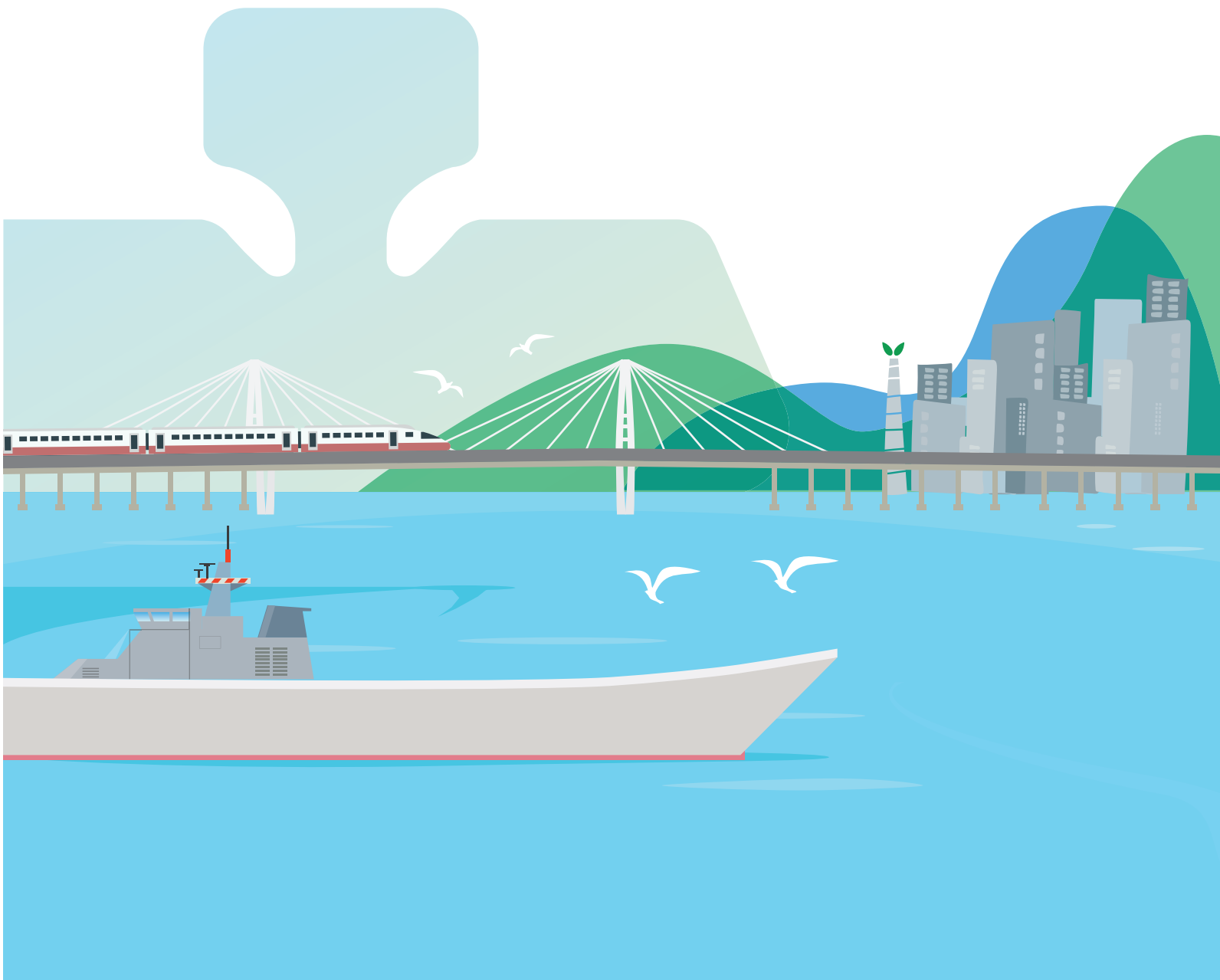


AN STEEL

2019

ANSTEEL GROUP CORPORATION LIMITED
Sustainability Report



About the Report

Dear readers,

Welcome to read the 13th Ansteel Group Corporation Limited 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, 2019 and December 31, 2019. Part of the report may refer to previous years as needed.

Report Boundary

With Ansteel Group Corporation Limited (hereinafter referred to as Ansteel, Ansteel Group, the company or we) as the main body, the report covers Anshan Iron & Steel Group Co., Ltd. (hereinafter referred to as Anshan Iron and Steel Group) and Pangang Group Co., Ltd. (hereinafter referred to as Pangang Group) 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)
- *The GRI Sustainability Reporting Standards* (GRI Standards) issued by the GRI Global Sustainability Standards Board (GSSB)
- ISO 26000: 2010, *Guidance on Social Responsibility* issued by International Organization for Standardization (ISO)
- Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 4.0) 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://en.ansteel.cn>

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Building a Great Brand with 70 Years of Endeavor

As an important basic industry of the national economy, the iron and steel industry supports a country's development and economic construction, and indicates its comprehensive strength. Over the past 70 years since its inception, Ansteel has continued to serve the country with the power of iron and steel, and achieved a historic leap from a small business to a large thriving corporation, laying a solid foundation for the rising steel industry of the People's Republic of China (the PRC). Ansteel was selected as one of the 70 Great Brands in Celebration of the 70th Founding Anniversary of the PRC.

Holding up Half of the Sky for China's Steel Industry

In the early years of the PRC, the war-torn plant of Ansteel was mocked as ruins that could "only be used to grow sorghum". It was right in the ruins that Ansteel quickly resumed production, and opened a new page in the development of China's steel industry.

Resuming Production and Growing Bigger

“The Anshan working class must quickly resume production in Anshan Iron and Steel Group.”
—A message sent by Chairman Mao Zedong by telegraph in 1949

On December 26, 1948, Anshan Iron and Steel Group was established. On July 9, 1949, the Group held a grand groundbreaking ceremony. The first large-scale integrated iron and steel enterprise of the PRC has emerged from a pile of rubble.

During the three-year recovery period from 1949 to 1951, Ansteel produced 2.11 million tons of iron, 1.919 million tons of steel, and 1.099 million tons of steel products, accounting for 45.9%, 63.58%, and 46.83% of the national output respectively.

During the first Five-year Plan, Ansteel's "three major projects", namely the large-scale rolling mill, the seamless steel pipe plant, and the No. 7 blast furnace, topped the agenda of China's economic construction. The completion and commissioning of them marked that the country's first large-scale integrated iron and steel enterprise has begun to take shape.

In 1978, Ansteel produced 6.4 million tons of iron, 6.86 million tons of steel, and 3.86 million tons of steel products, leading the industry in the country.

From the birth of the first furnace of molten steel, the first furnace of molten iron, the first seamless steel pipe, the first heavy rail, and the first coil of hot rolling steel, to the construction steel used for the ten major buildings in Beijing, including the Great Hall of the People, Beijing History Museum, and Beijing Railway Station, and then to the steel used for Beijing-Kowloon Railway, Qinghai-Tibet Railway and other national key projects... Ansteel has made outstanding contributions to the country's economic construction and is known as the "eldest son of the steel industry of the Republic".

Braving the Wave for Leapfrog Development

“Anshan Iron and Steel Group is the leader of steel enterprises in China.”
—A remark made by Comrade Hu Jintao during his inspection tour at the Group

As the wave of reform and opening up swept across the entire China, Deng Xiaoping, the chief architect of China's reform and opening-up, delivered an important speech entitled *Using Advanced Technology and Management Methods to Transform Enterprises* on September 18, 1978 during his inspection tour at Ansteel, which pointed out the direction for Ansteel's development.

Since the Third Plenary Session of the 11th Central Committee of the Communist Party of China (CPC), Ansteel has expanded its autonomy in management, implemented the plant director (manager) responsibility system, and explored the establishment of a modern enterprise system...continuously promoting the transformation of the management system from a planned economy to a market economy, and boosting corporate development by relying on technological advancement.

When the national Ninth Five-year Plan began, Ansteel Group, based on independent innovation, renovated the East District, and built the West District and the New Bayuquan Iron and Steel District, blazing a new path of technological transformation featuring high starting point, low input, fast output and high efficiency.

- In 1997, Ansteel New Steel Rolling Co., Ltd. was **successfully listed** in Hong Kong and Shenzhen.
- In 2004, the steel output of Ansteel exceeded **10 million tons**.
- In 2006, New Steel and Ansteel New Steel Rolling Co., Ltd. merged into Angang Steel Company Limited, which was **the first domestic steel company to complete the overall listing of its main businesses**.
- In 2008, Anshan Iron and Steel Group was among the first batch of **"innovative enterprises"** in the country.

Strategic Reorganization and Innovation-driven Development

In May 2010, Anshan Iron and Steel Group Co., Ltd. and Pangang Group Co., Ltd. merged into Ansteel Group, becoming a super-large multinational steel and iron enterprise group with a production capacity of nearly 40 million tons. Since then, the Group has become one of Fortune Global 500 companies.

Facing the dual challenge of the new normal of economic development and the frozen period of steel industry, the steel-willed Ansteel Group has fought two major battles to make up deficits and increase efficiency, and to transform and upgrade. The Group has unwaveringly implemented Xi

Jinping Thoughts on Socialism with Chinese Characteristics for a New Era and the guiding principles of the 18th and 19th CPC National Congress. We seized the window period of the initiative of "cutting overcapacity, reducing excess inventory, deleveraging, lowering costs, and strengthening areas of weakness", put the new development concepts into practice, and strengthened the CPC's leadership over state-owned enterprises (SOEs). Remaining market-oriented and problem-oriented, we have promoted supply-side structural reforms and strengthened technological innovation. After making comprehensive strategic adjustments, we have set up the "631" industrial structure adjustment goal with a clear path for implementation in mind to promote the adjustment and upgrading of the industrial structure and strive to achieve high-quality development.

Contributing to the Sound Development of the National Economy

Over the past seven decades, Ansteel has successfully found a path with Chinese characteristics for the revitalization and development of steel enterprises. We have achieved leapfrog development and contributed to the development of the national economy, personnel training, and product innovation.

Economic contribution

From 1949 to 2018, Ansteel Group produced a total of 690 million tons of iron, 696 million tons of steel, and 574 million tons of steel products. Our tax contributions totaled RMB 203.074 billion, 38 times the state's investment in the Group. The steel produced by us was used in a multitude of projects, including the ten major buildings in Beijing at the 10th founding anniversary of the PRC, national key projects such as Wuhan Yangtze River Bridge, Three Gorges Dam, Beijing-Kowloon Railway, West-East Gas Pipeline Project, South-to-North Water Transfer Project, Hualong One, and Hong Kong-Zhuhai-Macao Bridge, Type 59 tanks, carrier rockets, supersonic fighter jets, and Liaoning aircraft carrier that has attracted world-wide attention.

Talent contribution

Since 1953, Ansteel Group has successively supported more than 20 large steel companies, including Wuhan Iron and Steel Group, Baogang Group, Pangang Group, TISCO, and Baosteel Group. We have assisted 13 provinces and cities, including Beijing, Inner Mongolia, Anhui, Guangdong, Guizhou, Shaanxi, Qinghai, Shanxi, Sichuan, Hebei and Hunan, in developing local metallurgical industries, sending nearly 120,000 officials and workers to places across the country. Ansteel Group is therefore known as the "cradle of new China's steel industry."

Product contribution

Ansteel Group has become a steel company with the most complete product mix, including general steel, special steel, stainless steel, and vanadium and titanium. Ansteel Group's shipbuilding steel, railway steel, military steel, automotive steel, nuclear power steel, bridge steel, petroleum and petrochemical steel, home appliance steel, container steel, electrical steel, vanadium and titanium products lead the industry in China. They occupy an important position in such industries in China as aerospace, defense and military, energy and chemicals, construction machinery and transportation, and are also widely used in major projects in many countries.

Management contribution

The Ansteel Constitution is a historic achievement of the PRC in exploring the path towards modern industrialization. In the process of management innovation, it has played an important pioneering and exemplary role and had far-reaching impact in promoting the technological advancement and management improvement of industrial enterprises across China. Today, the spirit of reform and innovation, the idea of democratic management, and the team building model of multi-party collaboration embodied in the Ansteel Constitution still have strong vitality and influence.

Spirit contribution

Over the past 70 years, Ansteel Group has cultivated over 10,000 model workers, moral models and pacemakers of cultural and ethical advancement at all levels. The spirit of "working hard and loving the plant as your own home", of "Keeping ourselves ahead of time", of "serving the people wholeheartedly", of "loving what you do and helping others", and of "striving for excellence with craftsmanship" demonstrated by Meng Tai, Wang Chonglun, Lei Feng, Guo Mingyi and Li Chao, our role models, respectively, represents the spiritual height of the times and continues to influence the life course, value choice and moral pursuit of generations after generations of steel workers.

Technological contribution

As the key force to build a strong country with science and technology, Ansteel Group has continuously established and improved the scientific research and innovation system with a focus on mid-to-high-end products, and developed a large number of new steel varieties, making outstanding contributions to the country's development since adoption of the reform and opening up policy. Ansteel Group has established two state-level key laboratories: the National Key Laboratory of Comprehensive Utilization of Vanadium and Titanium Resources and the National Key Laboratory of Metal Materials for Marine Equipment and Their Applications.

Leading the High-quality Development of China's Steel Industry

As China's economy shifts from high-speed growth to high-quality development, the steel industry is accelerating the transmission from pursuing volume and scale growth to optimizing structure and improving quality. Staying true to our original aspiration of "remembering the responsibility of the eldest son of the Republic and dedicating ourselves to serving the country", Ansteel's employees have formulated a new blueprint for development, in order to lead the high-quality development of China's steel industry.

A Leader of Innovation

Ansteel Group aims to be a leader of the industry technology and become the world's first to launch high-end products. Regarding major national science and technology programs, major projects, key military models and key areas, "bottleneck" technologies, etc. as our direction, and national key laboratories and open cooperation and R&D systems as the highland of innovation and talents, we endeavor to serve national strategies by consolidating and lifting the international leading position of our military steel, marine engineering and shipbuilding steel, nuclear power steel, automotive steel, high-speed railway steel, bridge steel, vanadium and titanium products, etc. Seeing innovation as the basis of industrial development, we have changed methods and adjusted the structure to expedite industrial transformation and upgrading. We have deeply integrated the Internet, big data and artificial intelligence into the industry, to form a development pattern of digital workshops, smart plants, and smart companies. We have explored the establishment of industry-leading Internet platforms for the steel industry, creating a model of smart manufacturing.

A Leader of Green Development

We have implemented Xi Jinping's thought on ecological conservation, with a strong belief in the idea that protecting the environment means protecting productivity, and improving the ecological environment means developing productivity. We have promoted comprehensive resource conservation and recycling, and developed advanced and efficient energy-saving technologies, playing a leading role in building a green industrial chain system. We have insisted on the prevention from source with the joint participation of all our employees, and made comprehensive efforts to minimize emissions, to help fight the battle against pollution. By doing so, we have built the Group into a respected corporate citizen, and played a greater role in building a beautiful China.

A Leader of Reform

As pointed out at the 19th CPC National Congress, in our economic reforms, we must concentrate on improving the property rights system and ensuring the market-based allocation of factors of production. We have acted upon the requirement by fully implementing our principle status in the market with comprehensive reform pilots as the lead and market-oriented reform direction. At the Group level, with a focus on state-owned capital investment companies, we have promoted the transformation from the management of assets to the management of capital. At the subsidiary level, we have advanced the reform of mixed ownership and piloted the selection of professional managers, to build independent market entities featuring independent operation, self-financing, self-responsibility of risks, self-discipline, and self-development. On the basis of reform and development practices, we have inherited Ansteel's excellent culture, to carry forward the spirit of Ansteel Constitution in the new era and contribute Ansteel's wisdom to the reform and development of SOEs.

In retrospect, Ansteel Group has witnessed and participated in the great process of China: it has stood up, grown rich, and is becoming strong. Looking ahead, Ansteel Group, standing at a new starting point, will implement the new development philosophy, fulfill the mission of "manufacturing better material for creating a better life", and continue to deepen reforms, strengthen technological innovation, and accelerate transformation and upgrading. Ansteel Group will become stronger, better, and bigger. We strive to build the Group into the most global influential steel enterprise group that is beautiful, smart, happy and high quality, and create greater value for our stakeholders.



Message from the Senior Management



Tan Chengxu
Secretary of the Party Committee, Chairman of the Board, Ansteel Group Corporation Limited

SOEs are the important material and political foundation of socialism with Chinese characteristics, as well as the “pillars” of the socialist economy with Chinese characteristics. As the “eldest son of the steel industry of the Republic” and the “cradle of China’s steel industry”, Ansteel Group has always kept in mind the responsibility of the eldest son and dedicated ourselves to serving the country. We have fulfilled the responsibility of central SOEs in deepening the SOE reform, serving the national strategy, and safeguarding the national economy and people’s livelihood, making active contribution to the country’s economic construction and social development.

In 2019, Ansteel Group took Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as the guide, thoroughly studied and implemented General Secretary Xi Jinping’s important instructions on Northeast China, Liaoning, Sichuan, and SOEs, and ensured the implementation of major decisions and plans of the CPC Central Committee at the Group.

Over the past year, we have kept the direction of market-oriented reform and continuously unleashed development vitality. Reform is the key to strengthening the dynamics of micro-entities and enabling SOEs to become stronger, do better, and grow bigger. The market-oriented direction is both the starting point and the ultimate goal of the SOE reform. The key to this reform is to ensure the principle status of enterprises in the market. We adhere to the market-oriented reform and leverage breakthroughs in reforms to solve deep-seated problems of Ansteel Group. Focusing on the pain points and difficulty of securing the principle status of enterprises in the market, we have increased differentiated authorization and decentralization, advanced the “upgraded version” of reform at Ansteel Group Chaoyang Iron & Steel, and started the market-oriented reform of China National Heavy Machinery Corporation, in order to realize the goal of “delegating power and increasing efficiency and vitality”. We strive to build ourselves as a model state-owned steel enterprise with a private mechanism and a demonstration project for “solving deadlocks and managing difficulties” in market-oriented reform, so as to further consolidate Ansteel Group’s principle market status. By advancing mixed ownership reform, pilot selection of professional managers, and pilot follow-up management of new projects, we have continuously stimulated the vitality of our system and mechanism.



Dai Zhihao
Deputy Secretary of the Party Committee, President, Ansteel Group Corporation Limited

Over the past year, we have focused on cultivating new growth drivers and effectively stimulated the endogenous power for innovation. Innovation is the primary driver for development and the key to achieving high-quality development. We have continued to pursue the goal of becoming the world’s first to launch high-end products and providing users with comprehensive solutions, in order to manufacture better material and create a better life. We have served national strategies by establishing a new scientific research and innovation system led by Beijing Research Institute of Ansteel Group and creating an open innovation platform for central cities. Focusing on major national programs, major projects and key areas of science and technology, we have speeded up basic and forward-looking researches on core “bottleneck” technologies. The breakthroughs made in special steel materials for nuclear power engineering, aero-engines and other fields have facilitated the sound development of China’s fourth-generation nuclear power technology and the cause of aero-engines. We have strengthened smart manufacturing and comprehensively promoted the development of smart steel and Internet + new business formats. Jwell IoT has continued to innovate in its service model. Relying on the Internet, Internet of Things, big data, mobile Internet and other new technologies, it has built an industry ecosystem in which various industries are interdependent for co-existence, win-win outcomes and common benefits.

Over the past year, we have pursued supply-side structural reform as our main task to build a complete industrial chain system based on mineral resources. Mineral resources are an important material basis for the survival and development of human society, and an important support for national economic development, the safety of which is of great significance to the safety of the national industrial chain. Against the backdrop of the transforming and upgrading steel industry and in-depth market adjustments, we have resolutely implemented the requirements of supply-side structural reform. A complete steel, vanadium and titanium industry chain system has been established based on our advantages in mineral resources and technical management. In terms of mineral resources, we have pushed ahead the smart mines, and a domestic industry-leading information management platform is set up to help us achieve highly efficient and coordinated whole production process, making Ansteel Group a national smart manufacturing demonstration enterprise. As for steel, we take customer needs as the guide to provide high-quality products and high-standard services. With equal efforts on stabilizing processes and expanding the market, we have seen our market share increased and market presence enhanced. With respect to vanadium and titanium, we remain the world’s largest producer of vanadium. We have continued to upgrade the process and equipment, and further extended the high-end application of our product. We keep pushing the boundaries of technology at a faster speed, and promote the construction of high-temperature carbonization and low-temperature chlorination demonstration lines, striving to open up the titanium industry chain.

Over the past year, we have resolutely implemented the decisions and plans made by the CPC Central Committee and facilitated the three critical battles. At a critical juncture, whether we can successfully win the three critical battles of targeted poverty alleviation, pollution prevention and control, and forestallment and defusing of major risks is directly related to whether China can build a moderately prosperous society in all respects, as well as the reform progress of development quality, efficiency and driver. To this end, we have resolutely implemented the decisions and plans made by the CPC Central Committee and the State Council to facilitate the three critical battles. We have focused on lowering financial risks through deleveraging and debt reduction, and introduced external equity funds in a market-oriented manner to reduce the asset-liability ratio. We have intensified our efforts on targeted poverty alleviation by increasing funds and innovating in work models. Panzhou City in Guizhou Province, the national designated poverty alleviation undertaken by Ansteel, has been lifted out of poverty. We have acted on the understanding that lucid waters and lush mountains are invaluable assets, to build a resource-saving and eco-friendly enterprise. The promotion of ultra-low emission transformation has been expedited, and the annual key pollution prevention and control projects have been completed on schedule, bringing about continuous improvement in the main energy-saving indicators such as the comprehensive energy consumption per ton of steel and the main environmental indicators such as sulfur dioxide. Ansteel Group thus was awarded as an outstanding enterprise for energy conservation and emission reduction during the tenure by the State-owned Assets Supervision and Administration Commission of the State Council (SASAC).

Never forget where we started, and we will keep forging ahead on a new journey. Facing both the opportunities and challenges in 2020, Ansteel Group, guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, will thoroughly implement the new development philosophy, deepen reforms across the board, accelerate innovation and green development, and make joint contribution for shared results. Together, we will open a new prospect for high-quality development and make greater contributions to securing a decisive victory in building a moderately prosperous society in all respects.

About Us

Company Profile

Ansteel Group Corporation Limited was restructured from Anshan Iron and Steel Group Co., Ltd. and Pangang Group Co., Ltd. in May 2010. In 2019, Ansteel Group ranked 385th in the Fortune Global 500 list. As one of the large-scale enterprises directly managed by the central government, Ansteel Group has nine distinctive production bases in northeast, southwest, southeast, and southern China, and has rich iron ore resources in Liaoning and Sichuan, China and in Carrara, Australia. Ansteel Group is an iron & steel enterprise in China with the biggest resource advantage.

We have 28 subsidiaries and organizations overseas and more than 500 domestic and foreign customers and partners. The products of Ansteel are sold to more than 70 countries and regions, with an annually import and export amount of more than 5 billion dollars.

