

Company Profile

Wuxi Putian Iron Core Co., Ltd ("Putian Iron Core" "PTTX") was established in 2004, long-term deep ploughing into the field of electric power and energy, focusing on the integration of new materials of high-end electrical steel, electrical equipment for power transmission and distribution, and the planning of intelligent factories, and continues to provide green and low-carbon products and process solutions for the industry chain with innovative technology. We continue to provide green and low-carbon products and whole-process solutions for the industry chain with innovative technology.

After years of development, Putian Iron Core has become a leading enterprise in the world's high-end low-carbon electrical steel and core industry, with a number of industry-advanced intelligent manufacturing bases and R & D centres leading the future development of the industry, with business covering the whole country and more than 50 overseas countries and regions, providing one-stop solutions and high-quality services for hundreds of power and energy enterprises around the world, and with production and sales volumes and scales ranked at the forefront of the industry for many consecutive years.



Milestones

2004

Wuxi Putian Iron Core Co., Ltd. was established, opening the prelude to the professional production of transformer core industry.

2006

Became a supplier of Schneider Electric, a world-renowned Electrical enterprise.

2010

Establishment of technical institutes to initiate independent innovation

Independently developed "7-step staircase seam transformer core" was awarded the national key new product

2013

Completed shareholding reform and officially changed its name to Wuxi Putian Iron Core Co.,Ltd

Phase I Smart Factory completed and put into production

2016

Leading the drafting of the "Electrical steel cores for power transformers" national standards (GB / T 32288-2015) officially implemented

2017

Formal entry into the international market

2018

The second phase of the intelligent factory was completed and put into production, leading the iron core manufacturing to "intelligent" leap.

The first roll of self-developed oriented electrical steel products officially rolled off the production line, the layout and construction of iron core upstream and downstream supply chain

2020

Established a wholly-owned subsidiary, Wuxi Star Intelligence Digital Service Technology Co., Ltd. to empower the production line with intelligence and promote the intelligent evolution of the whole chain of enterprises.

Led the revision of the "Electrical steel cores for power transformers" (GB/T 32288-2020) national standards formally implemented

2022

Established a wholly-owned subsidiary, Anqing Xinpu Electric Equipment Co.

Initiated the establishment of "China Electrical Apparatus Industry Association Iron Core Application Branch" and served as the chairman of the unit.

2023

The first phase of Anqing Xinpu Electric Equipment Co.

