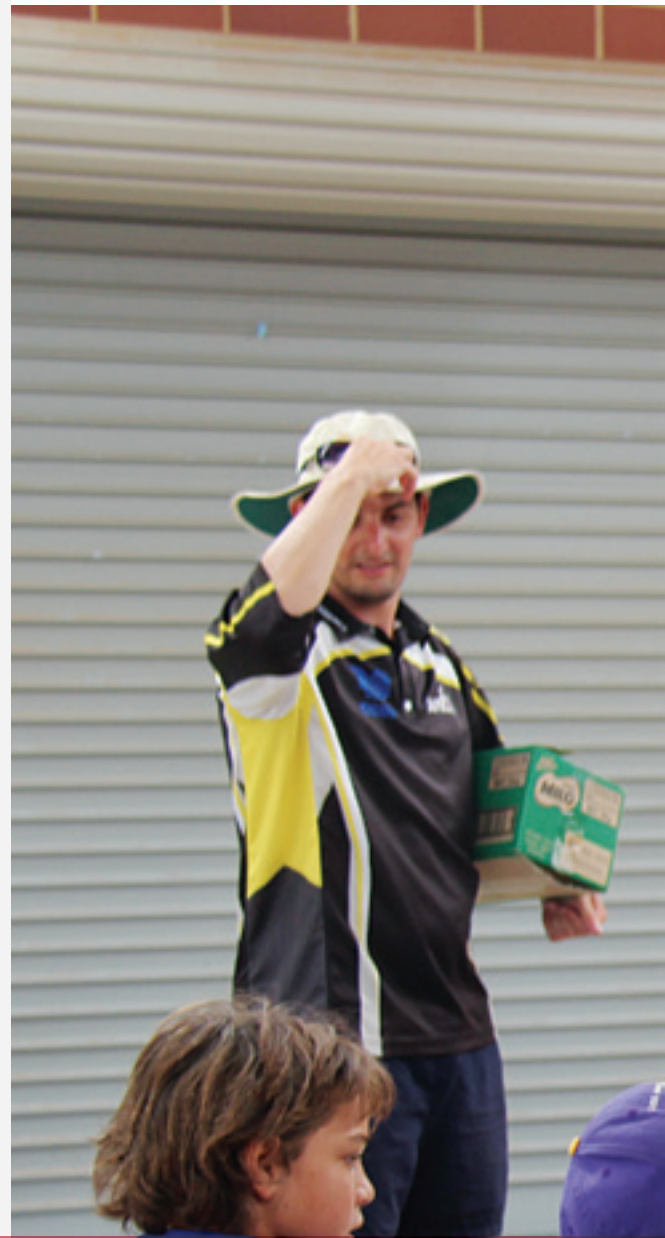
Building the Warm and Harmonious Ansteel

Background of sustainable development

With the high degree of integration of economic development and social development, enterprises play a dual role of economic entities and social citizens. The sustainable development of enterprises is inseparable from a good social environment, and the accumulation of virtuous social value also depends on enterprises' initiative to fulfill social responsibility to some extent. Excellent enterprises must take both social and commercial benefits into consideration, so that when enterprises are fulfilling their social responsibility as corporate citizens, they can achieve a win-win situation of acquiring sustainable development capacity and meeting the requirements of social development.

Measures of sustainable development

Ansteel Group, sticking to the idea to consider the situation of the enterprise and pay back the society, paidback to the society with charity, actively participates in public welfare cause, promoted the development of community culture, education, and medical care, advanced the localization of overseas operation, carried out fixed-point poverty alleviation activities, and held regular charity activities, hence contributing to the harmony and stability as well as sustainable development of the society.



Sustainable development performance

In 2016, Ansteel donated **3.0952** million RMB to fixed-point poverty alleviation areas, public welfare relief and public welfare undertakings.

Ansteel established Ansteel Youth Volunteers Association.

Fang Hongjin, a retired worker from Ansteel Co. Ltd. Coking Plant who has been supporting impoverished students for more than 20 years, became a role model of the "Two Studies, One Action" initiative, and was awarded as "Good People of Liaoning·The most beautiful people".

An Ansteel Co. Ltd. Technology Center's female technology worker Yu Shujuan was awarded with honorary titles of "contemporary inventor" and "Good People of Liaoning·The most beautiful development leader".