We continue to innovate in metallurgical technology, processes and products. Among China's first batch of "innovative enterprises", we are also the first iron & steel company in China with the capability of complete technology output.

In the new era, Ansteel staff remain true to our original aspiration of "remembering the responsibility of the eldest son of the Republic and dedicating ourselves to serving the country", and commit ourselves to the mission of "manufacturing better material for creating a better life". We follow and strengthen the overall Party leadership, implement the new development philosophy, and expand opening up on all fronts. We continue to deepen reform and innovation and speed up transformation and upgrading for better development, striving to build Ansteel Group into a leader in the high-quality development of China's steel industry and a world-class enterprise with global competitiveness.



Business Scope

We can produce **40** million tons of iron concentrate, **36** million tons of iron, **43** million tons of steel, **38** million tons of steel products, **40,000** tons of vanadium products and more than **500,000** tons of titanium products. We can produce **3,000** grades of steel and vanadium titanium products with high technology and high added-value.

We have a whole set of advanced iron & steel production equipment covering mining exploitation, sintering, iron-making, steel rolling as well as coking, fire resistance, driving force and transport, etc. We have capabilities of mine, complete steel production technology and management ability output. We have a complete steel product portfolio covering hot rolling plates, cold rolling plates, galvanized plates, color coated plates, cold rolling silicon steel, heavy rails, seamless steel pipelines, steel bars, steel wires, steel ropes, and stainless steel, a series of vanadium products including vanadium oxide, high vanadium ferroalloy, vanadium nitrogen alloy, and vanadium aluminum alloy, as well as a series of titanium products including titanium concentrate, high titanium bearing slag, titanium dioxide, sponge titanium, and other titanium products, which are widely used in dozens of industries such as railways, construction, automobiles, machinery, shipbuilding, home appliances, containers, petroleum and petrochemicals, and aerospace. Among them, automotive steel, railway steel, home appliance steel, shipbuilding and marine engineering steel, container steel, electrical steel, petroleum and petrochemical steel, high-end product steel, and special steel lead the domestic market.

We can see the extensive application of Ansteel products in major projects at home and abroad, including China's West-East Gas Pipeline Project, Qinghai-Tibet Railway, Three Gorges Dam, Nanjing Yangtze River Bridge, Hong Kong-Zhuhai-Macao Bridge, Bird's Nest Stadium, Verrazano-Narrows Bridge, and Tanana River Bridge in the United States, making Ansteel a global supplier of many internationally renowned companies.

Corporate Culture

- **Vision:** To be an iron and steel group corporation with the most international influence
- **Mission:** Producing better material Creating more wonderful life
- **Core values:** Innovation, Practicality, Striving, Devotion
- **Cultural inheritance:** The spirit of "Ansteel Constitution", the glorious tradition of Ansteel Group
- **Management philosophy:** Staff first, market orientation, continuous reform, legal compliance, refinedness and rigidity, highly efficient execution
- **Behavioral rules:** Compliance, Devotion, Goodness, Civilization
- **Corporate image:** A leading, global renowned brand



Figures in 2019



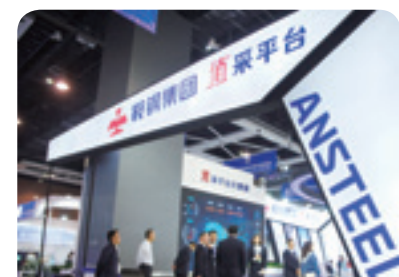
Driving innovation development with craftsmanship

- Won **1** second prize of the National Science and Technology Progress Award
- Won **1** first prize, **4** second prizes and **6** third prizes of Metallurgical Science and Technology
- Obtained **1,811** patents, including **1,173** invention patents
- Led (**15** standards) or participated in (**19** standards) the formulation/revision of **34** international standards, national standards and industry standards
- **23** are national or provincial level leading experts



Striving for excellent quality wholeheartedly

- Ansteel Group produced **41.44** million tons of iron concentrate, **36.76** million tons of iron, **39.2** million tons of steel, **36.57** million tons of steel products, **1.1375** million tons of titanium concentrate, **233,900** tons of titanium dioxide, **4,000** tons of other titanium products, and **4.23** tons of vanadium products
- Ansteel Group operating revenue reached RMB **217.40** billion, with RMB **2.35** billion of total profit



Achieving win-win outcomes with partners

- **100%** responsible purchase ratio, **100%** electronic bidding rate
- **100%** online purchase rate, **100%** purchase quality control coverage



Protecting the environment with dedication

- Comprehensive energy consumption of steel per ton was down by **0.48%**
- New water consumption of steel per ton was down by **12.03%**
- Energy consumption per RMB 10,000 output value (comparable price) decreased by **0.30%** year on year



Building a happy enterprise with joint efforts

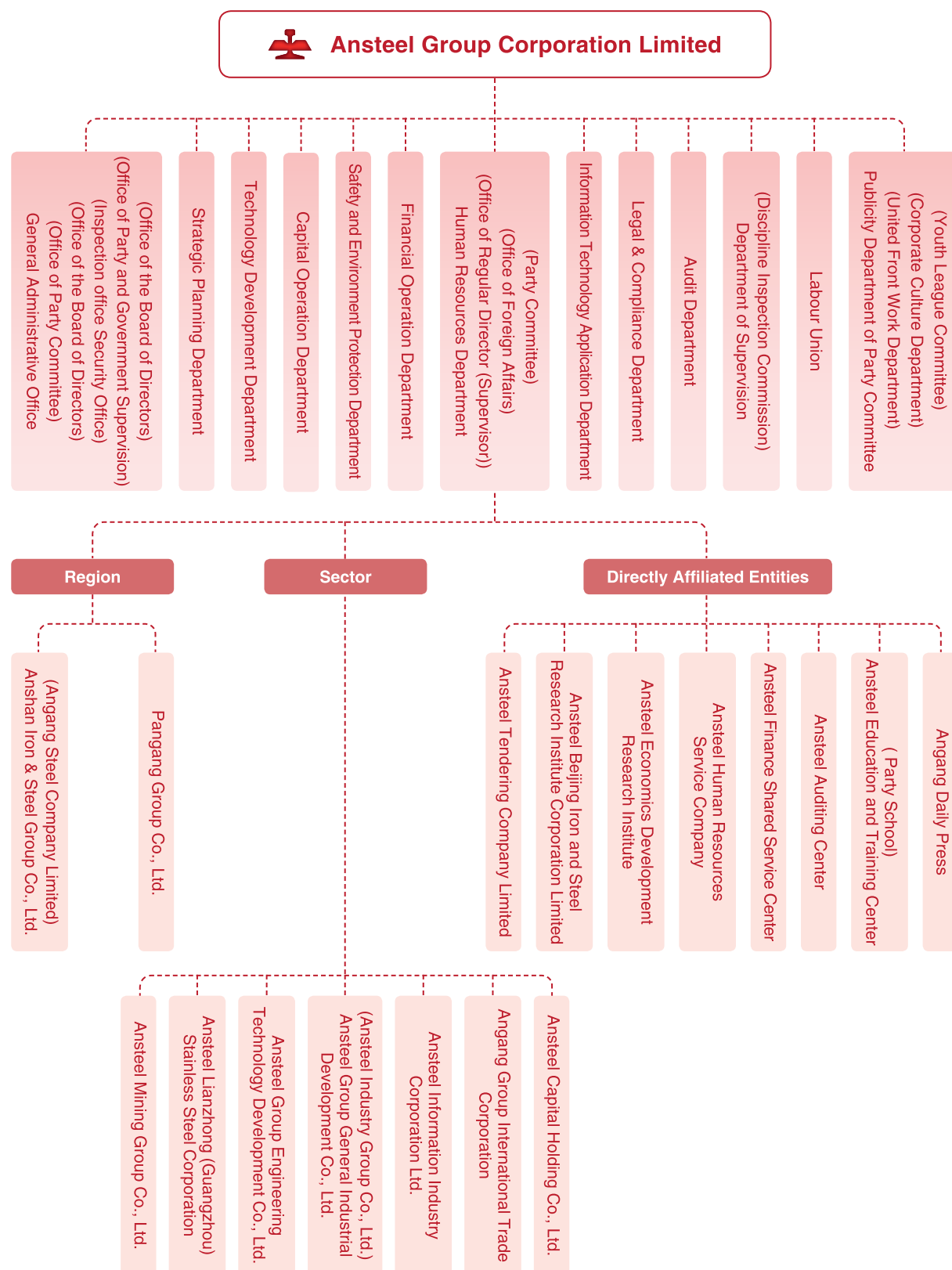
- **104,846** employees
- **100%** labor contract signing rate
- **90,453** person-time employees trained
- **RMB 115** million invested in employee training
- **A total of 2.85** million training hours



Supporting community development with care

- We implemented **74** poverty alleviation projects, with a total investment of RMB **34.68** million and **24** officials sent to take a temporary post to combat poverty
- We spent RMB **3.6** billion and RMB **25.75** million respectively to purchase recourses including coal and agricultural and sideline products from targeted regions
- We sent **6,990** young volunteers and organized **940** volunteer activities
- Over **9,000** young employees participated in volunteer activities

Organizational Structure (Up to December 31, 2019)



Development Strategy

In March 2019, Ansteel Group put forward the goal of “building Ansteel Group into a leader in the high-quality development of China’s steel industry and a world-class enterprise with global competitiveness”, and formulated a development strategy accordingly.

Development strategy:

Focusing on one main task, stimulating three drivers, pursuing three businesses, and implementing six projects.

Focusing on one main task means to follow and strengthen the overall Party leadership, implement the new development philosophy, and build a high-quality Ansteel Group.

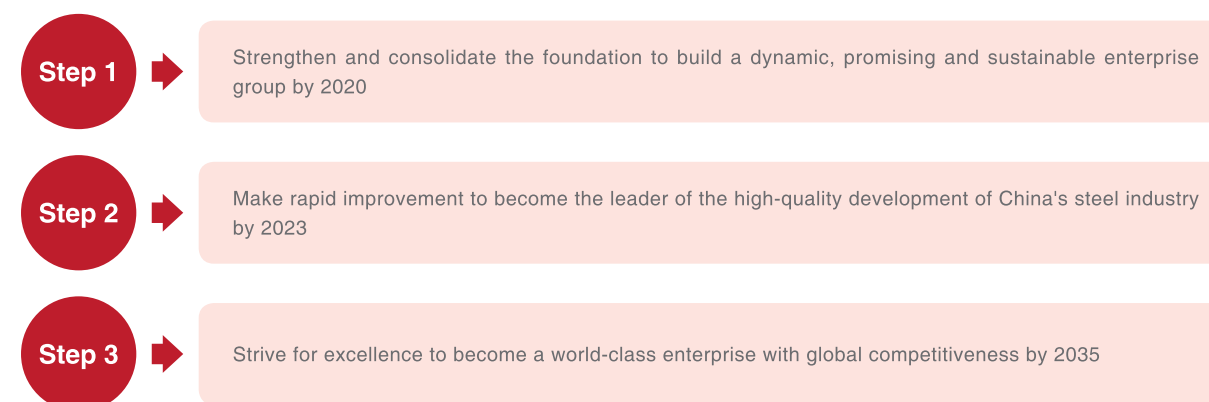
Stimulating three drivers, means to stimulate the capital, reform, and science and technology.

Pursuing three businesses means to strengthen and refine the material business, keep upgrade the mineral resources business, and develop the industrial business selectively.

Our goal:

To build Ansteel into a leader in the high-quality development of China’s steel industry and a world-class enterprise with global competitiveness.

To realize the goal, three steps are needed:



Company Governance

Improving the modern enterprise system

Ansteel Group follows the law of modern enterprise development. Building on the comprehensive company system reform, we have further improved the corporate governance structure and perfected the institutional system with the articles of association as the core. In 2019, we amended the *Measures for the Implementation and Supervision of the “Three Importance and One Greatness” Decision-Making System of Ansteel Group*, established and improved the “Three Importance and One Greatness” decision-making and operation supervision system covering the Group and subsidiaries at all levels, and aligned with the SASAC system to achieve online supervision of the “Three Importance and One Greatness”(the decision-making of major issues, major officials appointment, major project arrangements, and use of large-volume capital). We standardized the decision-making procedures of the Board of Directors, enhanced the implementation of the resolutions of the Board of Directors by the management, and further advanced the standardization of the Board of Directors to realize its standardized and effective operation.

We clarified the rights and responsibilities of the governance subject, fully incorporated the Party building into the corporate governance and ensured the Secretary of Party Committee and Chairman shoulder the responsibilities, giving full play to the core political role and leadership role of the Party Committee in corporate governance and making sure that major decisions are pre-examined by the Standing Committee of the Party Committee. We clarified 23 decisions of the Standing Committee of the Party Committee, 74 deliberation matters, 47 decisions of the Board of Directors, and 49 decisions of the President’s meeting, forming an operating mechanism with each performing its own functions and duties in a coordinated manner.

The Party's political building is the overarching principle

As stressed by General Secretary Xi Jinping, "If our Party is to lead the people to effectively respond to major challenges, withstand major risks, overcome major obstacles, address major conflicts, and secure one victory after another, it must do a good job in Party building". Ansteel Group takes enhancing the Party's political building as the overarching principle, thoroughly implements the general requirements for Party building in the new era, and gives full play to the leadership role of the Party Committee in steering the direction, managing the overall situation, and guaranteeing the implementation. We have promoted the high-quality development of the Group Company's overall businesses with the high-quality of Party building.

Enhancing the Party's political building

The implementation of the instructions and principles of General Secretary Xi Jinping. In 2019, we held special seminars to learn and understand the instructions and principles of General Secretary Xi Jinping, and to plan and promote the implementation of the work. Guided by the principles embodied of General Secretary Xi Jinping's speech, we made systematic plans for future development, and convened the second Ansteel Party congress to determine the overall strategy and goals.

In-depth implementation of the two "consistencies". In 2019, we formulated opinions for strengthening the implementation of the Party's political building, and formed a list of matters that need to be requested, reported to and documented by the higher Party organization. We reviewed the progress made in incorporating the Party building into the corporate governance to ensure full integration.

Launching a campaign on the theme of "staying true to our founding mission". In accordance with the unified plan of the CPC Central Committee, focusing on the main theme and main tasks, and remaining problem-oriented, we achieved solid results in promoting two batches of themed campaigns.

Implementing the Party building responsibility. We formulated system such as the rule of procedures for special meetings of the Secretary of the Party Committee, convened the Standing Committee of the Party Committee to listen to leadership members' work report on Party building, and established an Ansteel Party committee monthly work plan system. We standardized the "Two Requests for Instructions and One Report" approval process for the Party committees of directly-administered units, improved the assessment and evaluation methods of the Party building responsibility system, and realized the simultaneous reimbursement of Party building and production and operation. In addition, we fully carried out the appraisal and assessment of the work reports of Party Committee secretaries and Party Branch secretaries, which motivated Party organization secretaries to perform their duties.

Strengthening the standardization of Party branch building. In 2019, we steadily carried out the Party branch building and promotion activities, and consolidated the foundation, advanced the upgrading and set examples of the Party branch. We formulated guidelines for strengthening the organizational life of community-level Party organizations, and held a seminar on Party branch building. We provided more guidance on Party building, compiling and distributing the *Party Committee Work Manual*, *Party Branch Work Manual*, *Community-level Party Building Innovation Case Collection* and other work guidance series. One of our innovative cases was included in the *Community-level Party Organization Secretary Case Collection* prepared by the Organization Department of the CPC Central Committee, as the education and training material for Party members across the country.

Giving full play to the model role of Party members. In 2019, we organized a series of themed activities of "staying true to our founding mission and keeping the true political qualities", to guide the majority of Party members to strive for excellence and make contributions on their respective posts and to play the model role. We developed the *Implementation Opinions on Party Member Education and Training for 2019-2023*, and carried out the 7th "Ganghua Award" Party member education telefilm selection activity. One of our telefilms won the Excellence Award at the 15th National Party Member Education Telefilms Award.

Strengthening the Party organizations

CSR Management

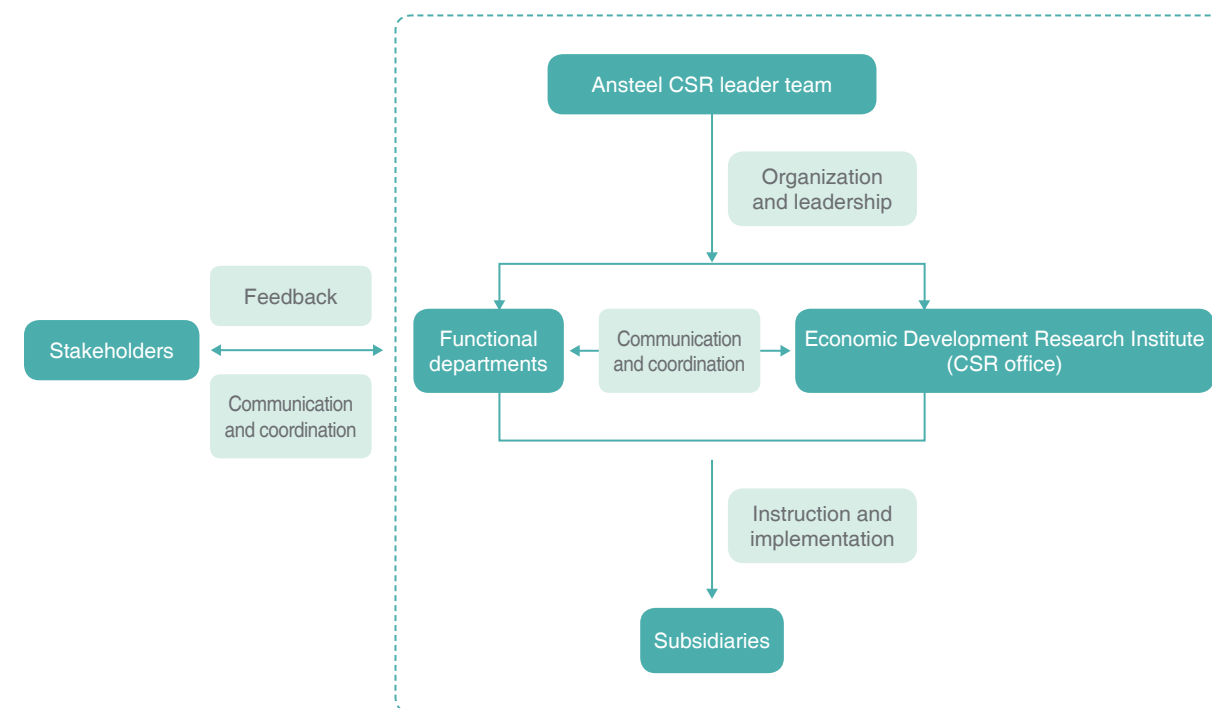
CSR Outlook

Taking the capacity building for sustainable corporate development as the core, we continue to strengthen CSR management, promote the integration of CSR into all links of Ansteel's production, operation, and decision-making, and fulfill our responsibilities to the government, regulatory agencies, customers, employees, partners, the environment and other stakeholders, in hope of creating a better future through joint efforts.

CSR Management

We have strengthened the corporation social responsibility (CSR) and sustainability organization system and management functions, and built an index system with strategic management, business performance, technological innovation, resource and environment, employee protection and social development as the core. We have established a management and control mechanism covering the system, process, operation and assessment which has laid a foundation for further promoting CSR and sustainability management.

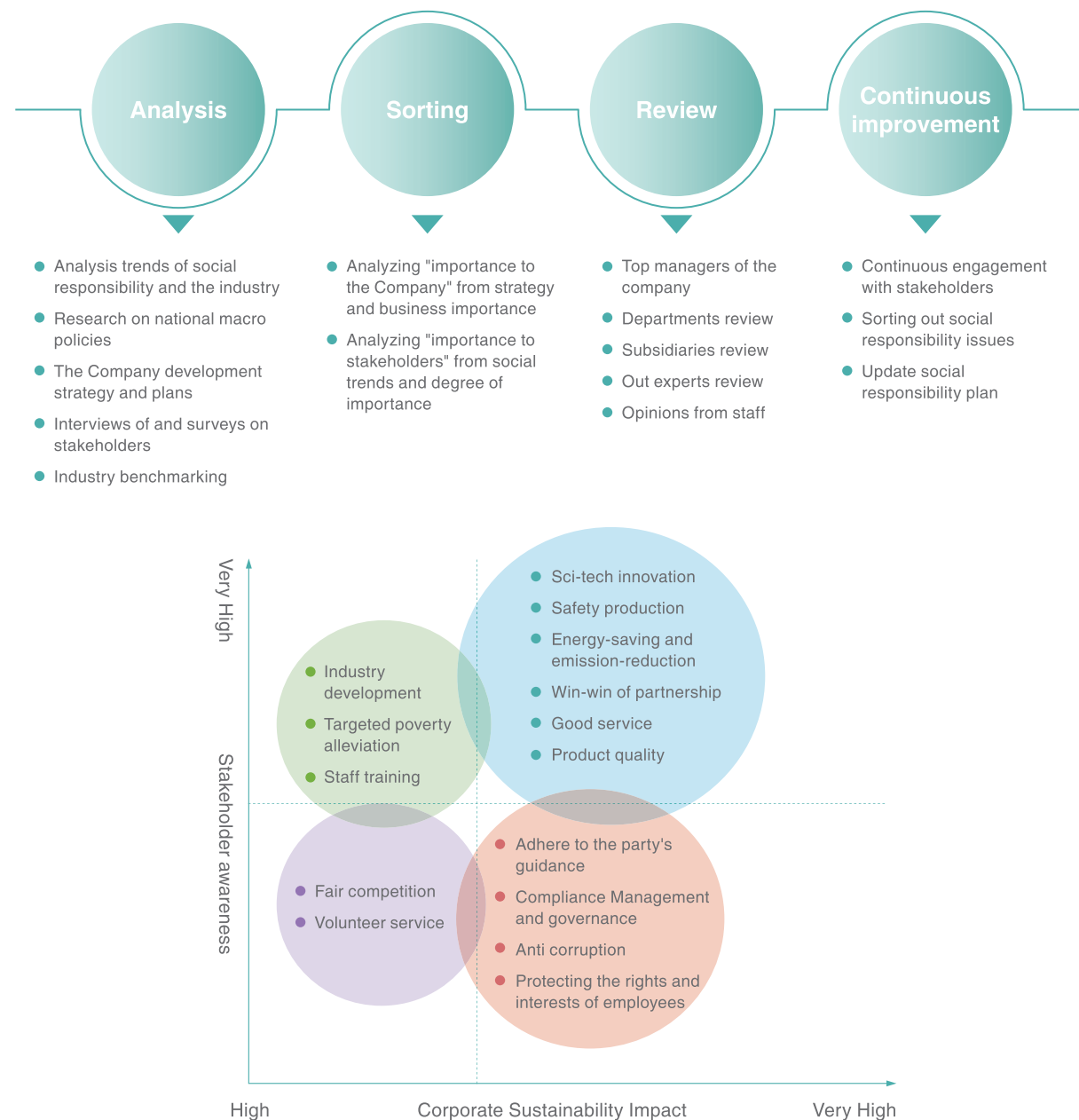
Since 2013, we have established a CSR organization system covering the headquarters as well as subsidiaries and ranging from management to execution that systematically sorts out work processes, improves the management organization system, clarifies leadership responsibilities and centralized management departments, and clearly defines job responsibilities and tasks, so as to realize scientific, systematic and standardized CSR management.