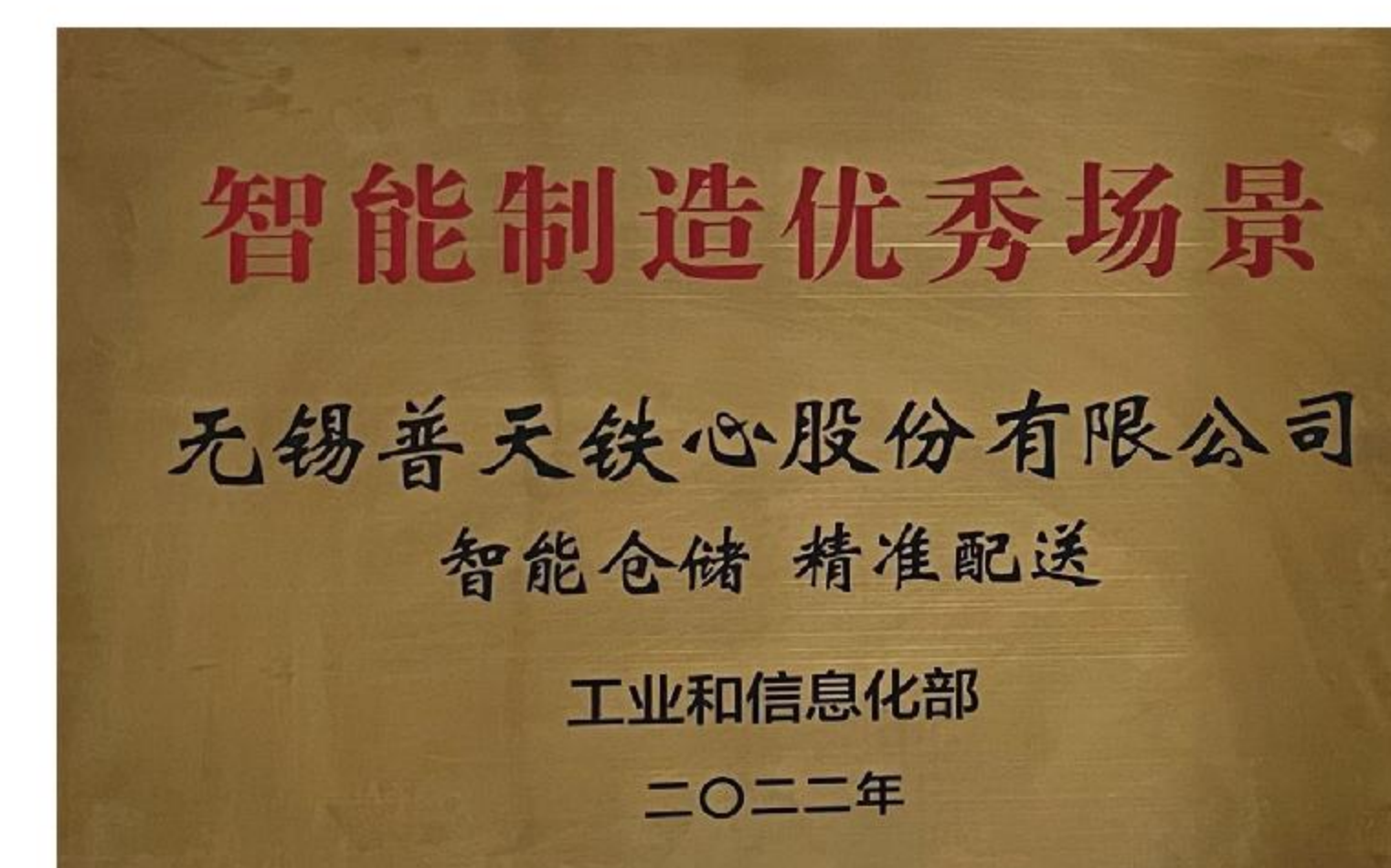
Phase III smart factory project put into operation, focusing on specialised production of main transformer cores

Acquisition Jiangsu Zhirun New Material Technology Co. Ltd. and continue to expand the leading edge in core production capacity

2024

Intelligent production base project for high-efficiency cores (Phase IV Intelligent Factory) will be officially put into operation, becoming the largest transformer core provider in the world in terms of production capacity.

Major Honours



National Green Factory
National Postdoctoral Research Station
Jiangsu Quality Benchmarking
Jiangsu Industrial Design Centre.
Jiangsu Key Cultivation and Development of Internationally Famous Brands



Major Honours

High-tech product certification: energy-saving and environmentally friendly distribution cores, high-efficiency and low-energy consumption small and medium-sized transformer cores, non-stacked yoke high-efficiency cores, high-precision full-sequence shear low-loss cores, fixed-measurement silicon steel for high-efficiency transformers, vibration-damping insulated sandwich low-noise cores, and automatic positioning-type low-loss cores.



Corporate Culture

Mission and Vision: Committed to the energy efficiency technology of silicon steel materials, Contribute Chinese wisdom to the world of electric power and new energy

Foundational Values: Focus, Extreme, Standardised

Behaviour-oriented values: Being simple, working in details.

Brand slogan: PT Silicon Steel equipment Wisdom



PT硅钢，装备智慧
PT Silicon Steel , Equip wisdom

Cultural Totems



工匠之心

Putian's cultural totem evolved from the "heart" and the "iceberg theory", combining the genes of the Iron Core to form a heart-shaped artisan's heart.