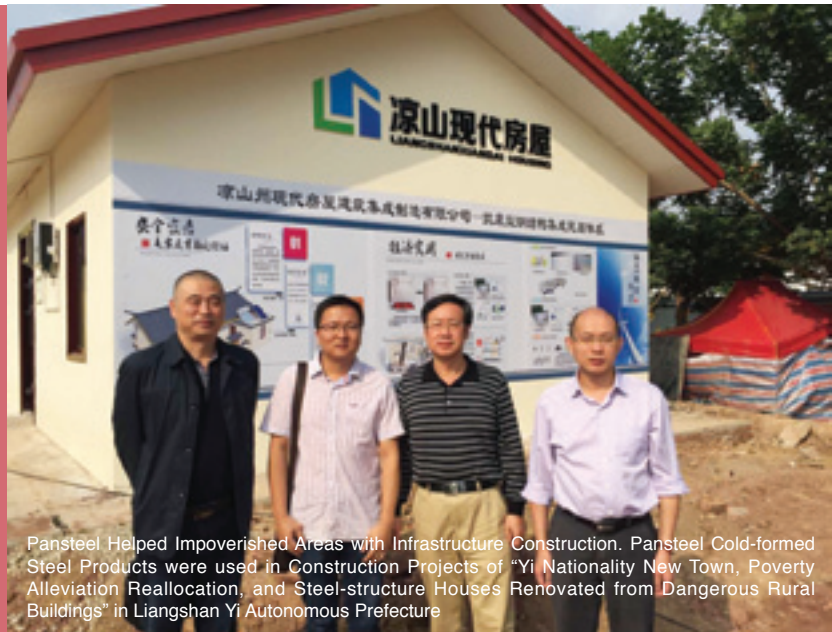
A Worker from Ansteel Co. Ltd. Coking Plant coking plant Guo Daiyi was awarded "Good People of Liaoning·Good people around you".





Improving Capability of Community Development

Ansteel established a harmonious and friendly relation with communities in the operation process, understood the needs of community residents actively and created employment opportunities to support community infrastructure construction, improve community medical resources and enhance community's development capacity. In 2016, Ansteel took the initiative to fulfill its social responsibility and paid 7.32 billion RMB of tax.



Pansteel Helped Impoverished Areas with Infrastructure Construction. Pansteel Cold-formed Steel Products were used in Construction Projects of "Yi Nationality New Town, Poverty Alleviation Reallocation, and Steel-structure Houses Renovated from Dangerous Rural Buildings" in Liangshan Yi Autonomous Prefecture

Driving Community Employment

In line with principles of collaboration with local government, mutual benefit, and advantages complementation, Ansteel gives full play the community's human resources advantages and strengthens the support of community economic development in order to achieve resource sharing and common development.

Case Anshan Iron and Steel provides employment opportunities

In 2016, foreign-invested enterprises of Anshan Iron and Steel continued to maintain a flexible way of employment, made full use of local human resources, and promoted the employment of local residents and stable development of enterprises while saving human resource costs. As of the end of 2016, local employees and other forms of local employment had accounted for about 62% of the number of employees in Anshan Iron and Steel foreign-invested enterprises.

Case Karara Mining Limited supports the development of western and central areas of western Australia

Karara Mining Limited (Karara) focuses on compliance management and localized management. By the end of 2016, Karara had hired 375 employees, including 362 foreign employees, which account for 96.53% of the total, contributing to the improvement of local employment.

With a focus on cultural integration management, Karara recruited a community affairs manager to deal with local relations with a respect of local culture, and participated in the construction of local communities. Karara also took part in the construction of clinics, innovation centers, community farms and roads of Royal Flying Doctor Service. In addition, the company engaged in local exhibitions, folk activities and so on.

Karara established harmonious and cooperative relations with local indigenous people, built a good social image as a Chinese enterprise in Australia, received the "Resource Industry Excellence Community Cooperation Award" and "Community Partner Award" issued by the Department of Mines and Petroleum of Australia. The company also pays attention to environmental protection and uses new technology to solve the dust problem, which has won it the "Mineral Energy Chamber of Commerce Innovation Award."



Karara Employees and Local Children

Developing Community Healthcare

Ansteel, seeking to bring benefits to local people, promotes the integration and sharing of medical resources to provide better medical services for people of the community.

Case



Ansteel Group Hospital improves medical resources in Anshan area

In January 2016, the Biological Immunotherapy Center of Cancer Hospital of Ansteel Group Hospital was officially opened, and the center completed three cases of CIK, DC, DC-CIK cell immunotherapy sample collection and cultivation, becoming the first to use stem cell separation technology in Anshan. In July, the CT Division of Ansteel Group Hospital had a remote group consultation with over 70 experts of medical imaging from Cancer Hospital Chinese Academy of Medical Sciences, Beijing Cancer Hospital and other well-known hospitals, breaking the restriction of space and achieving resource integration, unified and efficient process, interconnectivity, and information sharing, therefore saving time for patients and reducing the cost of repeated examination.