↑ Organization for Social Responsibility and Sustainable Development

Analysis of substantive issues

Based on the macro environment of sustainable development and our own development plan, we follow the principles of Materiality, integrity and stakeholder participation, comprehensively identifies and sorts the issues affecting the importance of business development and the degree of influence on stakeholders, and determines the material issues of social responsibility of the company in 2019.





Stakeholder Engagement

The company pay attention to the stakeholder engagement, continuously improves the transparency of enterprise operation, improves the multi-level and multi-directional communication channels with the government, partners, employees, communities and other stakeholders, effectively identifies and actively responds to the expectations and demands of stakeholders, and strives to establish a harmonious relationship with stakeholders.

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
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

Progress in implementing the 2030 Agenda for Sustainable Development

SDGs	Process
 <p>SDG1 End poverty in all its forms everywhere</p>	Ansteel supports people's livelihood, education and medical development, and sends talents to solve some of the prominent problems including meeting the basic needs of food and clothing and guaranteeing compulsory education, basic medical care and housing. In 2019, we implemented 74 poverty alleviation projects, invested RMB 34.68 million of poverty alleviation funds, sent 24 officials to take a temporary post to combat poverty, and purchased coal worth RMB 3.6 billion and agricultural and sideline products worth RMB 25.75 million from targeted poverty alleviation counties.
 <p>SDG2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture</p>	We have channeled interest-free poverty alleviation funds to Tajik County to found Kashgar Zhongchengxin Agriculture and Animal Husbandry Development Co., Ltd. to help Qvjiazhuang Village develop the shallot characteristic industry and the Yunrong planting industry, thus promoting local agricultural development.
 <p>SDG3 Ensure healthy lives and promote well-being for all at all ages</p>	Ansteel Group has sent a team of medical experts to conduct medical assistance, and helped Tajik County establish a medical and health security system and improve the department management system. We have improved the environment of the health stations for seven village-level and township-level hospitals in Tajik County, making it more convenient for the local people to get medical treatment.
 <p>SDG4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</p>	We have sent teams of professional coaches to provide training on professional skills and employment skills for poor villagers in poverty-stricken areas, and have set up the "Pangang Group Realizing Dream of Student Grant" and carried out the Golden Autumn Student Assistance program to help students from registered poor households. We have also provided partner assistance and educational donations for kindergartens, primary schools, and secondary schools in poor areas all the year round to guarantee access of people from poor areas to basic education.
 <p>SDG5 Achieve gender equality and empower all women and girls</p>	We comply with relevant local laws and regulations and abide by the principle of equal and non-discriminatory employment; we care for female employees and organize various cultural and recreational activities to help them realize work-life balance.
 <p>SDG6 Ensure availability and sustainable management of water and sanitation for all</p>	By laying equal stress on tapping new water sources and reducing water use, and strengthening water recycling, we have effectively improved the efficiency of water use. In 2019, the water intake of Anshan Iron and Steel Group dropped by 10% year on year, with zero water discharge to external areas and 98.5% of water recycled, making us a leading company in the industry.
 <p>Goal 7 Ensure access to affordable, reliable, sustainable and modern energy for all</p>	Ansteel has carried out scientific research on energy saving and emission reduction, strengthened the utilization efficiency of resources, optimized the energy use structure, and created new energy management methods. With intensified application of energy research results, we have seen significant reductions in such indicators as the energy consumption per RMB 10,000 output value.
 <p>SDG8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p>	Ansteel implements the strategy of prioritizing talent development. We have improved the education and training system, and built a platform for employee growth. In 2019, we invested RMB 115 million in employee education, with 90,000 participants.

SDGs	Process
 <p>SDG9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation ecosystems, sustainably manage forests, combat desertification, and halt and reverse</p>	Ansteel Group has increased investment in scientific research, and made breakthroughs in key leading technologies. We actively undertake or participate in major national science and technology projects, and strengthen research on key generic technologies, leading-edge technologies, and disruptive technologies, continuously enhancing our core competitiveness.
 <p>SDG10 Reduce inequality within and among countries</p>	Through investment- and public welfare-oriented community activities, we help communities realize sustainable development and reduce inequality within our country.
 <p>SDG11 Make cities and human settlements inclusive, safe, resilient and sustainable</p>	Ansteel Group is committed to providing advanced materials with higher technological content, more environmentally friendly and smarter to support the construction of national key projects.
 <p>SDG12 Ensure sustainable consumption and production patterns</p>	Ansteel Group carries out waste recycling and fully implements the idea of "saving iron and increasing steel." We have launched research in new environmental technologies, such as the "Development and Application of Key Technologies for Energy Conservation and Environmental Protection in Coking Production" and the "New Type of Green Nano Concrete Preparation and Application Technology Research."
 <p>SDG13 Take urgent action to combat climate change and its impacts</p>	Ansteel has created new energy management methods and intensified applications of energy research results, thus realizing significant reductions in such indicators as the energy consumption per RMB 10,000 output value. We have also formulated an implementation plan for ultra-low emission transformation and accelerated the promotion of the plan.
 <p>SDG15 Protect, restore and promote sustainable use of terrestrial</p>	Ansteel invested about RMB 66 million in the greening and beautifying of the plant area, and 34,300 trees, 139,100 shrubs, 1.045 million hedgerows, and 82,000 square meters of lawns have formed a multi-level, high-density green landscape with a green coverage rate of 40.5%.
 <p>SDG16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels</p>	We have organized a wide range of mass work safety activities with a focus on the prevention of work safety accidents and the control of occupational hazards, and worked to reduce any forms of corruption and bribery.



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Driving Innovation Development with Craftsmanship

In the digital age, the steel industry featuring greenness, material, wisdom, and globalization, has brought together the world's cutting-edge technologies and is rich in innovative elements. Ansteel promotes the deep integration of industrialization and informatization, accelerates the development of emerging information technology industries, cultivates new growth drivers, continues to strengthen innovation development, and increases investment in scientific research, in order to build a smart Ansteel and lead the steel industry towards sustainable development.





The First 5G Application in the industry

As a typical industry of complex processes, the steel industry has extremely high requirements for the reliability and stability of the network. Considering the complex conditions in the production facilities, such as high temperature, dust, corrosion, and electromagnetic interference, smarter image recognition and automatic operation control based on Internet of things have become rigid demands of the industry.

2019 marked the first year of the commercial use of 5G. Ansteel carried out in-depth cooperation with ZTE and Liaoning Mobile in 5G application and innovation. The three parties gave full play to their respective advantages and developed an integrated solution for smart manufacturing that meets the development needs of the steel industry. The solution includes the equipment life cycle management system, defect detection system, machine vision safety management system, and equipment remote control system. It is the first time that 5G technology has been integrated into the manufacturing industry on a large scale to form a complete business solution.

Unlike the previous video transmission applications that mainly rely on the large bandwidth of 5G technology, the 5G+ smart steel enterprise solution deeply integrates 5G technology with AI, edge computing, cloud computing, and big data technologies. Through technical means, it can effectively satisfy the needs of Ansteel to improve production efficiency, reduce production costs, and ensure employees' safety. The 5G+ smart steel enterprise commercial product solution is under implementation across Ansteel:

On the 1780 hot rolling production line of Anshan Iron and Steel Group

More than 400 roller conveyor motors can upload various data of motor operation to the cloud platform through 5G communication. Through big data analysis, the cloud platform realizes automatic analysis, judgment, and prediction of motor failures. It has changed the traditional fault handling method from adopting remedial measures to taking preventive actions, which greatly improves the operating efficiency of the equipment.

In the 5th coking operation area of Anshan Iron and Steel Group's coking complex

Video surveillance systems are scattered from the head to the tail of the conveyor, as well as at the entrance of each conveyor corridor and the key areas of conveyor operation. Through the 5G network, these surveillance videos are uploaded to the cloud video analysis platform in real-time. Combined with the conveyor automatic control system, the conveyor system can realize remote monitoring and processing to guarantee safer, more stable and more efficient operation.

On line 2 and line 4 of Anshan Iron and Steel Group's cold rolling plant

We have bid farewell to the era of visual inspection and stand-alone detectors of steel products in high-speed production. Relying on 5G+ machine vision, real-time images of the steel plate surface are uploaded to the MEC edge cloud platform without delay. Using the defect library for analysis and comparison, the defect recognition rate and output rate of the steel plate have been greatly increased.

On Pangang Group Vanadium's nitrogen alloy production line

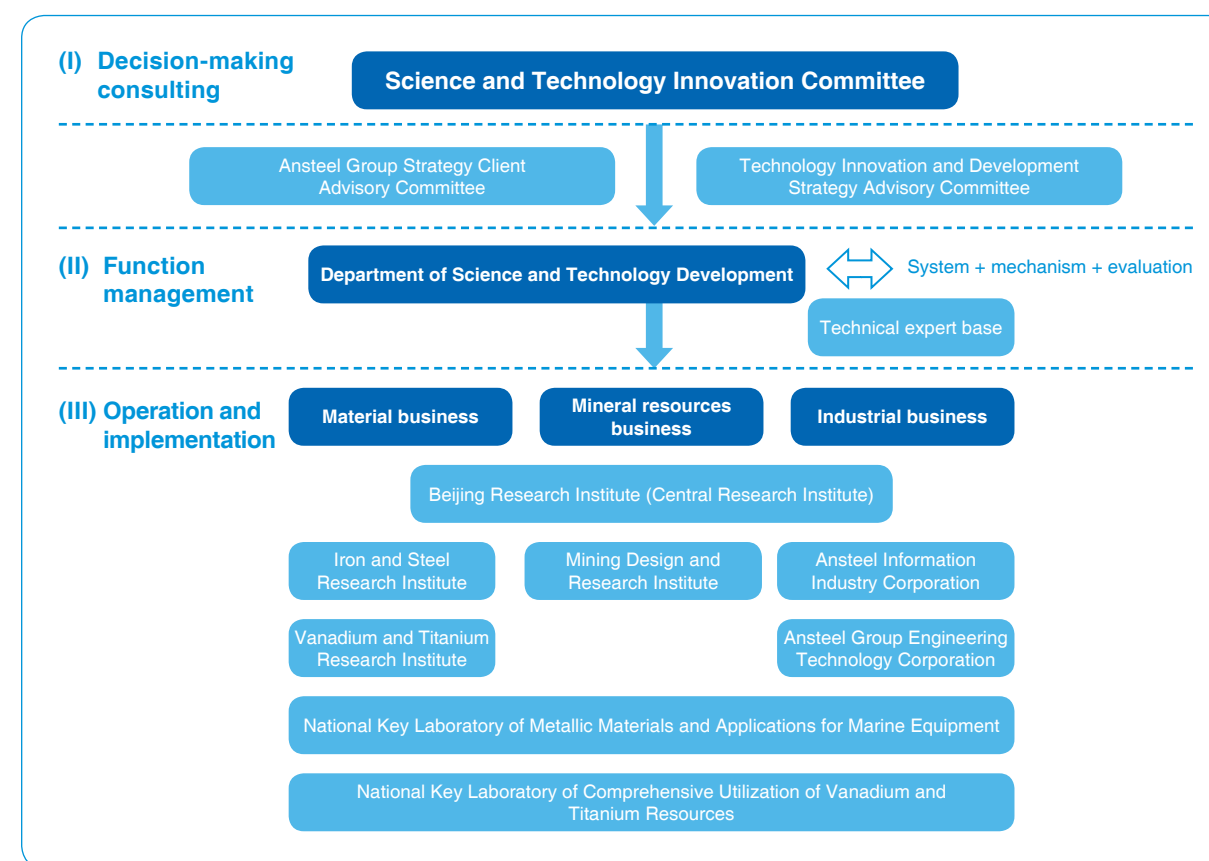
Intelligent equipment such as unmanned cranes and AGV unmanned forklifts are connected to the 5G network. Under the independent dispatch of the material operation system, the automatic transfer of production materials is realized, which effectively liberates manual operations and improves production efficiency.

The world's first 5G+ Smart Steel Enterprise commercial product solution used by Ansteel is replicable, highly applicable and popular for other smart steel plants. It marks a key step in extending the application and integration of 5G+X in thousands of industries. In the future, Ansteel will further explore the possibility to form consortiums with operators and professional equipment manufacturers to jointly promote the vertical application of 5G in the steel industry.



Improving the System and Mechanism for Innovation

Ansteel continues to improve its S&T management system and mechanism. We have formed an innovation pattern that serves national strategies and needs, leads development with technological progress, and encourages scientific research personnel to make contributions on their posts. We have built an organizational structure for technological innovation composed of decision-making consulting, function management, and operation and implementation, to fully mobilize the enthusiasm in innovation of all parties, stimulate lasting innovation motivation, and form a virtuous circle of continuous innovation. In 2019, Pangang Group Technology Center (Vanadium and Titanium Research Institute) ranked 24th (2nd in the steel industry) according to the evaluation results of 1,563 technology centers across the country released by the National Development and Reform Commission (NDRC). Pangang Group ranked second in category of Enterprises with the Best Patent Innovation Capability in the *Patent Innovation Index of China's Iron and Steel Enterprises (2019)*.



Case Creating the S&T innovation index to stimulate the innovation potential

Ansteel has established the S&T innovation index to continuously monitor the innovation development of the Group, its subsidiaries and R&D institutions, evaluate their innovation development, and maximize the innovation potential. The index is composed of 17 quantitative indicators of 10 elements, including scientific research project funding, technology realization, and intellectual property rights, and evaluates the innovation of subsidiaries and R&D institutions. In 2019, the S&T innovation index of Anshan Iron and Steel Group and Pangang Group was 73.2.

Driving Innovation Development with Craftsmanship

Striving for Excellent Quality Wholeheartedly

Achieving Win-Win Outcomes with Partners

Protecting the Environment with Dedication

Building a happy enterprise with joint efforts

Supporting Community Development with Care

Ansteel revises and improves the technology management system, and promotes the implementation of project contract system and achievement sharing system in subsidiaries and R&D institutions. We have established and improved the achievement transformation fund, further improved the technological achievements transformation capability of research institutions, and mobilized the innovation initiative of technological personnel, thus accelerating the application of technological achievements in production.



Ansteel encourages employees to create and innovate, and uses staff innovation studios, work competitions, advanced operation method selection and other activities to tap the innovation potential of employees. In 2019, 904 mass innovation projects were completed, generating a revenue of RMB 388 million. An achievement of Wang Hongyan, Pangang Group Engineering Corporation, won the third prize of National Metallurgical Science and Technology. An achievement of Qu Xiaodong, Ansteel's Hot Rolling Steel Plant, won the second prize of Science and Technology Progress of Liaoning Province. And an achievement of Jing Baigang, Bayuquan Steel Subsidiary's Steelmaking Department, won the second prize of the 2018 Invention and Entrepreneurship Achievement Award of China Association of Inventions. At the 23rd National Exhibition of Inventions, our employee innovation achievements won 20 gold awards, 33 silver awards and 36 bronze awards.

Ansteel promotes the building of staff innovation studios, with eight Group-level studios newly named and nine studios newly named at the provincial level. Five innovation studios were included into the lists of Liaoning Province Model Worker Innovation Studios and Liaoning Province Workers Innovation Studio. One studio was selected as Sichuan Province Mechatronics and Coal Smelting System Model Worker and Craftsman Demonstration Innovation Studio, and two were selected as Sichuan Province Model Worker and Craftsman Innovation Studio. Such achievements fully demonstrate Ansteel employees' ability to innovate.

Case  **Committing ourselves to developing leading technologies in the world**

Tao Gongming, a national model worker and chief engineer of the rail beam plant of Pangang Group, has led the Tao Gongming Model Worker Innovation Studio to overcome a number of heavy rail technical problems, enabling Pangang Group's railway steel to go global and China's high-speed rail to top the world's speed record. Since its establishment in 2017, the Tao Gongming Model Worker Innovation Studio has been committed to the R&D of world-leading rail steel rolling technology, with its R&D fields covering structural steel product development, process & technology innovation, process model development, etc. In particular, the Studio has rich experience in finite element simulation and algorithm modeling, and has won nine science and technology progress awards at provincial and ministerial level or above. The Studio has more than 80 authorized inventions and utility models patents and published over 30 scientific research papers, generating a revenue of more than RMB 10 million annually.



Tackling Hard-nut S&T Problems

Ansteel has increased investment in scientific research, and made breakthroughs in key leading technologies. We actively undertake or participate in major national science and technology projects, and strengthen research on key generic technologies, cutting-edge technologies, and disruptive technologies, continuously enhancing our core competitiveness. In 2019, Ansteel has obtained 1,811 patents, including 1,173 invention patents, accounting for 64.7%. We have a total of 8,227 valid patents, among which 4,324 are invention patents, accounting for 52.5%. The quantity and quality of patents have been further improved.

In 2019

the Key Technology Integration and Industrial Application of Lean Iron Ore Resource Utilization project completed by Ansteel Mining won the **second prize of National Science and Technology Progress Award**, and **1** first prize, **4** second prizes and **6** third prizes of Metallurgical Science and Technology.

Pangang Group's patent for invention – a method for calcification and roasting of vanadium-containing materials – won the **21st China Patent Excellence Award**. We have led (**15** standards) or participated in (**19** standards) the formulation/revision of **34** international standards, national standards and industry standards.

Case  **Leading industry development and creating economic benefit**

The Typical Deep Processing Process & Technology and Device R&D and Application for 300,000 Tons of Tar project of Ansteel developed a full-process coal tar deep-processing technology featuring multi components, high efficiency, and fine separation, and produced a complete set of full-process coal tar deep-processing technology. It has won the first prize of the National Metallurgical Science and Technology. The project mainly contains the following three innovations:

It has developed the **full-process distillation deep-processing technology** to treat 300,000 tons of tar per year

It has independently developed the **core technology of oil washing, distillation, and continuous atmospheric and vacuum distillation** of 300,000 tons of coal tar

It has developed **large-scale key supporting equipment**

The technology generated a gross national output value of approximately RMB 6.7 billion from 2016 to 2018, with a profit of approximately RMB 620 million. It produced a batch of high-value-added products that fill the gap in China and are irreplaceable in petrochemical industries, providing high-quality basic materials for the medicine, new optics, aerospace and other fields in China and realizing clean production.

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Supporting Community Development with Care

Case  **Tackling universal problems**

There are billions of tons of extremely lean hematite ore in the Anshan-type iron ore resources, and the total iron grade of this type of resource is only 15-20%. Due to factors such as mining technology, this part of iron ore resources has not been effectively exploited or utilized. After ten years of research, in 2019, the Twelfth Five-year National Science and Technology Support Plan project undertaken by Ansteel Mining – Research and Application of New Technologies for the Efficient Exploitation and Utilization of the Anshan-type Extremely Lean Hematite Ore – successfully passed the inspection and acceptance. The project solved a series of key technical problems in the open-pit targeted mining of the Anshan-type extremely lean hematite ore, brought the extremely lean hematite beneficiation technology to an international advanced level, and put a large quantity of idle Anshan-type extremely lean hematite resources into use, creating significant economic and social benefits.

Case  **Improving the use of intellectual property right in Anshan Iron and Steel Group**

Anshan Iron and Steel Group protects intellectual property right (IPR) in the whole process of R&D projects, including project establishment, promotion, and acceptance, and carries out full-process management of IPR creation and use in development positioning, key areas, strategic varieties, and key projects, incorporating IPR into the entire process of technological research and development. The company has conducted strategic patent research and analysis in key areas, and determined the focus of core patent layout, to realize effective protection of patented technologies. It used its patent information collection and analysis equipment to track the industry technology development at home and abroad, carried out special research on patent information, and improved the research and effective use of patent information. Efforts have been made to improve the performance of IPR work in order to provide strong support for improving the innovation and competitiveness of the company.



Building a Smart Ansteel

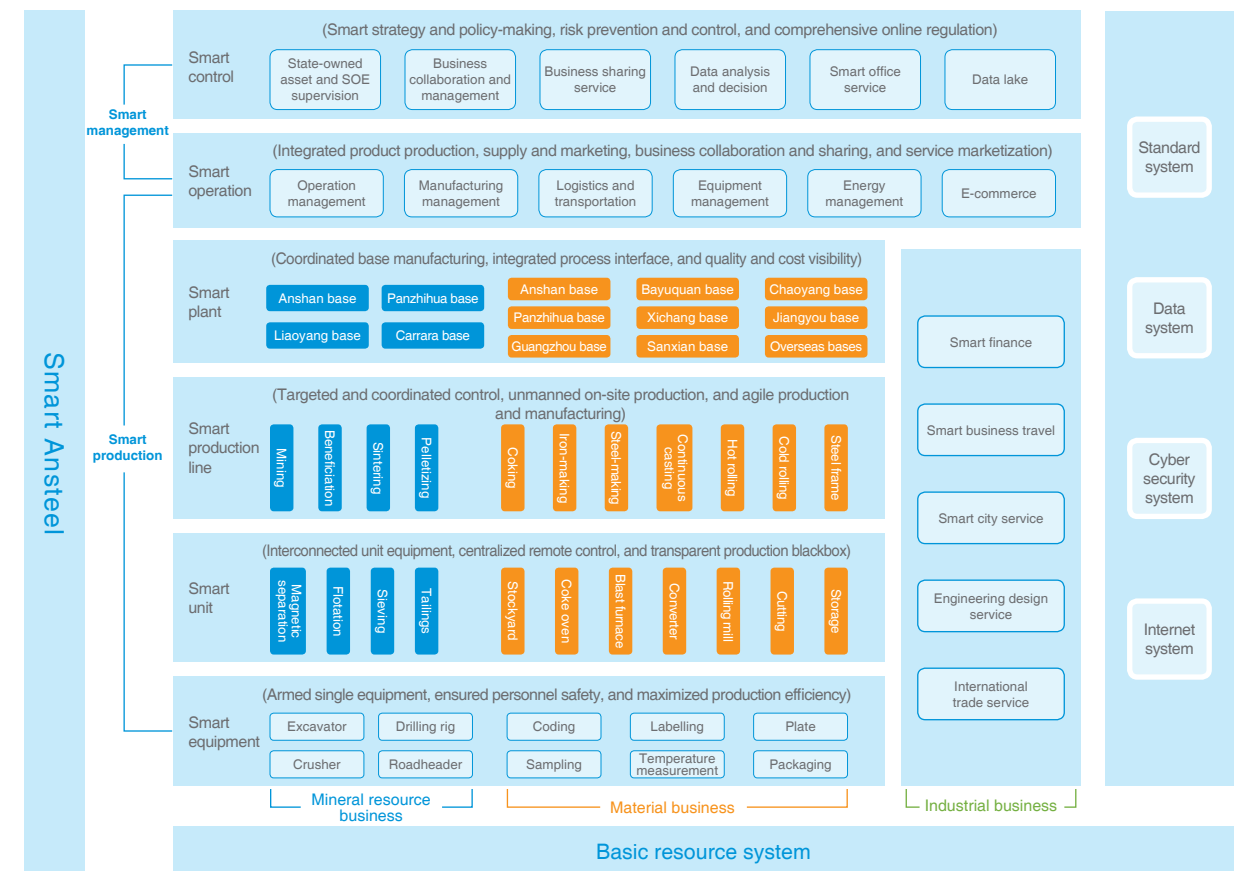
Ansteel acts on General Secretary Xi Jinping’s strategic thinking of national cyber development and comprehensively implements the requirements for high-quality development of the steel industry. Focusing on our development strategy in the new era, we have promoted the building of a smart Ansteel across the board through smart management and smart production, created a new model of smart manufacturing, and empowered the new business form of “Internet+”. We have stimulated the innovation vitality of Ansteel and promoted Ansteel’s digital and intelligent transformation to support the realization of our strategic goals.

Drawing a New Blueprint for a Smart Ansteel

Considering characteristics of steel enterprises, such as long industrial process, wide product range, difficulty in quality control, and high energy and material consumption, Ansteel, after benchmarking against advanced manufacturing enterprises at home and abroad and analyzing the application scenarios of the new generation information technology in the steel industry, has proposed the features of future steel enterprises, that is, data-driven, agile production, precise management and control, and full coordination. We have drawn a smart development blueprint, and put forward two ways: smart management and smart production, to achieve that goal.

Three-step objective for building a smart Ansteel:

- Build a model demonstration of smart Ansteel, and build pilot demonstrations of smart manufacturing in key production processes such as mining, beneficiation, steel-making, steel rolling, and thick steel plate, by 2020
- Build a smart Ansteel supporting system, and explore the establishment of an industrial Internet platform and Internet + service platform, by 2022
- Promote the smart Ansteel initiative to cover the whole Group, and build an industry Internet platform for steel AI, mining AI, and mineral steel AI, by 2024



↑ Ansteel’s smart development blueprint

Promoting the Realization of a Smart Ansteel

Promoting smart management to realize business collaboration and information sharing

Ansteel has clarified the "1+2+N" informatization plan based on the online supervision informatization plan of the SASAC and the Group's three smart management systems.



- We have built an information center, reconstructed the underlying technical architecture, and developed information technology-supported and business-supported micro-services by drawing on the results and experience of informatization. These micro-services enable fast building of information-based professional applications to meet the needs of Ansteel.
- We have built the Three Importance and One Greatness, the large-value fund, and other state-owned asset and SOE supervision information systems to facilitate the online supervision over central state-owned enterprises of the SASAC.
- We have built a business sharing system for Party building, human resources, and finance, and developed a business information sharing system to achieve centralized and unified customer and supplier management across the Group.
- We have established information systems for business collaboration and management, such as auditing, attendance, and title rating, to further standardize the Group's business management model, optimize operation procedures, and improve work quality and efficiency.

Ansteel subsidiaries have undertaken all information systems for Party building, human resources, finance, state-owned assets supervision, and sharing services developed by the Group Company, and improved the information systems for professional management and smart operation, realizing business collaboration and data sharing.



- Anshan Iron and Steel Group has completed the building of information systems for scientific research projects, the automotive steel intelligent cloud platform supply chain services, etc., and successfully launched a program to improve the overall management and information construction. Delin Land Port's E-commerce and Logistics Public Information Service Platform was selected as the new type of information consumption demonstration project in 2019 by the Ministry of Industry and Information Technology.
- Pangang Group has established professional management systems for geographic information, safety and environmental protection, digital archives, etc., and the Jwell IoT CIII Industrial E-Commerce Service Platform was rated as a pilot demonstration platform for mass entrepreneurship and innovation of the manufacturing industry by the Ministry of Industry and Information Technology in 2019. The Smart Supply Chain Financial Service Platform System has been successfully put into operation, realizing the online management of full-process financing business.
- Ansteel Mining has built the Mining Industrial Internet Smart Production Platform, which was rated as a pilot demonstration of industrial Internet integrated innovation applications by the Ministry of Industry and Information Technology in 2019. Its mobile application module was rated as an excellent industrial Internet APP solution, and the overseas monitoring module realized online management and control of the information of Karara Mining in Australia.



↑ The smart mine developed by Ansteel Mining has put the company among the first batch of smart mine demonstration enterprises in China

Promote smart production for a new model of smart manufacturing and new growth drivers

Smart equipment and its application



The coding and labeling robots independently developed by Ansteel Group, the imported unloading robots, through-cover processing robots, high-pressure chamber inspection robots, etc., have been successfully applied in the production bases of Anshan Iron and Steel Group and Pangang Group, with a total of 118 industrial robots. We have realized precise positioning and remote control of large equipment such as underground roadheaders, roller rigs, and excavators through automation and intelligent transformation.

Smart units



We have continued to improve the basic automation and process control systems for the production units of Anshan Iron and Steel Group, Pangang Group, and Ansteel Mining, optimized the control model, and established the expert system. The Overall Operation Monitoring and Early Warning System of the No. 1 blast furnace of Bayuquan Steel Subsidiary of Anshan Iron and Steel Group, The automated molten steel, alloy and auxiliary material analysis system of the Chemical Inspection Center, and the unmanned crane transformation project have been successfully completed. The Quality Measurement and Management System for the public auxiliary station centralized duty of Pangang Group Vanadium and Titanium Resources Co., Ltd., and the centralized duty of Pangang Group Mining has been successfully launched. Pangang Group Mining's Midi Concentrator Grinding Process Intelligent Control System started construction. Ansteel Mining has made full use of artificial intelligence technology to establish the experts system, and conduct in-depth analysis of the ball grinding size, which has improved product quality and production efficiency.

Smart production lines



We have comprehensively promoted the digital and intelligent transformation and construction of production lines such as mining, beneficiation, iron-making, steel-making, steel rolling, rail beams, and thick steel plates. Ansteel Mining has continued to explore the construction of smart mines and was named the National Smart Manufacturing Model Enterprise in 2019. The full-process big data quality control project of Anshan Iron and Steel Group, The automated molten steel, alloy and auxiliary material analysis system of the Anshan Iron and Steel Group, was rated as the 2019 Industrial Internet Pilot Demonstration project by the Ministry of Industry and Information Technology. The Intelligent Energy Management and Control System project of Angang Steel Company Limited Bayuquan Steel Subsidiary was rated as the 2019 Excellent Industrial Big Data Solution by the Ministry of Industry and Information Technology. The digital production line of Pangang Group's Vanadium Rail Beam Plant was selected by the Ministry of Industry and Information Technology as a pilot demonstration of the integration of the manufacturing industry and the Internet in 2019. The Nitrogen Alloy Demonstration Production Line of Pangang Group Vanadium, the Smart Plate Fully Automatic Digital Rolling of Pangang Group Xichang Steel & Vanadium, the Steel Industry Brain of Pangang Group Xichang Steel & Vanadium and other projects have made steady progress.



↑ Ansteel Mining's IT-based Production Dispatching & Command System

Building a Smart Ansteel Supporting System

Informatization Standard System

We have formulated and released the first complete corporate informatization standard system in the steel industry, including 46 standards in 28 subcategories under 7 categories, including information resource, information application, basic technology, IT construction, IT management, information security, and information network. In 2019, it was selected as an excellent case of intelligent manufacturing by China Iron and Steel Industry Association (CISA).

Basic Resource System

We have fully implemented the Ansteel Data Center and Disaster Recovery Plan, accelerated the pace of cloud development to form a "two places and multiple centers" cloud data center architecture system, and created Ansteel's hybrid cloud application and disaster recovery service model featuring "private cloud + traditional stable architecture + public cloud".

Cyber System

We have finished the building of a wide area network in an all-round way to address the lack of connectivity between Anshan and Panzhihua due to inconsistent network structures and IP address conflicts. The network of all parks has been connected to the wide area network, truly realizing the safe interconnection of the entire group, and laying the network foundation for the Group's business integration in Anshan and Panzhihua.

Data System

We have pushed forward the standardized data management and big data application research, formulated the Group's data management and control principle of full collection, classification, standardized management, clearly defined rights and responsibilities, and openness and sharing", and established a master data management system and a Group Company general data service hotline.

Cyber and Information Security Defense and Protection System

We have built a three-in-one network security protection system featuring foundation, technology and mechanism to achieve effective prevention and control of cyber and information system security, and effectively avoid and eliminate cyber security risks.



Making further Breakthroughs in Corporate Reform

As a pilot enterprise for comprehensive reform, Ansteel takes the opportunity to carry out market-oriented reform, with a focus on reshaping the management structure, reforming the officials and personnel system, the labor and employment system, and the mixed ownership system, deepening the reform of restructured enterprises, implementing the duty and responsibility of the Board of Directors, improving the medium and long-term incentive mechanism, taking a market-oriented approach in the selection of professional managers, creating micro-market entities, and deepening innovation. A systematic plan was laid out to promote comprehensive reform, and effectively enhance the internal vitality, market competitiveness and development leadership of the enterprise.

Increasing Ansteel's Management Efficiency

Reshaping the management structure

Focusing on improving the Party leadership, resource allocation, capital operation, technological innovation, and state-owned asset supervision capabilities", Ansteel Group has shifted functions, shored up weak links, and implemented organizational reforms, reducing the number of headquarters departments from 17 to 13, and downsizing by 10.8%. Our subsidiaries, focusing on their roles as asset management centers and profit centers, have optimized their functions and streamlined the organization, cutting office departments by 25%, and reducing the workforce by nearly 10%.

Authorizing and delegating power level by level

We have delegated more power to subsidiaries in terms of approval elements and approval quota through decentralization, authorization, and cancellation. Ansteel Group's core business items decreased by 36, or 22%. For subsidiaries, the number of items that require approval from the Group Company was 45 at most and 31 at least, down by 24.4%.

Promoting Deepened Reform in Subsidiaries

Deepening the mixed ownership reform

We have formulated the Ansteel Group Mixed Ownership Reform Implementation Measures and Ansteel Group Mixed Ownership Reform Operation Guidelines, and selected Jwell IoT and Ansteel Engineering Technology Corporation as the first batch of pilot enterprises for the further promotion of the mixed ownership reform. We have pushed ahead the asset securitization of Pangang Group Vanadium, Pangang Group Xichang Steel & Vanadium, and Pangang Group Mining. The Mg-based Pellets project of Ansteel Zhongyuan Industry Company, and Pangang Group's Barren Rock Processing project have completed the mixed reform.

Deepening contract management

We have promoted contract management in corporate enterprises, production lines, operating areas and operational business departments to stimulate corporate vitality. Ansteel Group Chaoyang Iron & Steel has further deepened contract management, and implemented efficiency-enhancing rewards, with the management paying performance bonds. It has increased authorization on six fronts including investment, selection and employment, salary distribution, material procurement, and institutional setting, making great efforts to create demonstration reform projects.

Deepening the "Double Hundred Enterprise" reform

We have promoted the comprehensive reform of Ansteel Mining, Ansteel Group Engineering Technology Corporation, and Jwell IoT, three "Double Hundred Enterprises", in accordance with the agreed reform plan.

Comprehensively fostering micro-market entities

We have deepened the organizational reform of production and operation, organized subsidiaries to foster micro entities, further divided accounting units, matched the asset-liability structure reasonably, measured business indicators scientifically, established a market-based supply-demand relationship for total cost accounting of processes, and improved the quality and efficiency of all-factor.

Driving Innovation Development with Craftsmanship

Striving for Excellent Quality Wholeheartedly

Achieving Win-Win Outcomes with Partners

Protecting the Environment with Dedication

Building a happy enterprise with joint efforts

Supporting Community Development with Care



02

Striving for Excellent Quality Wholeheartedly

Ansteel pursues the corporate mission of “Producing better material Creating more wonderful life”. While meeting the consumer needs of traditional users, we create new high-standard, differentiated and personalized products through the application of scientific research results, optimize product quality continuously, improve the supply capacity of functional high-end products effectively, and provide caring services to domestic and foreign customers, endeavoring to build Ansteel into the most influential steel enterprise group in the world.





Ansteel Crack Arrest Steel Plates Become a New Highlight on the Sea

Crack arrest steel plates are a high-end product for shipbuilding that have high technical requirements and are difficult to produce. They are mostly used in key stress-bearing areas such as decks and hatches of large container ships where they demonstrate excellent crack resistance and crack arrest performance.

Becoming the first to realize demonstration application in China

Before 2016, all of China's crack arrest steel plates were imported. The certified thickness of domestically-produced crack arrest steel plates was only 80 mm, with much lower performance compared with foreign products, failing to meet the demand for thickness of shipyards. In view of this, Ansteel successfully produced crack arrest steel plates with a maximum thickness of 90 mm through R&D, trial production and commercial production, becoming the first to realize demonstration application in China. This move has brought the quality and technical level of Ansteel's shipbuilding steel among the front rank of the world, made us the leader in the technological development of China's high-end shipbuilding steel, and played an important role in promoting independent innovation and technological progress in China's steel industry and transforming China from a large shipbuilding country to a strong shipbuilding country.

Establishing the leading position in the production of shipbuilding steel

Since 2014, the shipbuilding steel R&D team of Ansteel Iron and Steel Research Institute has been in active engagement with shipyards to understand their design requirements. The team went all in to the R&D of the 80 and 90 mm thick crack arrest steel plates. In October 2015, the 80 mm thick crack arrest steel produced by Ansteel was successfully certified by the International Association of Classification Societies (IACS). In February 2016, our 90mm thick crack arrest steel plates was certified by the Classification Societies of eight countries, exceeding the maximum thickness of 80mm set by IACS, and becoming a leader in crack arrest steel technology in the world. In the same year, Ansteel's crack arrest steel plates successfully passed the welding qualifications of Dalian Shipbuilding Industry Co., Ltd., Hudong-Zhonghua Shipbuilding (Group) Co., Ltd., Jiangnan Shipyard (Group) Co., Ltd., Shanghai Waigaoqiao Shipbuilding Co., Ltd. and other well-known domestic shipbuilding companies.

Challenging the extreme specifications

In September 2019, the world's largest containership under construction and the world's first 23,000-TEU LNG-powered containership was launched from a shipyard in Changxing Island, Shanghai. All the containership's plates are exclusively supplied by Ansteel. The hatch coaming and other key parts were made of 90 mm thick, 3,800 mm ultra-wide crack arrest steel plates, challenging the extreme specifications and realizing the world's first application. This is another milestone in the application of crack arrest steel plates in containerships in China after Ansteel's 80mm thick crack arrest steel plates were used in the 20,000-TEU containership of Dalian Shipbuilding Industry Co., Ltd. in 2016.

Creating a new highlight in China's shipbuilding industry

In 2019, China State Shipbuilding Corporation and CMA CGM Shipping Co., Ltd. signed a contract for the construction of 10 15,000-TEU ultra-large containerships. As an important material supplier, Ansteel formulated a comprehensive and professional full-process supply guarantee plan. We gave full play to the technical advantages of the Bayuquan 5500 mm-wide heavy plate production line to manufacture high-quality products, constantly creating new highlights for Ansteel and China's shipbuilding industry.

Ansteel's crack arrest steel plates have got ahead in the world time and again from 20,000 to 23,000 TEU, from 80mm to 90mm, from the country's first launch and the world's first application.



↑ Ansteel was the exclusive supplier of crack arrest steel plates for China's first 20,000-box super large container ship built by domestic ship plates "Gemini"



Providing High-Quality and High-End Products

As the main force for building China into a great power in science and technology, Ansteel is committed to providing advanced materials that have higher technological content, and are more environmentally friendly and smarter. We have developed a batch of advanced materials by focusing on mid-to-high-end products and making every effort to transform and upgrade. In 2019, Ansteel continued to make contributions to national strategies and key national projects, and provided high-quality products to customers at home and abroad.

- We launched the world's first lightweight dual-phase steel DP980-LITE, with significantly better elongation than the traditional 980MPa grade dual-phase steel. The added lightweight alloy elements reduced the density by 5%, which means that Ansteel has reached the advanced level in developing high-strength lightweight automotive steel and overcome the universal production problem of using continuous casting technology to produce qualified cast slabs in batches.
- The newly developed four-generation fast reactor conventional island steel SA-516MGr.485 ensured the smooth implementation of key national projects.
- We continued to maintain our leading edge in railway steel and railway vehicle steel technologies. Our new high-corrosion-resistant series of steel plates were certified by China Railway Test & Certification Center Limited (CRCC) and were listed as one of the preferred steel grades for the future upgrading of national railway freight car steel.
- We became the sole supplier of the over 60,000 tons of steels needed for Jinhai Bridge, the first bridge combining highway and railway in China, to support the construction of the Guangdong-Hong Kong-Macao Greater Bay Area.
- We served the four pipelines of West-East Gas Pipeline Project that require the thickest, largest diameter and highest grade steel pipe.
- We made breakthroughs in the development and promotion of ultra-soft titanium sponge and paper-making titanium dioxide, and produced 25x1.8 specifications TA18 high-strength aviation tubing that meets the requirements of aviation standards.

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Case Escorting the construction of key national projects

As the scale of buildings becomes larger and larger, the demand for high-strength structural steel is increasing. Being an active participator in key national projects, in 2019, Ansteel won the bid for supplying steel products for the construction of Beijing Fengtai Station, the largest railway transportation hub in Asia, including the 100 mm thick Q345GJD structural steel that has the highest technical difficulty and reaches the limit of the national standard, supporting the green and healthy development of China's construction industry with strong stress-bearing capacity.

The total construction area of the high-speed railway station in Xiongan New Area is about that of 96 football fields. Once completed, it will set the record as the largest high-speed railway station in Asia. After winning the bid for supplying construction steel for the high-speed railway station, Ansteel's construction steel production, marketing and research team quickly carried out the quality design and trial production of steel plates to ensure high-quality completion of this supply task and escort the construction of key national projects.

The bidding section of the stadium of the National Alpine Ski Center for the 2022 Winter Olympics is a landmark of the entire Winter Olympics. It is also the building with the biggest construction difficulty, and with high requirements placed on the performance of building materials and environmental protection by the builders. Ansteel won the bid for providing a total of more than 5,000 tons of steel, the largest order of the project. The first batch of more than 200 tons of Q355NHD weathering steel was produced and rolled, and passed the product performance inspection all at once, which precluded the direct supply for the construction of the venue of the 2022 Winter Olympics.

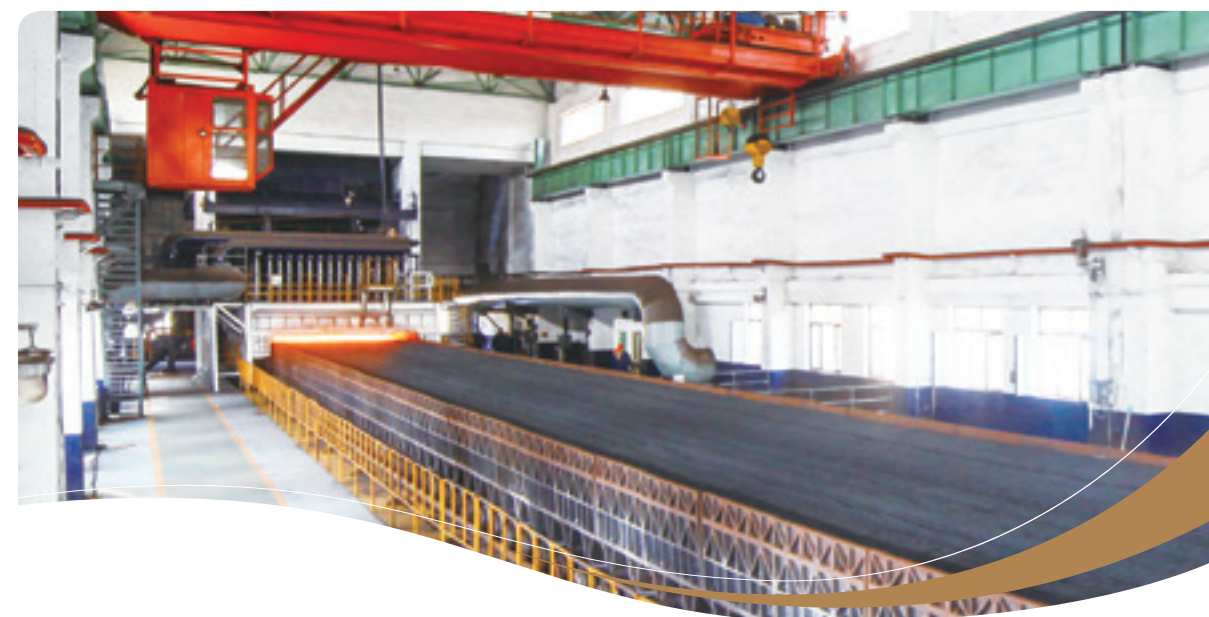
Case Contributing to the development of Germany's century-old agricultural machinery

Claas is a world-renowned manufacturer of agricultural and animal husbandry machinery and agricultural vehicles, and represents the world's top level in machine manufacturing, machine tool market and matching supply. Pan Gang Group Sichuan Changcheng Special Steel Co. Ltd. manufactures well-polished mold flat steel and has the best control of non-metallic contents in China. It has been favored by Claas and its products will be used in the core equipment of the century-old German agricultural machinery manufacturer according to a 64-ton supply contract between the two.

Case Ansteel pipeline steel used in the China-Russia East-Route Natural Gas Pipeline project

In December 2019, President Xi Jinping and his Russian counterpart Vladimir Putin witnessed the launching ceremony of the China-Russia East-Route Natural Gas Pipeline via a video call.

The total length of the pipeline surpasses 8,000 kilometers, making it the longest natural gas transmission pipeline in the world today. It is China's first cross-border long-distance natural gas pipeline with the largest single-pipe transmission volume in the world that uses strong and tough X80 pipeline steel, with a super large diameter and 12 MPa high pressure. Anshan Iron and Steel Group and Pangang Group supplied 320,000 tons and 80,000 tons of steel respectively for the construction of the Chinese part of the pipeline.



Improving the Quality Management System

In order to manufacture high-quality products, Ansteel continues to improve its system to strengthen quality management, actively organizes major events such as the "Quality Month", and continuously enhances product quality, thus providing high-quality products for customers, and bringing more value to stakeholders.

Anshan Iron and Steel Group carries out various quality work. The company organized and completed the Six Sigma quality management methods trainings for 115 participants, the JIS Quality Control Training for 2 participants, and the annual quality, technology and application training of the education and training center in 2019. The ability of quality control personnel continues to improve.