Targeted Poverty Alleviation

Ansteel Group started out targeted poverty alleviation in a scientific and effective way. We have 12 fixed poverty alleviation points located in Liaoning, Xinjiang, Sichuan and Guizhou provinces, including two poverty-stricken points designated by the Organization Department of the Central Committee of the CPC, 6 points identified by the provincial governments and departments, and 4 selected by the municipal government. In 2016, Ansteel invested a total of 2.23 million RMB of poverty alleviation funds, including 1.13 million RMB from Anshan Iron and Steel and 1.1 million RMB from Pansteel. Ansteel was rated as an “Advanced Unit of Fixed-point Poverty Alleviation in Liaoning Province”.

Case



Industry poverty alleviation

Pan County, Yanyuan County and Jianchang County have the advantages of mineral resources, so Ansteel provided strong support to these poverty alleviation areas in the sale of iron ores, coal and other industrial products. In 2016, Pansteel spent 200 million RMB to purchase iron ores in Yanyuan County and near 1.4 billion RMB to purchase coal in Pan County. In addition, it also purchased agricultural products in poverty alleviation areas to support their industrial and agricultural development. Pansteel, relying on its hypermarket, explored the “agriculture-supermarket connection” model, providing support and help in selling apples, potatoes and other agricultural and byproducts in these areas.

Case



Infrastructure poverty alleviation

In 2016, Pansteel provided 500 thousand RMB of funds to help build office buildings and elderly care rooms in Gaoguan Village, Liuguan Street of Pan County. Anshan Iron and Steel’s financial and equipment departments coordinated to install loudspeakers, HD-19 cameras and related monitoring equipment and materials for Shangtao Village of Taohuatu Town, Shuangta District of Chaoyang City.

Anshan Iron and Steel and Ansteel Mining cooperated to send a construction team to Shihuiyao Village to reconstruct the roadbed of two of the unsurfaced roads with worst traffic conditions of the village (the county’s department of transportation paved the asphalt) with a total investment of 180 thousand RMB, solving difficult travel and traffic problems for local villagers.



Roads Build by Pansteel for Impoverished Villages

Case 

Talent Poverty alleviation

In 2016, relying on human resource of School of Mechatronics and other organizations, Pansteel took flexible approaches to improve locals' skills and education, such as on-job training, on-site training, in-school training and student recruitment, which enhanced local residents' ability to make money. Pansteel School of Mechatronics carried out practical training on breeding for 70 impoverished households of farmers in Wanchang Village, Caochang Village of Meiyi County, signed an agreement of cooperation intention with Yanyuan County Vocational School in Panzhuhua, and recruited 17 vocational school graduates from Yanyuan County, 30 from Yanbian County, and 14 from Miyi County.



Targeted Poverty Alleviation Trainings-Lectures by Electric Welders to Villagers

Case 

Medical poverty alleviation

Ansteel endeavors to promote the development of health care in poverty alleviation areas. In 2016, more than 80 Pansteel Group Hospital's medical workers went to Yanbian County and Yanyuan County's medical institutes, and brought medical assistance. They received 37 patients from Yanyuan County and Yanbian County, reducing medical expenses of 38 thousand RMB. A medical training class was also organized for one term, in which 71 doctors from Miyi County, Yanbian County and Renhe District of Panzhuhua City got trained.



The "Health Care on Road-Angels in Action" Activity in Huidong



Voluntary Medical Consultation in Yanyuan

Supporting Cultural and Educational Undertakings

Ansteel strives to support cultural and educational undertakings, support the development of community culture and education, and provide care and help for children during golden autumn, student assistance and book donation activity, and student assistance fund. In 2016, we donated 205.5 thousand RMB in student assistance and sponsored 114 children.

Anshan Iron and Steel respects and protects traditional cultural heritage of the community and attaches great importance to the protection of industrial heritage. There are 4 provincial historic preservation units each supported by specific fund and managed by specific personnel. 3 of them are still in use, and the other one is exhibited at the Ansteel Exhibition Hall. Ansteel Exhibition Hall receives more than 3,000 people per month. It has organized a special exhibit called "500 Ansteel Leaders", presenting a total of 400 precious photos from more than former Ansteel leaders and more than 180 pieces of historic objects. Special exhibitions of famous figures, painting and calligraphy exhibitions, Ansteel culture seminars were also held in the hall for more than 20 times.