- The company formulated and revised four quality program documents and management methods, and completed the revision of 83 production line process technology regulations, to further meet its needs in production, operation, and quality management.
- The company refined the evaluation criteria and organized quarterly quality control capability evaluations to further enhance the quality awareness, quality execution and quality performance of all employees.
- The company organized the "Quality Month" event. Mass quality activities were actively carried out. We released 273 quality team results and 664 rational suggestions, and tackled 299 outstanding quality issues.
- The company implemented the product quality improvement planning and evaluation standard, and required all units to designate a person to be in charge of the management, monthly implementation, and rolling evaluation of the standard, continuing to improve Ansteel's product quality and management level.
- The company strengthened quality certification and excellence management, won multiple quality awards, and completed the certification for more than 50 products, including automotive steel, ultra-high-strength offshore steel, German HPQ, Japanese non-combustible, and Indian BIS.

Pangang Group continues to promote and improve its quality management system, quality safety responsibility system, quality index control system, quality index benchmarking system, and quality evaluation and assessment system. The coverage rate of the quality management system has reached 100%. Pangang Group has constantly implemented the JLG (refinement, quantification, execution rigidity) management and improved quality management at the plant level, with remarkable results in quality achieved. In 2019, two teams of Pangang Group were awarded the "Guoyou" QC teams, one national quality-trustworthy teams, 15 "provincial (industry) excellent" QC teams, and 6 provincial (industry) quality-trustworthy teams. Six products received the "Golden Cup Award".



Boosting Service Management

Ansteel adheres to the customer-centric and marketing-oriented approach. We combine marketing with R&D and production to realize information and resource sharing. We discuss with customers about issues that arise in the use of products and their further demands, so as to come up with a package solution to meet their demands, build our core competitiveness, and provide their with high-quality products and services.

Using Internet thinking to consolidate the “customer first” service philosophy. We put customer service front and center and continue to improve our service capabilities.

Focusing on customer needs to reshape the “customer service” model. We have established a full-process online platform service model ranging from customer selection guidance to online future ordering, production tracking, logistics tracking, processing and distribution, quality assurance printing, electronic B/L, objection processing, and financing.

Connecting with customers to expand new channels of “customer service”. The platform provides a number of efficient and fast communication channels such as the 400 customer service hotline, QQ, and WeChat. Professional customer service personnel are here to answer any questions, activate level-0 coordinated service response, and provide the best solution.

Case Creating new customer service models

Anshan Iron and Steel Group continues to innovate in customer service models, with the commitment to providing customers with better services.

New sales models. The company has created multiple sales models such as package bidding (delayed), single-coil bidding (delayed) and sales by ton, and conducted special pricing, bargaining and targeted sales, providing diversified and personalized services and creating a fair and transparent trading environment.

New service models. The company has replaced the traditional telephone inquiry method with one-stop online services, including online order confirmation, e-contract, bill query and quota allocation, logistics tracking, self-service B/L, and anti-counterfeiting warranty verification for the first time which makes it easier for customers to complete the purchase of steel futures.

New application models. The company takes advantage of the interactive features of e-commerce platforms to realize a new model of electronic business and self-services from the steel mill to customers, and opens up the information flow of code sheets, warranty, and invoices, thus establishing a new supply chain service relationship between the e-commerce platform and customers. It won the 2019 E-commerce Technology Progress Award for Key Chinese Enterprises, 2019 Top 50 Key Chinese Enterprises Centralized Procurement Suppliers, and Industrial E-commerce Pilot Enterprise in Liaoning Province.

Case Winning high recognition of our services

Pangang Group has developed a self-service system for customers (including the Pangang Group Smart Self-service APP), which provides customers with sales inquiries and quotations, self-service B/L, financial information inquiry, invocation of e-warranty, and full-process order tracking and inquiry. The system can also be used to conduct customer satisfaction survey and manage customer complaints. Pangang Group’s fast and efficient pre-sales, in-sales and after-sales services have been highly recognized by customers.

Customer service center. Pangang Group has set up customer service centers in three major steel production bases (Pangang Group Vanadium, Xichang Steel & Vanadium, and Changcheng Special Steel), which are fully responsible for managing the customer service of Pangang Group’s products, and providing full-process tracking services for customers before, during and after sales.

Active response to customers’ complaints. Pangang Group responds to customer complaints proactively in accordance with the process of product complaint, complaint acceptance, objection filing, physical confirmation, business negotiation, objection closing, rectification and feedback, and objection handling follow-ups. In 2019, customers raised 584 quality objections against the products of Pangang Group Vanadium and Pangang Group Xichang Steel & Vanadium, among which 583 were handled, with an objection handling rate of 99.83%.

Strengthened customer information protection. In strict accordance with the provisions of the *Security Management Measures and the Market and Customer Management Measures*, the company manages customer files systematically and hierarchically to ensure the security of customer information.

In 2019, the comprehensive satisfaction index of the domestic sales of steel products of Pangang Group Vanadium and Xichang Steel & Vanadium were 89.61 and 88.14 respectively, and the comprehensive satisfaction index of Changcheng Special Steel’s domestic sales of civilian products was 88.52. All of them exceeded the annual target.

Enhancing Work Safety Management

Ansteel earnestly implements the important instructions and guiding principles of General Secretary Xi Jinping on work safety and a series of important plans for work safety put forward by the CPC Central Committee and the State Council. We pursue safe development firmly, and adhere to the work safety guideline of "safety first, prevention-based, comprehensive management". We ensure safety by following laws and regulations, further improving the work safety system, strengthening the implementation of main work safety responsibilities, and exercising solid management and control over major safety risks. In 2019, we eliminated major and more severe incidents, and registered a good momentum for work safety improvement.

Improving the work safety management system

We formulated the *Regulations on the Supervision and Management of Major Safety Risks (Interim)* to further standardize and strengthen the hierarchical management and control of major risks. We issued the *Regulations on the Implementation of Managers' Safety Performance Work Log (Interim)* to refine and measure the safety performance indicators, and standardize and boost the safety responsibility performance of managers at all levels. We implemented the system of "Party and government assume same responsibilities and one post takes dual responsibilities". We put the *Work Safety Standardization Enterprise Promotion and Review Plan* and the *Occupational Health Inspection and Testing Plan* into practice, to promote and review safety standardization, and conduct occupational health work. Relevant units completed the declaration of safety standardization promotion and review as planned, with 100% annual occupational health examination and occupational hazard factor detection.

Fostering a safety culture

In parallel with the 2019 Work Safety Month, we organized safety training and emergency drills to improve the emergency response capabilities of employees. Anshan Iron and Steel Group and Ansteel Mining successfully undertook the Liaoning Province large-scale comprehensive emergency rescue drill for work safety accidents and the Liaoning Province civilian explosion industry work safety emergency drill respectively. Their work was highly recognized at the provincial and city level.

Paying attention to special safety management

In order to implement the main safety responsibilities, the Group Company signed the *2019 Responsibility Letter for Work Safety Targets* with 13 subsidiaries, built a work safety responsibility system to make sure tasks are divided to, responsibility fulfilled by, and the pressure passed to all levels, and incorporated safety indicators into each subsidiary's contract operation annual assessment.

Carrying out special governance in a targeted manner

We carried out a two-and-a-half-month "belt conveyor safety inspection" across the board, comprehensively enhanced relevant rules and regulations, improved safety protection devices, and effectively increased the intrinsic safety level of belt conveyors. We carried out special rectification for subcontractors based on a list of supervision responsibilities. According to the subcontractor's operation type, we clarified the subcontractor's supervisory responsibilities to functional departments and employees at different posts, exercised dynamic control over their operation process, and implemented plan review before operation, safety disclosure, safety education, and full-process operation supervision. As a result, we contained the accident occurrence of subcontractors.

Implementing the work safety responsibility system

We continued to enhance fire management by organizing subsidiaries to improve the fire safety responsibility system, implementing the fire safety responsibility system at all levels, and ensuring responsibility fulfillment by employees at different posts. We effectively guaranteed work safety during the flood season by formulating and issuing flood control work plans, and establishing a flood control leading group to plan for and implement flood prevention from six aspects: implementing local management, improving organizational structures, carrying out hidden danger rectification, improving emergency plans, strengthening information reporting, and strengthening supervision and inspection.

Case Carrying out diversified safety trainings

Ansteel Mining has built a safety responsibility chain that links the company and employees at different posts, formulated a continuous safety improvement plan for all employees, and attached equal importance to safety awareness, knowledge and skills. To make sure that all employees understand the importance of safety and know how to ensure safety and be safe, Ansteel Mining has provided special trainings on safety management knowledge, practical safety skills and emergency response capabilities to more than 1,200 employees. The Mining Technical School has continued to educate grassroots workers, and provided order-based training for 13,445 employees of 15 units. By strengthening the safety training for employees and safety management personnel with innovative methods, it has effectively enhanced the safety awareness and skills of employees and improved professional safety management.

Case Conducting safety culture promotion

In 2019, Ansteel Zhongyuan Industry Company did a solid work in carrying out special activities in the "Work Safety Month". It hung safety flags and slogans, placed more than 200 signs or boards, collected more than 100 comics, carried out safety training, and organized employees to watch 102 publicity and education films such as the *Red Line of Life* and the *Typical Work Safety Accidents Collection*. The company rectified 66 safety management issues found in subcontractors, hazardous chemicals, cranes, and operating licenses, and carried out more than 30 drills at various levels to create a good safety culture atmosphere. Thirteen units of the company have all been rated as Work Safety Standardization Enterprises.

Case Consolidating network security

Ansteel has improved its network security management system and established a responsibility system for network security. Various tasks and measures for network security have been put forward, and seven information security standards have been formulated and published, including physical security, network security, operating system security, database security, application system security, data security, and operational security, to serve as a guidance for the implementation of security work of units at all levels.

We have improved the network security management mechanism and aligned it with the working mechanism of relevant national authorities. Continuous efforts have been made to promote the hierarchical protection of the information systems of all units. We have standardized the security management of the Group's Internet export and Internet terminals, carried out network security protection during major events, and conducted the "Network Protection Action" drill. In addition, we have combined comprehensive inspections with special inspections to improve management, prevention, rectification, and education, thus bringing Ansteel's network security protection to a higher level.

We have improved Ansteel's network security protection technologies, and continued to promote network border protection and internal network terminal protection. A network security situation awareness platform has been set up to realize network traffic monitoring and threat perception of the Group headquarters and other key areas, and to realize intelligent analysis in collaboration with existing protection measures. A Group-level core system disaster recovery system has been put in place to comprehensively improve the disaster tolerance of core systems. We have also worked with professional network security service providers to carry out emergency response, network security assurance and professional inspection, etc. By doing so, we have enhanced our network security emergency response capability and professional level.

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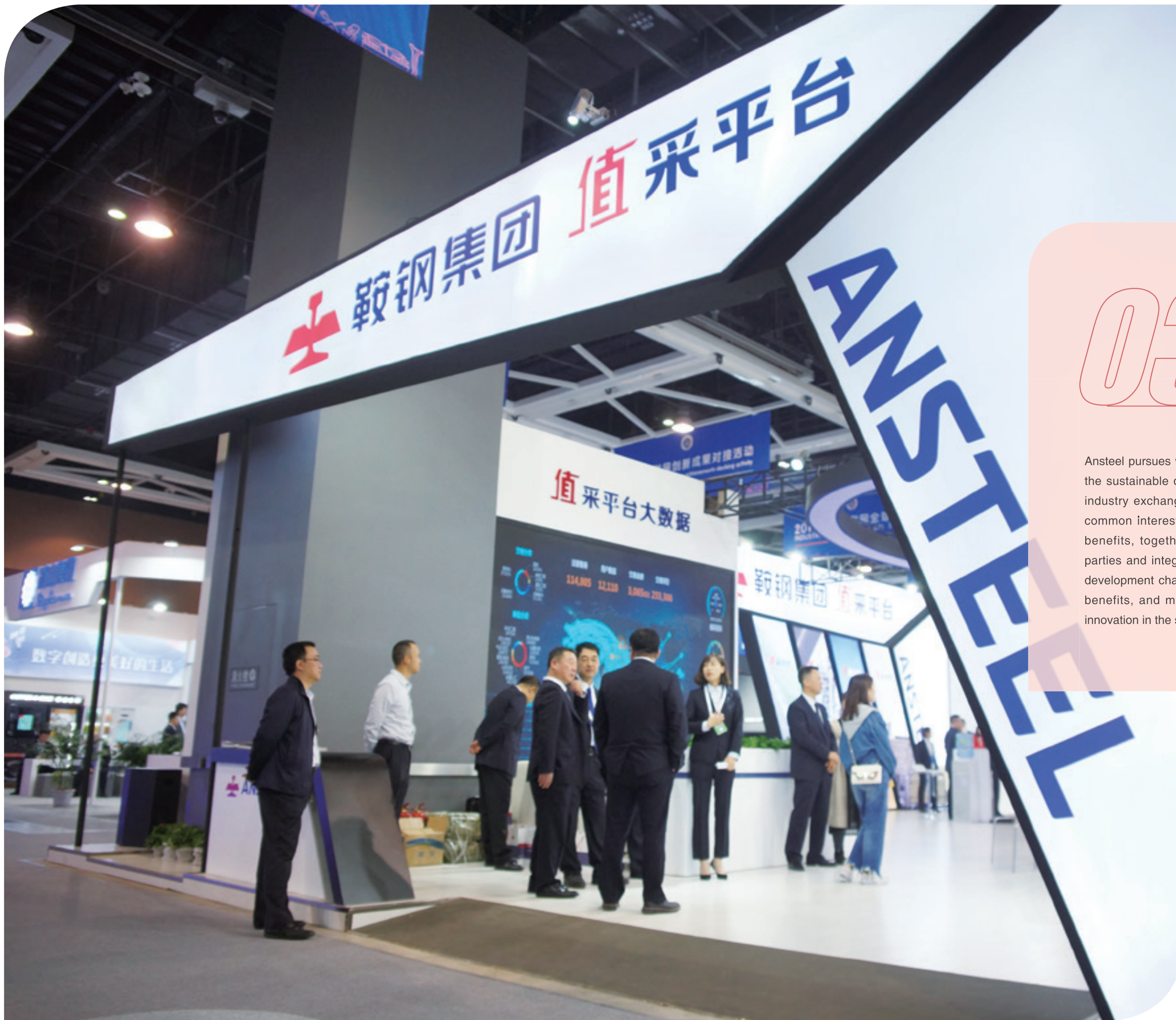
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03

Achieving Win-Win Outcomes with Partners

Ansteel pursues win-win cooperation. We are committed to advancing the sustainable development of the global steel industry, promoting industry exchanges and cooperation, and building a community of common interests featuring consultation, contribution, and shared benefits, together with our partners. By pooling strengths of all parties and integrating resources, we can work together to address development challenges, realize integrated development and shared benefits, and make the world a better place with the continuous innovation in the steel industry.





Building a Logistics Ecosystem

Ansteel Transport Company was restructured in 2005 as one of the first seven restructured companies of Ansteel. In 2019, the equity of the company owner was 7.51 times of that before the restructuring. By building a logistics ecosystem and an interconnected logistics operation model, Ansteel Transport Company has worked with stakeholders to create a responsible supply chain and seek common development. It was rated as a national 5A logistics enterprise and was awarded the National Logistics Industry Advanced Enterprise by the Ministry of Human Resources and Social Security. The company has embarked on a unique path of corporate transformation and development.

Building a logistics ecosystem to open up more channels for profits generation

Ansteel Transport Company follows the business philosophy of “relying on shareholders, gathering resources, giving back to shareholders, and serving the society”. Focusing on the logistics business, the company has built a multi-dimensional network system with strong market competitiveness and sustainable development characteristics. By promoting the linkage, sharing, matching and integration of upstream and downstream enterprises of the logistics industry and relative collaborative enterprises, a number of micro-ecological chains are integrated to form a logistics industry ecosystem.

Ansteel Transport Company has begun to explore related service functions such as logistics planning, warehousing and distribution, equipment maintenance, logistics and trade, oil trading, and automobile inspection. In this process, the company is both a product and service provider and a consumer, who brings together all players in the logistics ecosystem.

As a Chinese poem reads, towering mountains as they are, they will never stop a determined man from ascending to the top. Ansteel Transport Company has successfully rebuilt its business model through reforms and embarked on a unique path of corporate transformation and development. Down the road, the company will seize business opportunities in the ever-changing market, seek change and forge ahead, and work with stakeholders to achieve shared benefits and win-win results through cooperation.



Working with Ansteel E-commerce to create an interconnected logistics operation model

With the rapid development of the Internet, Ansteel Transport Company has begun to provide customers with a full range of one-stop services such as logistics transportation, warehousing and distribution, commodity trading, steel processing, and supply chain finance. A new logistics brand has emerged – Delin Land Port's Logistics Park.

As of the end of 2019, 69 merchants of various types, including YTO, a Chinese express company, have settled in Delin Land Port's Logistics Park. The Park has developed 120 customers in sea-land combined transport and highway-railway combined transport. While serving Ansteel's internal users, it also continues to provide transport services to many other customers. Extension. As one of the first pilot NTOCCs (non-truck operating common carrier) in China, Delin Changtu has continuously increased its business volume by integrating with the Park's e-commerce, supply chain finance, steel processing and other businesses. A win-win logistics ecosystem has achieved initial success.

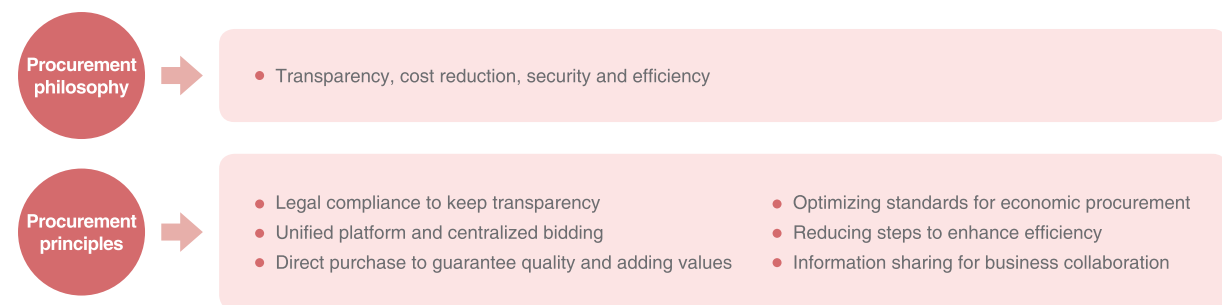


Building a Responsible Supply Chain

Ansteel continues to build a responsible supply chain, and consolidates the foundation of supply chain management. We have selected suppliers based on the management system, procurement process, environmental indicator, etc., and established a strict supplier evaluation system to strengthen exchanges and cooperation with suppliers and promote the sustainability of the industry chain. In 2019, our electronic bidding rate, online procurement rate and procurement quality control coverage rate were 100%.



- We have built a unified electronic bidding platform. Experts from a database are randomly selected in the bid evaluation process, and the whole process of bid evaluation is taped and filmed to ensure that the whole process is open, transparent and in compliance with the law
- We have actively improved suppliers' CSR fulfillment capacity and conducted supplier training and seminars to understand their needs
- We have held the Forum on New Vanadium and Titanium Materials in a New Era and signed contracts with overseas suppliers on-site
- We have carried out joint research on new technologies and new materials with suppliers to realize energy conservation and environmental protection, and guided suppliers to build a responsible supply chain, giving full play to their role for adding more values



Case Consolidating the foundation of supply chain management through S&T means

Anshan Iron and Steel Group was selected as a pilot enterprise for supply chain innovation and application in China, and is the only pilot company among Chinese steel enterprises that was selected as the pilot unit for standardization of logistics service by Standardization Administration of PRC. The company has realized smart synergizing and win-win supply chain system through the independent integration of Internet of Things (IoT). It has introduced and implemented personalized logistics solutions to provide users with high-value service experience, and explored new ways for industry technology innovation with the creation and implementation of the smart logistics ecosystem. Relying on supply chain risk identification, assessment and control, it has reduced supply chain risks. The application of advanced ecological logistics technology has guided the way towards a new type of industrialized green factory.

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Protecting the Environment with Dedication

Building a happy enterprise with joint efforts

Supporting Community Development with Care

Conducting Multi-party Cooperation

In pursuit of win-win cooperation, Ansteel has actively formed a wide range of strategic alliances and established close cooperative relationships with government institutions, partners, universities and other stakeholders, which has promoted multi-party resource sharing and complementarity.



Cooperation with enterprises

- We signed a strategic cooperation agreement with Aero Engine Corporation of China (AECC) and established a strategic partnership featuring mutual complementarity and joint pursuit of high-quality development, to contribute to building China into a strong aviation country
- We signed a strategic cooperation agreement with China Merchants Group in Beijing. The two sides formed a strategic partnership to deepen cooperation in such areas as material supply and R&D, transport and logistics business, comprehensive development of cities and parks, financial services and investment, and Belt and Road projects
- We signed a strategic cooperation agreement with CRRC to deepen our strategic partnership on the basis of good cooperation. The alliance between two giants will achieve mutual complementarity and win-win development

Cooperation with banks

- We actively visited and discussed with Bank of China, China Development Bank and China Construction Bank to expand the fields of cooperation and achieve mutual benefit
- We signed a strategic cooperation agreement with Shanghai Pudong Development Bank

Cooperation with scientific institutions

- We exchanged the latest technological achievements with universities such as University of Science and Technology Beijing, China Iron and Steel Research Institute Group, and Sichuan University
- We joint established the Joint Laboratory for Future Automotive Steel Technology with Huachen Group and Northeastern University

Cooperation with governments

- We signed the "Double-an" integration framework agreement with the Anshan Municipal People's Government to further deepen the city-enterprise cooperation and realize integrated development with joint efforts

Case + Signing the strategic cooperation agreement with China Merchants Group to promote common development

In December 2019, Ansteel and China Merchants Group signed a strategic cooperation agreement in Beijing. The two sides formed a strategic partnership to deepen cooperation in such areas as material supply and R&D, transport and logistics business, comprehensive development of cities and parks, financial services and investment, and Belt and Road projects, striving to achieve resource sharing, mutual complementarity, and mutual benefit. In the future, the two sides will take this opportunity to further enhance multi-level and multi-field communication and exchanges, jointly explore new ways and methods to deepen cooperation, and advance the implementation of the strategic partnership.

Case + Holding the exchange meeting on deepening cooperation with enterprises in Liaoning province

The Exchange Meeting on Deepening Cooperation between Ansteel and Enterprises in Liaoning Province on the theme of "deepening collaboration for win-win results", sponsored by the People's Government of Liaoning Province and co-organized by Ansteel, was held at the Ansteel Convention and Exhibition Center. More than 300 enterprise representatives from the province and Ansteel conducted supply-side and demand-side match-up, deepened cooperation in equipment materials, mining, raw fuel, intelligent manufacturing, industrial Internet, technology services, logistics and other fields. 30 cooperation agreements were signed. They aimed to jointly build a high-quality supply chain and contribute to the comprehensive revitalization of Liaoning Province.

Case + Strengthening cooperation in scientific researches

Anshan Iron and Steel Group has strengthened cooperation and exchanges with scientific research institutions focusing on key national strategies. Among them, the company has cooperated with the State Power Investment Corporation Limited (SPIC) in developing the ultra-wide wind power steel plate with large single piece weight, worked with the China Iron and Steel Research Institute Group to develop forward-looking products, and jointly developed national science and technology major projects such as the new type of high corrosion resistance duplex stainless steel and the Z-phase nuclear power steel with Shanghai Nuclear Engineering Research & Design Institute. We have also jointly developed the duplex stainless steel for offshore nuclear power plants with China General Nuclear Power Group (CGN) and the stainless steel for seawater desalination with DFGL Chinapower, and completed the supply task of all kinds of tower building materials, including weather-resistant angle steel, weather-resistant steel plate and bolts, for China Southern Power Grid Company Limited.



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Promoting Industry Development

Ansteel advocates openness and win-win outcomes. Through industry and international exchanges where we shared excellent experience and learned advanced ideas, we have further consolidated our industrial foundation, improved the industry chain, created new business models and formats, and facilitated industry transformation and upgrading, making the manufacturing industry more intelligent, efficient, and competitive, and realizing closer cooperation in all links of the industry chain.

We invited domestic academicians and well-known experts, as well as internationally renowned scholars from RWTH Aachen University in Germany and McMaster University in Canada, to conduct technical exchanges in Ansteel Group.

We organized an academic seminar on the development trend of resources and metal materials and a review meeting of technological innovation planning.

We organized scientific researchers to participate in international conferences such as the 4th International Conference on High Manganese Steels and the 8th International Conference on Modelling and Simulation of Metallurgical Processes in Steelmaking (STEELSIM 2019).

We held the 13th Five-year Plan common scientific research project exchange meeting of the Corrosion Resistant Steel Alliance and the 14th China Iron and Steel Circulation Promotion Conference.

Key performance

In 2019, Ansteel led **15** and participated in **19** the formulation/revision of **34** technical standards of various types.

Led **1** and participated in **1** the formulation/revision of **2** international standards.

We led **14** and participated in **15** the formulation/revision of **29** national standards.

Participated in the formulation/revision of **3** industry standards.

Case Holding the Forum on New Vanadium and Titanium Material Solutions in a New Era

In November 2019, Ansteel held the Forum on New Vanadium and Titanium Material Solutions in a New Era at the 2nd China International Import Expo (CIIE). Experts from the global vanadium and titanium and steel industries gathered to talk about the market demand and technology trends of the vanadium and titanium industry, and explored the future development direction of the industry. During the event, the participants exchanged ideas and pooled wisdom to build a win-win cooperation model and to realize supply chain innovation. They talked about better new vanadium and titanium material solutions for creating a better life.

Case Promoting IT-based industry development

In order to improve the industry chain, create new business models and formats, and thus promote the transformation and upgrading of industrial enterprises through intelligent manufacturing, we have actively participated in industry events.

Ansteel Information hosted the 24th National Conference on Automation Application Technology (CAAC 2019). The conference focuses on the in-depth application of intelligent science and technology such as artificial intelligence, industrial Internet, big data, and intelligent cloud platform in the process industry.

Ansteel Information has become the vice chairman unit of China Alliance of Industrial Technology Software Industry (CAITIS), to jointly explore the industrial software platform and industrial APP with independent IPR, and transform and innovate in the production mode and business model of the manufacturing industry with member units.

At the Industrial Internet Global Summit, Ansteel Automation Company set up a "5G+Smart monitoring" booth to showcase Ansteel's 5G smart factory application results in industry scenarios.

Ansteel Automation Company has become a member unit of the National Industrial Information Security Industry Development Alliance and continued to play its role in serving industrial information security to effectively protect customers' critical information.

Case Organizing the 2019 Iron and Steel Enterprise Data Application Exchange Seminar

In May 2019, Ansteel held a seminar on data application exchanges for iron and steel enterprises, where experts from Boston Consulting Group's Shanghai Office, New Delhi Office, and Munich Office with rich experience in digital operation and digital transformation of the steel industry carried out active exchanges. The seminar has deepened our understanding of digitalization and intelligence in the steel industry, and clarified the key focuses and methods of digital operation, intelligent production, and intelligent management.



↑ Deepening cooperation and exchanges with mining enterprises in Liaoning Province



↑ Communicating intelligent manufacturing issues with related enterprises in Liaoning Province



04

Protecting the Environment with Dedication

Ansteel follows the guidance of Xi Jinping thought on ecological progress with an aim to build a beautiful Ansteel. We have implemented the green development philosophy actively, and done solid work in energy conservation and emission reduction by strengthening the top-level design, coordinating system planning, optimizing the energy mix, and promoting energy cascade use.





Turning Industrial Wastewater into “Drinking Water”



In the huge garden-style Anshan Iron and Steel Plant that operates 24 hours a day, where does the wastewater from various production lines go? In fact, all the industrial and domestic wastewater produced by Anshan Iron and Steel Group's various systems passes through the underground water pipelines in the plant area and enters the Xidagou and Beidagou Wastewater treatment systems.

The Xidagou Wastewater Treatment Center System covers an area of 190,000 square meters, and has a designed processing capacity of 220,000 tons. Three sets of advanced and complete wastewater treatment systems convert industrial and domestic wastewater into different grades of water for reuse in production. In the north of Anshan Iron and Steel Group, the Beidagou Wastewater Treatment System is busy processing wastewater from various production plants. After treatment here, the wastewater becomes a “clear spring”, with the water quality exceeding the standard for drinking water.

In order to realize the wastewater recycling, Ansteel Engineering Technology Corporation upgraded and transformed the Beidagou Wastewater Treatment Plant by means of general contracting in October 2018. Ansteel Engineering Technology Corporation and Angang Steel Energy Management and Control Center, combined the current drainage condition outside the plant and the water use in mines with the next wastewater reduction measures, and decided to build a desalination system in Beidagou to realize the reuse of some excess wastewater. In 2019, the

Beidagou Wastewater Treatment System project of Anshan Iron and Steel Group was put into operation as scheduled, with the capacity to treat the wastewater produced in mines, and support the circulating water system and the new water system in the plant. The successful launch of this environmental protection project has strategic significance for improving the water environment management of the Liaohe River Basin and promoting the technological upgrading of wastewater treatment of steel enterprises. It can directly promote the energy conservation and emission reduction, facilitate sustainable corporate development, and create environmental and social benefits.

Over 95% of wastewater can be reused after treatment. Some can be used for mine beneficiation, some enter the circulating water system, and some are turned into reclaimed water and reused in the new water system. Only less than 5% of the wastewater will be discharged after reaching the standard.

In order to improve the efficiency of water use, Ansteel has developed a water use method to mix several types of water in a reasonable proportion, including underground water, reservoir water, reclaimed water and desalinated water. Such method not only puts wastewater after treatment to better use, but also effectively reduces water intake. The proportion of new water directly taken from water sources has been reduced by nearly 50%, making Ansteel an industry model for water conservation and emission reduction.



Strengthening the Environmental Management System

Ansteel continues to improve the environmental management organization, consolidate the basic management of environmental protection, and enhance the environmental management system, to build a solid foundation for becoming a model enterprise of environmental protection, thus providing institutional guarantees for the promotion of environmental management across the board.



Organizational guarantee

- We have improved the environmental protection management organization, and ensured that environmental protection responsibilities are performed throughout the Company by all units, departments, and positions
- We see to it that the Party and government assume same environmental responsibilities, one post takes dual responsibilities, and dereliction of responsibility is held accountable, to ensure the effective implementation of the main environmental protection responsibilities



Institutional guarantee

- We have continuously perfected the environmental management system to ensure that our ecological and environmental protection advances with the times
- We have included the goals of energy conservation and environmental protection in the annual performance evaluation of operators of subsidiaries



Financial guarantee

- We have invested more than RMB 2 billion to transform the ultra-low emission project of Pangang Group Vanadium No. 2 sintering machine and other projects

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Case  **Strengthening environmental protection management in Pangang Group**

In 2019, Pangang Group benchmarked against national ultra-low emission standards and requirements, comprehensively and systematically sorted out possible missing problems, and studied the improvement measures to bridge the gap. *The Pangang Group Ecological and Environmental Protection Improvement Plan (2019-2023)* was released to promote the full-scale ultra-low emission rectification. Pangang Group took active measures to improve the plant environment, did a good job in building green plants, and saw the overall improvement of its ecological and environmental protection management.

Pangang Group broke down the environmental protection indicators and tasks so as to complete them step by step, and signed letter of responsibility of environmental protection target. Further improvements were made in the environmental protection evaluation mechanism, and more efforts were made to increase assessment and accountability, making sure that the philosophy of “standardized environmental protection is the lifeline of the company, environmental protection capability represents the company’s competitiveness, and investing in environmental protection is investing in corporate development” is implemented throughout the entire production and management process. Pangang Group exercised list-based management of key environmental protection tasks with the formulation of the *2019 Key Environmental Protection Task List*, implemented key environmental protection projects with clear goals in mind, and advanced project implementation in strict accordance with the schedule, playing a major role in the continuous improvement of regional ambient air quality.

Case  **Consolidating the foundation of environmental protection management**

To meet the national and local ultra-low emission requirements, Pangang Group Xichang Steel & Vanadium has made continuous efforts to improve its environmental protection management organization, and ensured that environmental protection responsibilities are performed throughout the company by all units, departments, and positions. The system of “the Party and government assume same environmental responsibilities, one post takes dual responsibilities, and dereliction of responsibility is held accountable” was steadily implemented, to ensure the effective implementation of the main environmental protection responsibilities. In line with relevant national laws and regulations on environmental protection, the company has made comprehensive and timely improvement in the environmental management system, to ensure that its ecological and environmental protection keeps pace with the times. At the same time, it has continued to innovate in the multi-method and all-round environmental monitoring mechanism by establishing a safety and environmental protection inspection office and conducting daily inspections, ten-day reporting, and monthly assessments, passing the environmental protection pressure to all levels. 360-degree HD cameras are installed in the plant for 24-hour all-round and no dead angle monitoring of the plant area. Such measures have continued to improve the environmental management capability of the company, and ensured that the ecological and environmental protection keeps pace with the times.



Environmental Protection Technology R&D

In 2019, Anshan Iron and Steel Group carried out more than 80 scientific researches on energy saving and emission reduction and other environmental protection topics throughout the year, and achieved a number of important results. The company saved 450 million cubic meters of blast furnace gas and 20 million cubic meters of coke oven gas, which totally created benefits of RMB 122 million.

- The “Green and High-Efficiency Converter Smelting-Dry Dust Removal Cooperative Technology Development and Application” project achieved zero emissions during dust removal, reduced the concentration of solid particles in flue gas to 5mg/Nm³, and increased the recycling amount of flue gas to 140Nm³/t, which created RMB 104.23 million of economic benefit.
- The “Ansteel 1780 mm Hot Rolling Steel Production Line Advection Pool Sludge Online Degreasing Technology Research” project lowered the oil content of the hot rolling sludge to 2.17%, and reduced carbon dioxide by 12,000 tons, significantly improving the surrounding environment of the yard. This technology was included in the Liaoning Province energy conservation and emission reduction key promotion list.
- The “New Type of Green Nano Concrete Preparation and Application Technology Research” project increased the waste addition to more than 30%. To date, nearly 2,000 m³ of test concrete has been applied in the environmental protection project of the Bayuquan offshore coal storage silos.
- The “Development and Application of Biologically Synergistic Products for Coking Wastewater Biochemical System” project brought down the COD efficiency of phase-III coking wastewater by more than 30%, compared with before the addition of bacteria. It can save about RMB 2 million of post-treatment costs within one year.
- The “Research and Implementation of the Technology for Economic, Environment-friendly and Sustainable Utilization of Water Resources” project realized the optimization of Ansteel’s water resource utilization system based on the informationized and intelligent management and control platform. Since the implementation of the project three years ago, it has created RMB 179 million of profits, with an annual COD and ammonia nitrogen reduction of 650,000 kg and 220,000 kg respectively.
- The “Development and Application of Key Technologies for Energy Conservation and Environmental Protection in Coking Production” project effectively controlled the generation of coke oven flue gas pollutants, achieved wastewater compliance and reuse, and effectively avoided secondary pollution caused by iron sludge produced in the Fenton process, solving universal problems in the field of wastewater treatment.

Pangang Group actively promotes the R&D of new environmental protection technologies:

- It has vigorously promoted the research of low-temperature flue gas wet denitration process and equipment integration technology, and the denitration rate has surpassed 90%.
- It has carried out research on large-scale titanium slag electric furnaces for the recycling and effective utilization of gas, achieving stable and efficient operation of gas recycling. The average power has been increased by 10.83%, and the smelting cycle has been shortened by 10.55%, with more than 22 million cubic meters of gas recycled.
- It has carried out large-scale molten salt chlorination clean preparation of titanium tetrachloride, established an initial process flow, and completed the feasibility study of the waste salt comprehensive utilization of a 60,000-ton production line.
- It has promoted the large-scale multi-channel application research of titanium extraction tailings. In 2019, we used titanium extraction tailings to produce 800,000 non-burning bricks and 17,600 magnesium oxysulfide decorative panels. The trial sale of decorative panels reached 5,000, and the industrial utilization of titanium extraction tailings totaled 4,700 tons.

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Advocating Green and Clean Production

In order to implement relevant national policies and plans on the circular economy and energy saving and emission reduction, Ansteel develops a circular economy featuring “green development vision and low carbon operation”, and strictly implements the new *Environmental Protection Law of the People’s Republic of China* and environmental protection standards for the steel industry, so as to build a resource-saving and eco-friendly enterprise, and coordinate our production and operation with environmental protection. In 2019, we kept improving major energy conservation and emission reduction indicators with no pollution incidents and continuously decreasing pollutant emissions.

Strengthening energy management

We strengthen the utilization efficiency of resources, optimize our energy use structure, and create new energy management methods. With intensified application of energy research results, we have seen significant reductions in such indicators as the energy consumption per RMB 10,000 output value. In the National Key Large-scale Energy-consuming Steel Production Equipment Energy Conservation and Consumption Reduction Benchmarking Competition organized by the China Iron and Steel Industry Association (CISA) and China Machinery, Metallurgy and Building Materials Union, the new No. 2 blast furnace of the Central Iron-making Factory of Anshan Iron and Steel Group won the title of “Champion Furnace” in the category of 3,000 (inclusive) – 4000 cubic meters blast furnace.

Case Improving energy efficiency of Anshan Iron and Steel Group

Anshan Iron and Steel Group has promoted the application of heat pump technology. Since the heat pump units were put into operation in the cold rolling mill in November 2018, they had operated well during 2018 and 2019, saving more than 4,000 tons of standard coal each year.

Taking advantage of the low-vacuum heating technology in generating units, the six units of Anshan Headquarters had continued to provide steady municipal heating during 2018 and 2019. The technology has greatly improved the energy efficiency of the generating units, and realized an annual heating sales revenue of over RMB 92.1 million.

The CCPP generating unit of 180MW was officially put into production. It has greatly improved the efficiency of gas recycling, basically achieved zero emission of blast furnace gas and coke oven gas, reduced solid fuel consumption, and increased the power generation by 146MW/h, realizing efficient and comprehensive utilization of gas.

Bayuquan Steel Subsidiary generated 13,687,460 kWh of wind power in 2019 using clean energy.

Energy conservation of Anshan Iron and Steel Group (Unit: 10,000 tce)

Year	2015	2016	2017	2018	2019
Total energy consumption (Unit: 10,000 tce)	1513	1605	1680	1755	1803
Planned energy conservation (Unit: 10,000 tce)	24	18	28	30	2.0
Actual energy conservation (Unit: 10,000 tce)	24.27	18.87	29.87	41.98	2.05

Comprehensive energy consumption per unit output value of Anshan Iron and Steel Group

Name of indicator	Unit	2015	2016	2017	2018	2019
Comprehensive energy consumption of steel per ton	kgce/t	580.9	574.5	574.2	570.2	568
Energy consumption per RMB 10,000 output value	tce/RMB10,000 (current price)	2.58	2.66	1.88	1.68	1.77
	tce/RMB 10,000 (comparable price)	—	2.727	2.465	2.390	2.40

Comprehensive energy consumption per unit output value of Pangang Group

Name of indicator	2015	2016	2017	2018	2019
Comprehensive energy consumption of steel per ton (tce/t)	649.96	630.68	624.89	624.55	617.69
Energy consumption per RMB 10,000 output value (tce / RMB 10,000)	1.75	1.72	1.63	1.64	1.67



Improving exhaust emission management

In accordance with the *Opinions on Promoting the Implementation of Ultra-Low Emission in the Iron and Steel Industry*, we have formulated an implementation plan for ultra-low emission transformation and accelerated the promotion of it.



- Newly burned raw materials and finished product dust removal projects of the Central Iron-making Factory of Anshan Iron and Steel Group were completed and put into operation to meet the ultra-low emission standards.
- Lingshan lump and pellet quarry and limestone quarry ceiling building projects were completed
- Pangang Group Xichang Steel & Vanadium No. 1-5 power generation boiler flue gas denitration transformation project has been completed. The equipment is in stable operation, and the NOx concentration of the exhaust is reduced and kept within the range of 15-30mg/m³, outperforming the national ultra-low emission standard.

Key performance

The dustfall in the Headquarters Plant of Anshan Iron and Steel Group dropped by **32.2%** year on year.

Pangang Group continued to carry out systematic management of scattered discharge points with an investment of about RMB **180** million, and completed **95** projects involving **166** scattered discharge points.

Consolidating water resource management

We pay attention to the protection of water resources. By laying equal stress on tapping new water sources and reducing water use, and strengthening water recycling, we have effectively improved the efficiency of water use. In 2019, the water intake of Anshan Iron and Steel Group dropped by 10% year on year, with zero water discharge to external area and 98.5% of water recycled, making us a leading company in the industry.

Water consumption, new water consumption of steel per ton, and water recycling rate of Anshan Iron and Steel Group

Name of indicator	Unit	2015	2016	2017	2018	2019
Water consumption	million tons	150.44	141.22	120.16	108.24	90.68
New water consumption of steel per ton	t/t	3.48	3.18	2.72	2.33	1.98
Water recycling rate	%	97.5	97.7	98.0	98.3	98.5

Note: Water recycling rate refers to the data of the headquarters of Ansteel.

New water consumption of steel per ton and water recycling rate of Pangang Group

Name of indicator	2015	2016	2017	2018	2019
New water consumption of steel per ton (t/t)	4.21	4.06	3.97	3.56	3.29
Water recycling rate (%)	94.97	95.06	95.60	95.62	95

Case



Ansteel Mining implements the optimized management and control system for production water

Ansteel Mining, after studying the overall balance of production water in various plants and mines in Anshan area, has built a water supply and return pipelines information system based on GIS (Google or Baidu map), which displays Ansteel's circulating water as well as the water supply and water return of various plants and mines in real time. The system can provide Ansteel Mining with the best plan for water use and allocation, effectively avoid full shutdown, and, at the same time, save environmental protection expenses, creating an annual profit of about RMB 3 million.



Reducing resource consumption

Paying attention to waste management, Ansteel carries out waste recycling, and fully implements the idea of "saving iron and increasing steel". Anshan Iron and Steel Group has released the *Management Measures for Scrap Steel Recycling* for solid waste treatment, and strengthened energy-saving management with increased investment and advanced technology, process and equipment. We have consolidated the energy foundation, refined energy index management, implemented responsibilities, and strengthened assessment, which has produced remarkable results in energy saving. In 2019, we made notable progress in improving the comprehensive energy consumption of steel per ton, the energy consumption per RMB 10,000 output value and other indicators, and brought them to the best level in history.

In 2019, the comprehensive energy consumption of steel per ton in Anshan Iron and Steel Group was 568kgce/t, a year-on-year decrease of 2.2kgce/t, keeping a low energy consumption level and being at the advanced level of key steel enterprises.

Waste heat and waste energy recycling data of Anshan Iron and Steel Group

Name of indicator	Unit	2015	2016	2017	2018	2019
Blast furnace gas emission rate	%	1.223	0.524	0.704	0.61	1.76
TRT power generation	GWh	901.153	912.10	995.636	1003.334	1094.50
CCPP power generation	GWh	3306.37	3425.27	3244.81	3150.68	3264.32
CDQ power generation	GWh	617.583	779.962	782.92	758.54	782.366
Waste heat stream recycled	million GJ	24.238	26.707	26.153	26.943	28.392
Converter gas recycled	million m ³	2508.11	2740.56	2854.6	2966.18	3167.77

Pangang Group's waste heat and waste energy recycling data

Name of indicator	Unit	2015	2016	2017	2018	2019
Blast furnace gas emission rate	%	0.40	0.17	0.23	0.43	0.1
Converter gas recycled	million m ³	681.87	705.42	742.84	799.35	935.34
Waste heat stream recycled	million GJ	17.8869	17.8937	17.9039	17.9652	18.0229
TRT power generation	GWh	373.43	395.08	410.39	389.25	420.46

Expanding Environmental Protection Businesses

Ansteel has integrated energy-saving and environmental protection technologies to develop energy-saving and environmental protection businesses and expand the application of such technologies accumulated by the steel industry in and out of the industry. We have systematically commercialized those technologies, and improved the ability to provide energy-saving and environmental protection solutions for the steel industry and beyond. In a word, while providing valuable products and services to the society, we also aim to realize both economic and environmental benefits.

Case Ansteel's scrape steel processing and treatment project completed and put into operation

Scrap steel recycling is an integral part of the development of circular economy, which is of great significance to promote high-quality development of enterprises and enhance the country's sustainable development capabilities. In April 2019, Ansteel's scrap steel processing and treatment project with an advanced management model was completed and put into operation on schedule. It is a useful practice for Ansteel to expand the recycling of solid waste resources and develop energy-saving and environmental protection industries. The Project is in line with the 13th Five-year Plan energy conservation and emission reduction and green development strategies of China, and is Ansteel's pilot project for the implementation of mixed ownership reform and operator follow-up investment.

Case Patented logistics technology of Anshan Iron and Steel Group included in the Key Energy-saving and Low-Carbon Technology Promotion Catalogue of the Transportation Industry

The patented technology of Anshan Iron and Steel Group— platform-based steel coil container – was listed among the *Key Energy-saving and Low-Carbon Technology Promotion Catalogue of the Transportation Industry (2019)* by the Ministry of Transport of the People's Republic of China. It was the only patented logistics technology developed by a steel company in the catalogue.