2017 Outlook

2017 is a critical year for Ansteel Group to survive and develop. We will deepen the reform, enhance innovation, accelerate transformation and upgrading with our development mission in mind. Besides, we will undertake development responsibilities and fulfill our obligations as a corporate citizen. In this year, we will promote the four priorities of adjustment, reform, innovation and Party building, and strengthen our efforts in the five important aspects in order to win the battle to turn loss into gain.

Building the competitive, strong and leading Ansteel. Ansteel Group endeavours to build a strong country in iron and steel and become an industrial leader by constantly improve the status and role of Ansteel Group in economic development. We will enhance the support for the industry, tap into the development potential of the steel sector, stimulate the development energy of non-steel sectors and mining enterprises, explore the development potential of vanadium-titanium, so as to facilitate the realization of the goal to turn loss into gain. We will strengthen reform leading, push forward the governance of difficult enterprises, advance three institutional reforms, advance the reform of the corporate system, promote the settlement of historical problems, and inject vitality into the goal of turning losses into gains. We will enhance the driving force of innovation, put more efforts on innovation system construction, promote the transformation and application of scientific and technological results, enhance the exemplary role of major projects, create a community of coordinated innovation, and improve the management of scientific and technological innovation, thus providing motives for the goal of turning losses into gains. We will improve management, promote the construction of professional platforms, enhance capital management, optimize the performance appraisal system, facilitate informatization construction and enhance safety and environment protection management, thus laying a solid foundation for the goal of turning losses into gains.

Building the honest and excellent Ansteel. We will abide by laws and regulations while conducting anti-corruption work; we will enhance our integrity by strengthening employees' awareness of honesty and faith; we will adhere to contracts and value credit to build up a good corporate image; we will try to guarantee customer satisfaction by enhancing quality management and improving product and service quality according

to their needs; we will encourage suppliers to enhance their responsibility fulfillment ability in order to create a responsible supply chain and realize result sharing and win-win cooperation between Ansteel and suppliers; we will actively create external exchange platforms to comprehensive promote our partnerships and healthy industrial development.

Building the green and environmental friendly Ansteel.

We will constantly improve our management and environmental systems, and enhance environmental protection and related capital investment; We will promote the implementation of energy performance contracting projects, improve resource utilization efficiency, and endeavor to realize win-win of economic benefits and environmental benefits; we will comprehensively implement the *Air Pollution Prevention and Control Action Plan* and steadily promote the *Implementation Plan of Blue Sky Project*.

Building the human-oriented and happy Ansteel.

We will focus on quality project construction, comprehensively deepen talent cultivation for corporate prosperity, improve and innovate the talent-oriented system and mechanism; we will follow an employee-oriented path, rely on employees for corporate development, share development achievements with them, care for their personal concerns, enhance democratic management, protect employees' rights and interests, provide employees with sincere services and build harmonious labor relationship with employees to comprehensively improve employees' satisfaction level. We will fully mobilize employees to devote themselves into further development with initiative and creativity. We will enhance safe production and occupational health management, strengthen employees' safety awareness, deepen the inspection and rectification of safety problems and potential hazards to constantly improve our safe production management.

Building the warm and harmonious Ansteel.

We will proactively respond to stakeholders' concerns and requirements, repay the society, contribute to public good, build a harmonious relationship with communities and promote mutual development of Ansteel and the society; We will comprehensively fulfill our political responsibilities as a SOE, implement targeted poverty alleviation and promote regional economic and social development to contribute to sustainable development of the society.



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Feedback Form

Dear readers,

This is the tenth sustainability report of Ansteel Group released to the public. We would like to solicit your opinions and suggestions so as to help us make constant improvement in our fulfillment of social responsibility and achieve sustainable development. We would highly appreciate it if you could spare some time to share your thoughts with us on the following issues:

.....
1. Do you think this report reflects the significant impact that Ansteel Group has exerted on the economy, society and environment? (Please tick your option.)

Yes Fairly No

.....
2. Does this report make an exact and comprehensive analysis of the relationship between Ansteel Group and other stakeholders? (Please tick your option.)

Yes Fairly No

.....
3. Are the information, data and indexes disclosed in this report clear, accurate and complete? (Please tick your option.)

Yes Fairly No

.....
4. Are the content layout and format design in this report helpful to your reading? (Please tick your option.)

Yes Fairly No

.....
What makes the most satisfactory part of this report?

.....
Is there any necessary information omitted in this report?

.....
What are your opinions about our report on sustainable development to be released in the future?

.....
.....

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The report is printed on environmental friendly paper

Create Value For

Customers, Employees,
Shareholders
and The Society