The platform-based steel coil container technology has solved the problem of difficult placement in the traditional steel coil transportation process by making it easier for stacking and storage, and provided new technical support for the containerization of steel products of domestic steel enterprises. This technology has been widely used in the railway transportation and sea and land transportation of the company, with an annual transportation volume of 1.3 million tons. According to the national emission reduction standard, it can reduce carbon dioxide emissions by 4,600 tons each year.

Case Creating a rapidly growing recycling materials auction platform

Relying on recycled materials and the Internet, Ansteel E-commerce recycling materials auction platform provides enterprises with a platform for disposing overstocked and waste recycling materials. The platform adopts unified transaction rules and transaction process, and realizes standardized management and transparent sales. With the help of effective credit guarantee measures such as customer qualification review, bid deposit, performance bond and blacklist, the platform can avoid the risk of default by buyers and sellers. It has become a well-known third-party recycling materials disposal site in China.

In 2019, more than 10.47 million tons of recycling materials of various types were sold through the platform, with a transaction amount of RMB 901 million and an additional benefit of RMB 117 million. The largest single transaction realized a profit of RMB 6.6 million, which enriched the disposal channels for entrusted customers and generated considerable profits. The transaction volume of the platform has grown rapidly, with more than 3,000 active users, making it a model platform in the recycling material trading industry in the Northeast China.

Building Eco-Friendly Plants

Taking the "ecological conservation" initiative as an opportunity, Ansteel works hard to promote eco-friendly projects as a contribution to the harmonious ecological environment. In 2019, Anshan Iron and Steel Group invested about RMB 66 million in the greening and beautifying of the plant area in accordance with the Overall Planning and Design of Forest-style Green and Eco-friendly Plants, and completed the greening work along the southern ring of the plant area and along main roads such as the Central Avenue, Hemu Avenue and Xi'nai Avenue. 34,300 trees, 139,100 shrubs, 1.045 million hedgerows, and 82,000 square meters of lawns have formed a multi-level, high-density green landscape, with a green coverage rate of 40.5%.

Following the science-based ecological conservation plan, Pangang Group has done a good job in mine reclamation, implemented cutover land restoration, and promoted the building of green mines. Pangang Group has made full use of idle vacant land, road slopes, slag yards, dumping sites and other areas to carry out greening work. In 2019, more than RMB 80 million was invested, more than 20,000 trees were planted, 1,200 kg of grass seeds were sown, and 1,100 acres of area were covered by greenery. The greening rate of Ansteel's plant area reached 38.6%. In 2019, Pangang Group's Baima Iron Mine, Lanjian Iron Mine and Zhujiaobao Iron Mine won the title of National Green Mines.

In addition, Ansteel carried out environmental protection awareness campaigns on water saving, electricity saving, and paper saving, and organized environmental protection activities such as the tree planting volunteer activity, to enhance employees' awareness of environmental protection. In 2019, Ansteel promoted the use of water-saving appliances, such as shower heads with sprinklers and water tanks with anti-overflow devices. In the plant area, we increased the pressure at fixed points of the domestic water supply system to reduce leakage, promoted plug-in bathing, and implemented the peak shaving and valley filling model for the use of electricity.



Case Ten mines awarded the title of National Green Mines

The building of green mines is a concrete example of the implementation of the principles of "ecological conservation" and "lucid waters and lush mountains are invaluable assets" proposed respectively at the 18th and the 19th CPC National Congress. Gongchangling open-pit mine, underground mine, Qidashan Iron Mine, Anqian Mining (Hujiamiao Iron Mine), Guanbaoshan Iron Mine, Lizishan Iron Mine, Yanqianshan Iron Mine, Dagushan Iron Mine, Donganshan Iron Mine and Dalian New Limestone Mine have been successfully included in the national green mine list and awarded the title of National Green Mines, laying a solid foundation for Ansteel's long-term development.





05

Building a happy enterprise with joint efforts

To build a happy Ansteel is to implement the guiding principle of the 19th CPC National Congress, stay true to the vision of people-centered development, and jointly create a happy life and a better future. It is also a critical element of motivating employees to promote the internal force driving corporate reform and development. In the process of high-quality development, Ansteel Group adheres to the people-centered approach, solves the immediate and practical problems that employees are most concerned about, and effectively protects their legitimate rights and interests, so that employees and Ansteel Group can create a happy life and a better future.





Scaling New Highlights in the Development of Nuclear Power Steel

Wang Yong, a leading figure in Ansteel's nuclear power steel development, has taken charge of more than 30 major researches of the country and Ansteel Group, and developed more than 50 kinds of high-strength steel of various levels. Furthermore, he has played a leading role in the establishment of Ansteel's four major series of nuclear power steel products, and blazed the trail of Ansteel's medium and thick stainless steel plate production.

Laying a solid foundation with keen insight

- As early as 2006, Wang Yong has observed that as the country pays more and more attention to environmental protection and the increasing shortage of primary energy, nuclear energy would inevitably become the preferred clean energy. Since then, he and his R&D team have embarked on the road of laboratory technical reserve for nuclear power steel. They consulted vast literature and carried out many scientific research experiments, which laid a solid foundation for the later product development.

Living up to the mission

- In 2009, the State Nuclear Power Technology Company (SNPTC) and Ansteel Group cooperated to jointly develop the third-generation nuclear power AP1000 reactor containment SA738Gr.B steel plate. Starting with chemical composition and heat treatment technology, Wang Yong and his R&D team worked day and night carrying out round after round of experiments. The first batch of four third-generation nuclear reactor containment steels passed the joint appraisal of SNPTC, the National Analysis Center for Iron and Steel and Ansteel Group, opening up a new prospect for Ansteel's nuclear power steel R&D.

Achieving technical breakthroughs for domestic production of materials

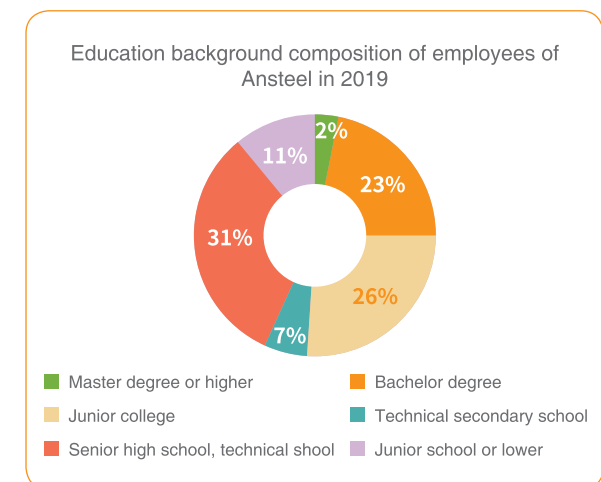
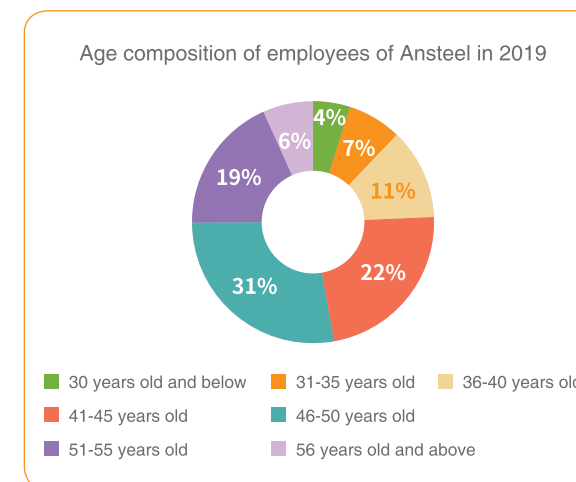
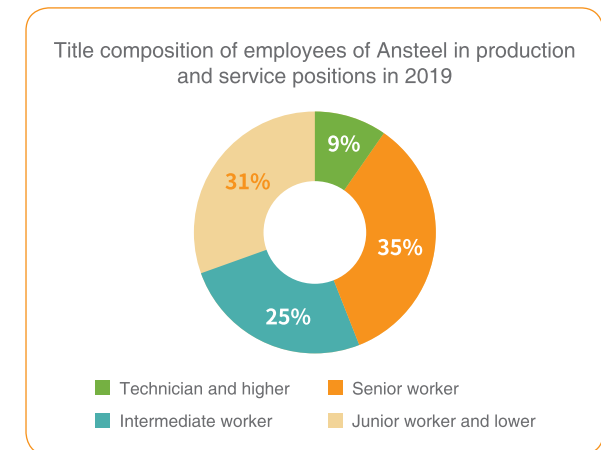
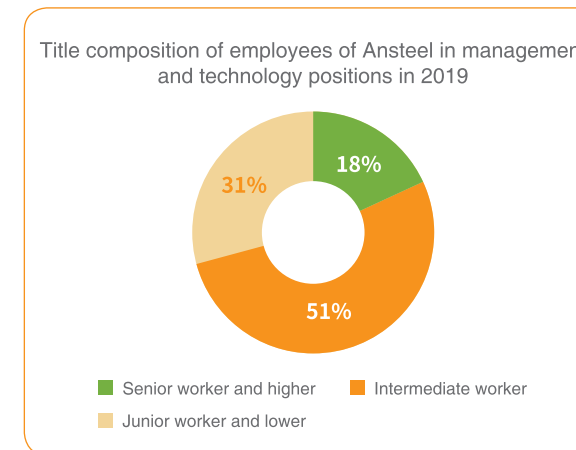
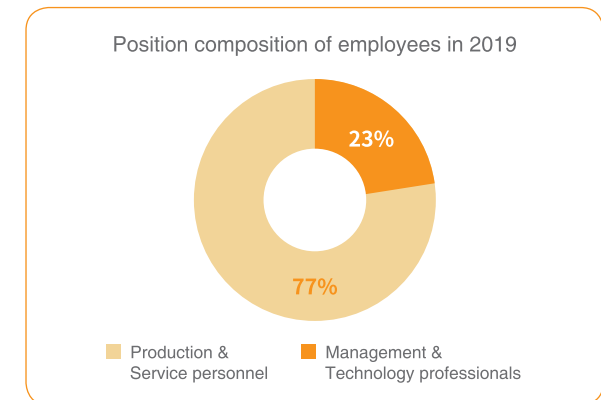
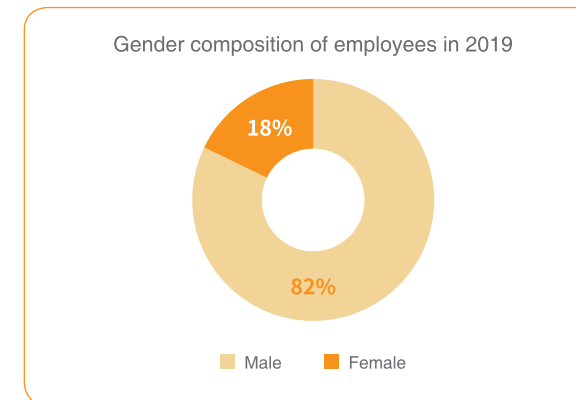
- Facing the huge challenges of nuclear power plant technology localization, material localization, and equipment autonomy, Wang Yong and his R&D team have risen up to the difficulties with set teeth. Based on the features of different steel grades, they have tracked the production process of each steel plate, constantly monitored the performance of the steel plate, and designed a process that meets the production requirements and solve the problem of restricted production through frequent sampling analysis and laboratory simulation tests. The team has successfully developed and supplied the steel used for the safety injection box of first-class nuclear equipment, holding a "protective umbrella" for the reactor core of the nuclear power unit. They have successfully developed the ultra-wide duplex stainless steel, which ended China's dependence on imports of nuclear power duplex stainless steel plates and shored up the weak links of China's special steel. He and his R&D team has applied for nearly 20 patents.

Through the joint efforts of Wang Yong and the R&D team, Ansteel's nuclear power steel has grown out of nothing, gained strength gradually, and transformed from a follower to a pioneer, thus supporting the development and progress of China's nuclear power industry.

Employee Rights and Interests

Ansteel Group abides by relevant laws and regulations including the *Labor Law of the People's Republic of China* and the *Labor Contract Law of the People's Republic of China*. We have established a complete employment management system, and protected the legitimate rights and interests of employees and retirees up to the hilt, striving to form a benefit sharing mechanism and build a harmonious labor relation between Ansteel Group and employees.

In 2019, we had 104,846 employees, and terminated labor contracts with 767 employees based on the principle of respect, communication, law, and free will.



Driving Innovation Development with Craftsmanship

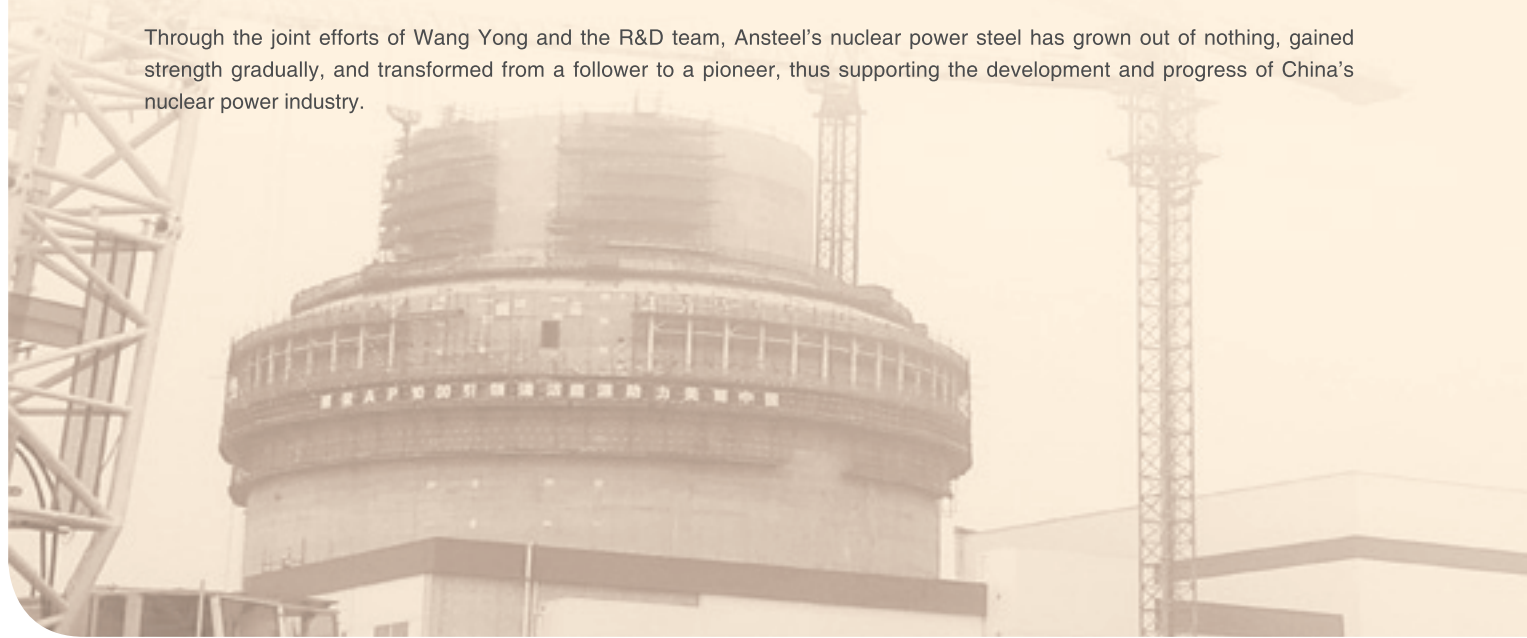
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Compensation and benefits

Ansteel Group adheres to the principles of marketization, differentiation, efficiency, and fairness. We have established a sound wage decision-making and normal growth mechanism that basically matches the labor market, our economic benefits as well as labor productivity. We pay salaries in full and on time. In accordance with national, provincial and municipal insurance policies, we have established and improved the employee insurance system based on different local conditions to pay endowment insurance, medical insurance, unemployment insurance, employment injury insurance, supplementary medical insurance, supplementary employment injury insurance and housing provident fund in full for all employees according to law. The social insurance coverage rate was 100%. In 2019, in accordance with relevant national documents, we further improved the enterprise annuity system, and revised the enterprise annuity plan and implementation rules of each unit.

Democratic management

Ansteel Group regards employees' involvement in democratic management as the key to embodying their status as the master of the Group. We have implemented the *Administrative Measures for the Workers Representative Congress of Ansteel Group*, held Workers Representative Conferences at all levels, and handled 21 Workers Representative Proposals throughout the year. We have improved the systems of employee directors and employee supervisors. All units have actively carried out activities such as "seeking advice online" and "one-day plant manager", conducted self-inspection of the performance of collective contracts, promoted the disclosure of grassroots plant affairs, and created smooth channels for employee opinions and complaints, to mobilize the enthusiasm of employees to participate in democratic management.



Occupational health

Strictly following the requirements of the *Law of People's Republic of China on Prevention and Control of Occupational Diseases* and the *Occupational Health Management Measures of Ansteel Group*, we have organized a wide range of mass work safety activities based on the "Ankang Cup" competition, with a focus on the prevention of work safety accidents and the control of occupational hazards. The overarching goal is to ensure the full participation of grassroots units and front-line teams, and achieve 100% completion of occupational disease hazards detection and occupational health physical examination, so that the health rights of employees can be effectively safeguarded, and the occupational safety and health quality of employees and the work safety level of the enterprise can be continuously improved.

In 2019, Pangang Group carried out occupational safety and health training for a total of 10,345 employees. The occupational hazard inspection rate was 100%, and the occupational health examination rate was 100%. Anshan Iron and Steel Group also realized 100% occupational hazard inspection and occupational health examination.

Employee Development

Ansteel Group continues to build a team of S&T talents. We make more efforts to strengthen talent recruitment and cultivation, attach great importance to employee training and growth, and promote the improvement of their overall skills, so as to cultivate well-rounded, high-quality, and professional high-end talents for Ansteel Group.

Channels for career development

We are committed to rallying talents through career development, and promoting the professional development of talents with unimpeded talent promotion channels. We have built an innovative post management system upon three elements: post, ability, and performance, which focuses on four dimensions: post category, post level, post rank and salary scale. According to the types of talents, establish a sound project based on the management sequence The 10 post-level sequences of, R&D, sales, and skills provide a sound career development channel for the rapid growth of talents in the enterprise. We have improved the grade system of 10 posts including engineering, R&D, sales and skills based on the management category, providing complete career development channels for talents to achieve rapid development in Ansteel Group.



As of the end of 2019, we had evaluated and hired 3,504 talents for different posts, of which 162 are chief engineers or higher in the engineering category, 25 are special researchers or higher in R&D position, and 15 are special technicians or higher in the high-skill category.

Between 2013 and 2019, one employee was elected as an academician of the Chinese Academy of Engineering, and 31 experts enjoyed special government allowances from the State Council, three employees became leading talents of the National Ten Million Talent Project, one expert in the young and middle-aged category made outstanding contributions to the country, and two employees won the Chinese Skills Award. We had one National Young Top Talent, two outstanding experts in Liaoning Province, 15 Provincial Craftsmen (13 craftsmen in Liaoning, two craftsmen in Sichuan), three experts who had made outstanding contributions to Anshan City, and six Anshan Craftsmen.

In 2019, five units of Ansteel Group were selected as Advanced Collective of Central State-owned Enterprises, three units won the honor of National Workers' Pioneer, eight employees won the title of Model Workers of Central State-owned Enterprises, one employee was awarded the National May 1st Labor Medal, and seven employees were awarded the Liaoning May 1st Labor Medal.

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Training and cultivation

Ansteel Group implements the strategy of prioritizing talent development. We have improved the education and training system, and built a platform employee growth. In 2019, we invested RMB 115 million in employee education, with 90,000 employees participated. The total training time reached 2.85 million hours, and the average training time for each employee was 27.2 hours.

Trainings for the management

46 employees were selected to participate in the training organized by the Organization Department of the CPC Central Committee and the SASAC. 11 employees were selected to participate in the training of the National Organization Cadre Academy. 93 employees were selected to participate in the trainings organized by China Business Executives Academy, Dalian. We organized training courses for young and middle-aged officials, lectures on systems, and high-level financial seminars for directors and supervisors, and conducted leadership training of different levels and categories to improve employees' management ability.

Trainings of professional skills

We organized English classes, high-level financial seminars, and trainings for international talents, and participated in the technical training of the steel industry, to improve employees' professional ability.

Trainings for high-skilled talents

We organized rotation training for team leaders (operators) and professional skills appraisal training. We established an assessment, appraisal, evaluation and other vocational skill appraisal management system, strengthened the construction of theoretical examination centers and practical examination bases, and organized vocational skill appraisals for junior, intermediate, and senior workers and technicians and senior technicians.

Case + Launching the "Cradle Program" for training excellent young officials

We implemented the "Cradle Program" for training excellent young officials. Taking the discovery, training and selection of excellent young officials as the basis, intensive education and training as well as practices as the focus, sound employee selection as the foundation, and strict management and supervision as the guarantee, we vigorously discover, train, and select outstanding young officials, and build a well-structured team of outstanding young officials with good quality and sufficient numbers.

Case + Implementing the "Elite Program"

Ansteel Group has formulated the *Ansteel Elite Program Implementation Plan for Talent Cultivation* and established a talent pool covering metallurgy, vanadium and titanium, mining, machinery, electrical, information technology and other professional fields. In five years, we trained 30 leading technical talents, 100 top technical talents, 300 key technical talents and 20 skill leaders, and improved the talent introduction mechanism and training mechanism.

Employee Care

Ansteel Group puts people front and center and solves the immediate and practical problems that employees are most concerned about. We inspire employees to love Ansteel Group and enjoy their life, and enables employees to create a happy life and a better future together with us.

Caring for employees' life

Doing everything possible for the well-being of employees is the starting point and ultimate goal of Ansteel Group. We conform to the employees' aspiration for a better life, promote the special service action of "pursuing the idea of shared benefits and caring for the frontline employees", celebrate the birthday of members, and send summer and winter greetings. We create the "top 10 red flag canteens" and other brand activities to meet the diverse and multi-level needs of employees and boost their sense of achievement and happiness.

In 2019, in celebration of the 70th founding anniversary of the PRC and the inception of Ansteel Group, we organized a team to participate in the Central State-owned Enterprise Concert hosted by the SASAC, and held the "My Motherland and Me" patriotic song performance. We conducted the "reading and essay writing" activity for female employees and selected the "most excellent family". We organized Lantern Riddles during the Lantern Festival, "May 1st" long-distance running and other cultural and sports activities, and undertook the "Ansteel Cup" balloon volleyball competition of the 6th National Metallurgical Workers Games. The Ansteel Tug-of-War Team won six gold medals and one silver medal in the 2019 National Tug-of-War Championship and 2020 TWIF World Indoor Championships Trial, and won two championships in the China Tug-of-War Club Open.

Case + Caring for frontline employees

Ansteel Zhongyuan Industry Company deeply implemented the special service action of "pursuing the idea of shared benefits and caring for the frontline employees", carried out the warmth project, and conducted 55 service projects to solve problems for the people. The company invested RMB 8.75 million to implement 51 special service projects for caring for frontline employees. The subordinate units renovated employee baths and restrooms to further improve the production and living conditions and welfare facilities of frontline employees.





Assisting employees in need

We take assisting employees in need as an important measure to care for and do things for employees. Continuous efforts have been made to improve the long-term mechanism, broaden assistance channels, and formulate assistance measures. We have carried out activities such as visits by Party members and officials on the four major festivals and mutual assistance and mutual aid among employees, and calculated and distributed the special medical relief funds for employees. Combining visits and greetings with daily assistance, we have comprehensively understood and grasped the living conditions of employees in need, improved their file information, timely adjusted the criteria for defining employees in need, established and improved Ansteel's assistance management system for employees in need, and promoted warmth sending activities in a regular and targeted manner.

In 2019, we visited 35,474 employees and retirees with all kinds of difficulties, and distributed relief funds of RMB16.756 million. We carried out the Golden Autumn Student Assistance program, and invested RMB 124,000 in helping the children of employees in need to go to school.

Case Adopting multiple measures to assist employees in need

Anshan Iron and Steel Group has improved the long-term mechanism for poverty alleviation. Employees in extreme poverty and in need were redefined and accurately identified. The company has improved the files of employees in need, and incorporated their information into the national government assistance network, as a way to expand relief channels and increase relief efforts. An information-based employee assistance system has been set up and every employee in need has been given a targeted assistance card to ensure that assistance goes to the right place. In 2019, under the "sending warmth to thousands of families" visit program, Anshan Iron and Steel Group visited 25,105 model workers, employees in need, and retirees in need, invested RMB 10.85 million in relief funds and RMB 5.83 million in medical relief funds, and provided relief to 1,382 employees.

Caring for female employees

We enhance the legal and self-protection awareness of female employees, and pay them during the marriage leave, maternity leave and nursing period. We provide breast and cervical cancer screenings for female employees, and special physical examinations for all female employees, to reduce the incidence of gynecological cancer, and effectively protect the health of female employees. In 2019, we purchased group health insurance for 11,466 female workers, and 23 female employees received RMB 1.11 million in compensation.



Case Launching the "getting to know my mother's job" activity

Pangang Group Vanadium and Titanium Resources Co., Ltd. launched the themed activity of "getting to know my mother's job". By watching how mothers work and listening to mothers' colleagues talking about their work, the children of female employees could get to know their mothers' job, feel their hard work, and thus become more grateful. The activity has helped to bring female employees and their children closer.

Case Holding a lecture on women's mental well-being

Anshan Iron and Steel Group held a special lecture themed "focusing on mental health, creating perfect women". The lecture provided in-depth analysis and explanation from three aspects: mental health assessment standards, common psychological problems of female employees, and female employees' mental health adjustment, which guided female employees to come to terms with and deal with their unhealthy emotions, playing a positive role in helping female employees become mentally strong and maintain a healthy attitude.

学雷锋 红色马拉松

首届圆梦爱心公益跑



06

Supporting Community Development with Care

A responsible company must not only create economic value, but also create social value. Shouldering the mission entrusted by the country and history, Ansteel Group continues to safeguard and improve people's livelihood while developing, gives back to the society with our original aspirations, and promotes local economy and social harmony and stability.





Contributing to Targeted Poverty Alleviation

“ The working class of our nation should set an example for the whole sociology of following the lead of Lei Feng and establishing a new trend, so that the Lei Feng spirit will become a common practice across the country. I hope you will work hard to implement the socialist core values, stay positive and upward, feel the power of goodness, and create more Lei Feng stories in the new era with concrete action, so as to realize the Chinese dream. ”

— General Secretary Xi Jinping’s reply to Guo Mingyi Team

In July 2009, Guo Mingyi, a National Moral Model, initiated the establishment of the Guo Mingyi Charity Team of Ansteel Group. In March 2012, the Ansteel Party Committee set up the Guo Mingyi Charity Office to facilitate the management of the ever-growing team, deal with the various difficulties of the people in a timely manner, and plan and organize various “Following the lead of Lei Feng” volunteer activities. Guo Mingyi Charity Team has established an open and transparent management model from receiving donations to using donations, providing a convenient, efficient, and extremely socially credible love transmission channel for volunteers and people with caring hearts, and sending warmth, care and hope to thousands of people who need help.

In October 2015, the CPC Central Committee proposed the targeted poverty alleviation strategy. The Guo Mingyi Charity Team became found an even clearer direction for its volunteer and charity activities, that is, to be synchronized with and make contributions to the Party and the country’s Two Centenary Goals. Since then, targeted poverty alleviation has become a new “battlefield” for the Team to carry out volunteer services. Since 2015, more than 1,400 Guo Mingyi Charity Teams have been established across the country, with more than 2.3 million volunteers, to carry out targeted poverty alleviation and charity activities.

Determine whom to be assisted

We visited the national targeted poverty alleviation registered households that we plan to donate to in order to verify their conditions. We made sure that every household is visited and verified and those who do not meet the donation requirements are screened out to guarantee targeted donation.

Learn their will and needs

We conducted face-to-face communication with poor households who meet the donation requirements to understand their true will and needs for poverty alleviation, and confirmed with the accompanying town and village officials to ensure that the content and method of donation are targeted.

Establish donation pairs

We mobilized Guo Mingyi Charity Teams to provide one-on-one or one-on-many paired assistance to verified national targeted poverty alleviation registered households, so that every poor household can receive donation from one charity team. We also clarified the assistance tasks to ensure targeted pairing assistance.

Follow up the implementation of assistance projects

We track the progress and implementation of the project regularly, prompt the charity team to complete the assistance tasks on schedule, and ensure the accuracy of the donation results, making sure that we help those in real poverty and achieving targeted poverty alleviation in every household we assist.

“ We can’t be satisfied with simply sending money and supplies to poor households. What we should do is to teach them the solutions. If someone wants to become rich through farming but lacks a tractor, we give him a tractor. If someone wants to get rich by breeding animals, we send him cattle, sheep and piglets. We permit no dishonesty as for the conditions of poor households. Otherwise, poverty alleviation funds would be wasted. ”

— Guo Mingyi, employee of Ansteel Group and vice chairman of China Volunteer Service Federation

Guo Mingyi Charity Team has explored an effective way to mobilize and integrate social resources to help targeted poverty alleviation. It has raised funds through multiple channels and donated nearly RMB 30 million to deeply impoverished areas in more than 20 provinces, autonomous regions, and municipalities, including Yunnan, Guizhou, Sichuan, Xinjiang, Ningxia, Qinghai, and Gansu. More than 5,000 national targeted poverty alleviation registered households have been lifted out of poverty.



Supporting Targeted Poverty Alleviation

Ansteel Group combines our own industrial advantages with the actual poverty alleviation needs of pairing regions, and promotes targeted poverty alleviation steadily. We have strengthened organization and leadership, innovated in assistance ideas, and focused on poverty alleviation by supporting local industry, consuming products and services from poor areas, supporting people’s livelihood, education and medical development, and sending talents, to solve some of the prominent problems including meeting the basic needs of food and clothing and guaranteeing compulsory education, basic medical care and housing. By summing up poverty alleviation experience, and strengthening publicity and promotion, we have built an Ansteel poverty alleviation brand, and established a good social image.

Ansteel Group supported poverty alleviation in Taxkorgan Tajik Autonomous County, Xinjiang (hereinafter referred to as Tajik County) and Panzhou City, Guizhou Province, as well as the regional targeted assistance tasks designated by Liaoning Province and Sichuan Province, involving twelve villages of ten counties in four provinces. In 2019, we implemented 74 poverty alleviation projects, invested RMB 34.68 million of poverty alleviation funds, sent 24 officials to take a temporary post to combat poverty, and purchased RMB 3.6 billion of coal and RMB 25.75 million of agricultural and sideline products from designated poverty alleviation counties. Panzhou City and Tajik County withdrew from the national poverty-stricken counties in April 2019 and January 2020 respectively.

Strengthening organizational guarantee

We have innovatively established a poverty alleviation organization consisting of the Poverty Alleviation Office, professional functional departments, and subsidiaries. We have improved the three-dimensional poverty alleviation responsibility system with the Party Committee Secretary and Chairman in command, the leading group in charge of the overall planning, subsidiaries responsible for coordinated implementation, and poverty alleviation officials battling in the frontline. We have implemented the main responsibility solidly and built a poverty alleviation evaluation system to ensure that personnel, responsibilities, assignment, and supervision are all in place.

We have organized poverty alleviation officials at all levels to systematically study the guiding principles proposed by General Secretary Xi Jinping in his speeches and a series of poverty alleviation documents released by the CPC Central Committee and the State Council. The main leaders and responsible comrades have been sent to the targeted regions to conduct in-depth investigation and give instructions. In 2019, the President, three Vice Presidents, and Secretary of Discipline Inspection Commission of Ansteel Group made inspection tours to targeted poverty alleviation areas in succession.

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Sending more poverty alleviation officials

Ansteel Group selects and assigns outstanding officials with good political quality, practical work style, strong overall ability, and development potential to poverty-stricken areas based on needs, and regards such areas as important platforms for training and selecting officials. While facilitating poverty alleviation, the overall ability and vision of those officials have been greatly improved. We have invited poverty alleviation experts from the State Council's Poverty Alleviation Office and the SASAC to conduct trainings for our poverty alleviation officials, striving to improve their ability of policy comprehension, mass work, relationship coordination, and problem solving. The team of poverty alleviation officials with excellent work style has laid a solid foundation for leading rural economic development.

In 2019, we sent 20 officials to take a temporary post to combat poverty in national designated poverty alleviation counties (including seven officials who had returned after their tenure) to strengthen local poverty alleviation forces. We have standardized the management of officials and the first village secretaries, and provided them with salaries and benefits, living allowances and communication subsidies, etc., to ensure their full devotion to the cause of poverty alleviation.

“ Ansteel Group's poverty alleviation officials in Tajik County are devoted and hardworking. All of them have demonstrated outstanding abilities. ”

— Gulizal Abrehman, Mayor of Tajik County, Xinjiang

Promoting poverty alleviation by supporting Party building

We strengthen Party building and give full play to the Party's political and organizational advantages, and its linkage with the mass. We focus on improving the organizational strength of grassroots Party organizations to effectively turn the advantage of Party building in SOEs into an advantage in poverty alleviation. Ansteel Group, by sending the First Secretary and assisting in establishment of offices for Party members, has built and consolidated the village Party organization system that serves as the main force for poverty alleviation, and embarked on a way of promoting poverty alleviation by supporting Party building.



↑ Gaoguan Village Party Building Office

Case Taking "Party building +" measures

Focusing on promoting poverty alleviation through Party building and using poverty alleviation progress to examine Party building results, Ansteel Group has explored a new model of poverty alleviation by "providing pairing assistance to a poor village, building a Party member office, consolidating the Party building fortress, and driving local development" in Gaoguan Village, Panzhou City. By sending poverty alleviation officials, improving grassroots Party organizations, and establishing the model of "Party branch + enterprise (cooperative) + poor households" to shake off poverty by supporting local industries, we have lifted all villagers in Gaoguan Village, Yanwuzhai Village, and Qvjiazhuang Village, Panzhou City, out of poverty through targeted assistance, and eliminated poverty in Panzhou City in 2019. Promoting poverty alleviation through Party building, a model invented by Ansteel Group, has also been replicated and applied in Yanyuan County, Xide County and Daocheng County of Sichuan Province by Pangang Group.



↑ Qvjiazhuang Village Party Building Office set up by Ansteel Group

Driving local development

Focusing on different local conditions and characteristics and giving full play to our all-round advantages in technology, investment, construction, operation, and management, Ansteel Group has found a way to empower locals with the means to prosper. We remain demand-oriented, build carriers, establish platforms, and choose paths. Organizations at all levels, employees and private actors have been mobilized to promote poverty alleviation by consuming products and services from poor areas, so as to drive local industry development through consumption. We have introduced external companies, channeled interest-free poverty alleviation funds to Tajik County to found Kashgar Zhongchengxin Agriculture and Animal Husbandry Development Co., Ltd., and called on our suppliers and purchasers to engage in our poverty alleviation actions. In 2019, we spent a total of RMB 25.75 million in purchasing characteristic agricultural and sideline products from designated assistance areas under the cooperation framework agreement on "farming-supermarket integration" and the "purchase instead of donation" subscription agreement.



↑ Fruit and vegetable greenhouse built by Ansteel Group



↑ Developing the Yunrong planting industry in Qvjiazhuang Village



↑ Helping Qvjiazhuang Village develop the shallot characteristic industry

Case  Sowing the seeds of hope in Gobi Desert

Tati Kuli, a place for relocated households to resettle, has received 358 relocated farming households since 2018. In order to guarantee that people here have food and basic necessities, Anshan Iron and Steel Group invested RMB 3.212 million to level the sandy land with the help of the local government, and invested RMB 1.3386 million to purchase agricultural machinery and agricultural supplies according to local needs. We have planted highland barley and livestock grass on 3,580 mu of the relocation site and turned the barren desert into plantation, benefiting 1,418 people from 358 registered impoverished households, and increasing per capita income by RMB 320 per year.



↑ Turning the barren desert into plantation

Case  Developing the “Internet + consumption” poverty alleviation model

Relying on its Internet platform advantages and the existing Ansteel E-commerce shopping mall and mini programs, Ansteel E-commerce has developed the “Internet + consumption” poverty alleviation model to help poor areas sell Xinjiang Pamir snow chrysanthemum, black wolfberry, and Panzhou rapeseed oil, prickly pear juice and other agricultural and sideline products. It has realized the idea of “purchase instead of donation” and “farming-supermarket integration”, and explored a new way of sustainable poverty alleviation through consumption.

In order to further promote poverty alleviation by supporting consumption, facilitate the sale of agricultural and sideline products in poor areas, and sustain farmers’ market competitiveness and their ability to earn more, Ansteel E-commerce has signed an agreement on the purchase of snow chrysanthemum with farmers in Tajik County. Ansteel E-commerce encourages local farmers to plant snow chrysanthemum and helps villagers in Tajik County produce deep-processed snow chrysanthemum products. The packaged products are sold in the poverty alleviation column of the Ansteel e-commerce shopping mall to drive local agricultural development. Ansteel E-commerce has also signed an agricultural and sideline product purchase agreement with manufacturers in Panzhou City to help local farmers get rich, implement targeted poverty alleviation, and promote the local economy through consumption.



Supporting Public Welfare

Believing in “helping people with compassion and kindness”, Ansteel Group walks into communities to carry out volunteer activities. We are a supporter of public welfare and a contributor to a harmonious society.

Supporting education

Ansteel Group not only gives relief to poverty-stricken areas, but also empowers the locals with the means to prosper, to see that one day they can shake off poverty and stand on their own feet. We have implemented targeted measures throughout the entire process of poverty alleviation. We have strengthened education and guidance, and sent teams of professional coaches to provide trainings on professional skills and employment skills for more than 1,900 people, including community-level officials, technicians, and poor villagers in poverty-stricken areas. We have set up the “Pangang Group Realizing Students’ Dream Grant” in Sichuan Electromechanical Institute of Vocation and Technology, benefiting 688 students from poor households. We have carried out the Golden Autumn Student Assistance program to help college students from poor families in poverty-stricken areas complete their studies. Besides, we have provided pairing assistance and educational donations for kindergartens, primary schools, and secondary schools in poor areas all the year round.



Case  The “Bud Project” for remote education

In 2019, Ansteel Group invested RMB 2.1388 million in the “Bud Project” to provide remote education for urban and rural boarding primary schools in Tajik County. We helped repair and renovate the teaching buildings, and set up recording and broadcasting classrooms, shared classrooms, speech rooms, electronic preparation classrooms, electronic reading rooms, etc., giving elementary schools students in the county the access to the high-quality classes of schools in the Xinjiang Uygur Autonomous Region and Kashgar area. The “Bud Project” has brought hope to children in the deep mountains and enabled them to learn new knowledge and start a new life. It has connected elementary schools on the vast land via the Internet, and channeled educational resources to children in remote schools. A total of 2,307 students have benefited from the project, including 997 students from poor families.



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Improving people's livelihood

Ansteel Group has redoubled efforts to support the public services in assisted areas. We have built roads, bridges, and canals for poor areas to provide convenient transportation, water use and irrigation, which changed the "life and transportation mode" and improved people's livelihood.

Case Ensuring agricultural production safety in poor villages

The shortage of water diversion and irrigation facilities has seriously affected the food production and property safety in Yanwuzhai Village and Qvjiazhuang Village, Panzhou City. In view of that, Pangang Group has invested RMB 3.67 million in two consecutive years (RMB 2.16 million in 2019) to build 28 main canals and field ditches, totaling 8.14 kilometers, lay 9.55 kilometers of water pipelines, and build (repair) two reservoirs. It has realized the effective irrigation and drainage of 1,440 acres of fertile land, and benefited 4,355 farmers from 1,302 households, including 758 people from 221 poor households.

Improving the accessibility of medical service

In order to improve medical services in poverty-stricken areas, Ansteel Group has sent a team of medical experts to conduct medical assistance, and helped Tajik County establish a medical and health security system and improve the department management system. We have improved the environment of the health stations for seven village-level and township-level hospitals in Tajik County, making it more convenient for the local people to get medical treatment.

In 2019, Pangang Group invested RMB 250,000 to help Gelanghe Village build a new clinic, and donated five sets of bedding, two medical cabinets and one medical cart. The project has benefited 1,524 people from 334 households in the village. Pangang Group has also provided voluntary medical services and medical visits in Yanyuan County, Panzhou City and other places to allow more people to access medical services.



↑ A medical visit paid to a household in Gelanghe Village, Yanyuan County

Offering Volunteer Services

Ansteel Group established the Ansteel Young Volunteer Association in 2016 that serves as a platform to gather the love of young people, display the good image of Ansteel's young employees, and pool their positive energy together. It has made positive contributions to Ansteel Group's CSR fulfillment, the implementation of our development strategies, the advancement of the socialist culture, as well as comprehensive, coordinated and sustainable economic and social development.

In 2019, we had 6,990 young volunteers, organized 940 volunteer activities with 9,000 young participants.



Case Demonstrating the responsibility of young people with great love

To celebrate the 70th founding anniversary of the PRC, build the Ansteel young volunteer service brand of "following Guo Mingyi and learning from Lei Feng", and guide members of the Communist Youth League (CYL) to practice the socialist core values, Ansteel Group's CYL Committee carried out two hematopoietic stem cell blood sample collection activities at the Gongchangling Security Department of Ansteel Mining and Guo Mingyi Charity Office of Qidashan Iron Mine on September 11 and 12, 2019.

More than 550 young volunteers participated in the voluntary blood donation and hematopoietic stem cell blood sample collection activities in two days. Among them, 130 volunteers participated in the on-site collection of hematopoietic stem cell blood samples. They have demonstrated their responsibility with great love, and polished the Ansteel brand with actions.



↑ The hematopoietic stem cell blood sample collection activities carried out by Ansteel Group's CYL Committee

Case The "Run" campaign volunteer activities

Pangang Group leverages the unique advantages of the CYL in targeted poverty alleviation to constantly build its young volunteer service brand and create the Pangang Group "Run" campaign. Between August and November 2019, Pangang Group carried out a series of volunteer activities under the "Run" campaign in designated poverty alleviation villages on the theme of "Dream for the Future", "Washbasin Plan", and "Care Warms Winter". In August, more than 30 young people from Qvjiazhuang Village and Yanwuzhai Village, Panzhou City, Guizhou Province, and Gelanghe Village, Huangcao Township, Yanyuan County, Liangshan Prefecture, Sichuan Province, were invited to visit Pangang Group's production line, the city museums, etc., where they broadened their horizons and learned knowledge. In October, Pangang Group delivered toiletries to more than 400 elementary school students in Gesala Township and Miyibaipo Township, Panzhihua City, and offered them basic hygiene knowledge, self-protection methods of school children, and counseling, which helped children in poor areas develop good living habits. In November, Pangang Group sent winter clothes, quilts, toilet set and other supplies to the hands of 39 children, to warm their hearts in the cold winter.

The "Run" campaign provides timely help to children in poor mountainous areas, nourishes their little hearts, and helps them grow up healthy.



↑ The "Washbasin Plan" volunteer activity under the "Run" campaign



↑ The "Visiting Pangang Group to learn about Pangang" activity under the "Run" campaign

Outlook 2020

The year 2020 is the closing year for China to achieve the first Centenary Goal, finish the task to build a moderately prosperous society in all respects, and complete the “13th Five-year Plan”. In this year, Ansteel Group will put CSR fulfillment in a prominent position as always and make continuous efforts to promote the sustainable development of the enterprise, society and the environment.

We will continue to strengthen quality and safety management by improving the quality management system and safety management system. We will bring about more technological innovations by improving the technological innovation mechanism, increasing investment, building technological innovation platforms, and creating an atmosphere of innovation for all employees. We will continue to strengthen customer service management, and provide customers with better products and services.

We will continue to carry out responsible procurement, build a responsible supply chain, and deepen partnerships, striving to achieve win-win results with our partners. We will continue to participate in the study and formulation of international standards, national standards, industry standards, and group standards to drive the high-quality and sustainable development of the steel industry. We will also continue to promote industry cooperation and exchanges, and deepen cross-industry and cross-regional cooperation and development.

We will continue to pursue green development. Our environmental management will be further strengthened with an improved environmental management system, increased investment in environmental protection, environmental protection training, and growing environmental protection awareness of all employees. Green and clean production will be further promoted. We will strengthen environmental protection innovation, and further achieve energy conservation and emission reduction, to minimize the environmental impact of Ansteel Group’s production and operation. We will continue to conduct in-depth research on green products, and expand the eco-friendly industry, to jointly protect the lucid water and blue sky.

We will continue to uphold the people-oriented philosophy, fully protect the rights and interests of employees, and strengthen employee training and education, in order to cultivate talents for the steel industry. We will actively carry out employee mental health training to help employees achieve work-life balance, strengthen employee occupational health and safety management, and provide a safe and comfortable working environment, to build a happy Ansteel Group together with employees.

We will deepen targeted poverty alleviation to help people in poverty-stricken areas become better off as soon as possible and contribute to building a moderately prosperous society in all respects. We will continue to integrate corporate development into local communities, and use professional advantages to support better community development. We will continue to strengthen volunteer services, and create an environment that inspires people to engage in volunteer activities, so as to give back and contribute to society with concrete actions.

Down the road, Ansteel employees will remain committed to the mission of “manufacturing better material for creating a better life”, put the new development philosophy into practice, focus on implementing the “Three Advancements”, and realize good performance in adjusting, reforming, innovating, and strengthening Party building. We will strengthen and refine the material business, continue to upgrade the mineral resources business, and develop the industrial business selectively. With strong determination, we will make Ansteel Group stronger, better and bigger, and stride towards the goal of building Ansteel Group into the most influential steel enterprise group in the world.



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Feedback Form

Dear readers,

This is the eleventh 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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