IP Mascot



Mascot name: Tensmith
 Prototype and Selection: Tangrams
 Behaviour: Love to combine their bodies at will
 Mantra: What's the look you're going for today?
 IP Story: Smart State uses various shapes to adapt to a variety of demanding industrial manufacturing

◎ 02 Stakeholder Identification and Key Issue Analysis

Stakeholder identification

Interested party	Needs and expectations	Communication channel
Customers	Customer-centric Customer Relationship management Product quality management Energy-efficient, high-quality products Provision of technological total solutions	Customer satisfaction survey regularly understand Customer needs Technical exchange meetings Signing of strategic long-term agreements Signing of quality assurance agreements
Vendor	Chain management Green packaging and green transport Provision of technical services to vendors	Regular understanding of supplier needs Technical exchange meetings Assisting suppliers with staff skills training
Government and regulators	Environmental management system Energy management and efficiency Waste management Carbon reduction and carbon neutrality Greenhouse gas emission	Discussion forum Official correspondence Third-party certification and verification
Workers	Talent development and retention Diversity and equality of opportunity Democratic management and employee Care Career development and occupational health	Staff cultural and sports activities Internal media outreach Employee performance appraisal
Communal	Public welfare and donations fight an epidemic	Volunteering Community activities
Shareholders /Investors	Corporate governance Business ethics and anti-corruption management Risk and crisis management	General shareholders' meeting Conference research Telephone call Company public account

Analysis of key issues

Corporate governance	Matrix	Societies
Governance structure	Responding to climate change	Enterprise culture construction
Compliance continuing operations	Promoting the transformation of	Preventing danger and strengthening
Continuous promotion of	The energy structure	The cornerstone of safety
Technological innovation	Contributing to carbon neutrality goals	Focus on the customer, the pursuit of quality
Strengthening intellectual	Strengthening environmental	Win-win co-operation to create
Property protection	Protection management	A responsible supplier
Intelligent manufacturing	Greenhouse gas verification	Drinking Water, Giving to the community
Digital Operations		

◎ 03 Corporate Governance and Compliance

Governance structure and system of governance

The fourth session of the Board of Directors consists of six directors, including one outside director, and the fourth session of the Supervisory Board consists of three supervisors, including one employee representative supervisor. In FY2023, the Company convened a total of five general meetings of shareholders, seven Board of Directors and six Supervisory Boards, and considered more than 20 topics.

Institution-building

Rules of Procedure for the General Meeting of Shareholders, Rules of Procedure for the Board of Directors, Rules of Procedure for the Supervisory Board, Rules of Procedure for the General Manager, Rules of Procedure for the Secretary of the Board of Directors, Management System for Foreign Investments, Management System for Foreign Guarantees, Management System for Connected Transactions, Management System for Subsidiaries, Internal Reporting System for Material Information.

Relations with investors

Channels to maintain good communication with investors: shareholders' meeting, meeting research, telephone communication, public website.

Build crisis communication system

Continuously enhance the risk sensitivity, protect the company's brand reputation, minimise the negative impact of the crisis on the company, ensure the sustainable and stable development of the company's business, and build a Crisis Public Relations Management System.

Compliance

There is a Corporate Audit Department with a number of full-time auditors.
Anti-commercial Bribery: Signed the Anti-commercial Bribery Commitment with suppliers, and there were no risky compliance matters during the reporting period.
Building a clean environment: Training on Business Integrity and Anti-Bribery.

商务廉洁与反贿赂规制

· 汇报: 企管中心

PTX 装备智慧
PT steel steel The energy of craftsmanship

2023.8.29

©04 Product and Quality Management

Product green design is effective

Main products: silicon steel, iron core

Wide range of width of fixed-size silicon steel, excellent surface quality, stable magnetic properties, can replace similar foreign products. Better insulation resistance, adhesion, coating uniformity, grain orientation and magnetic properties; higher controllability, uniformity and stability of magnetic properties.

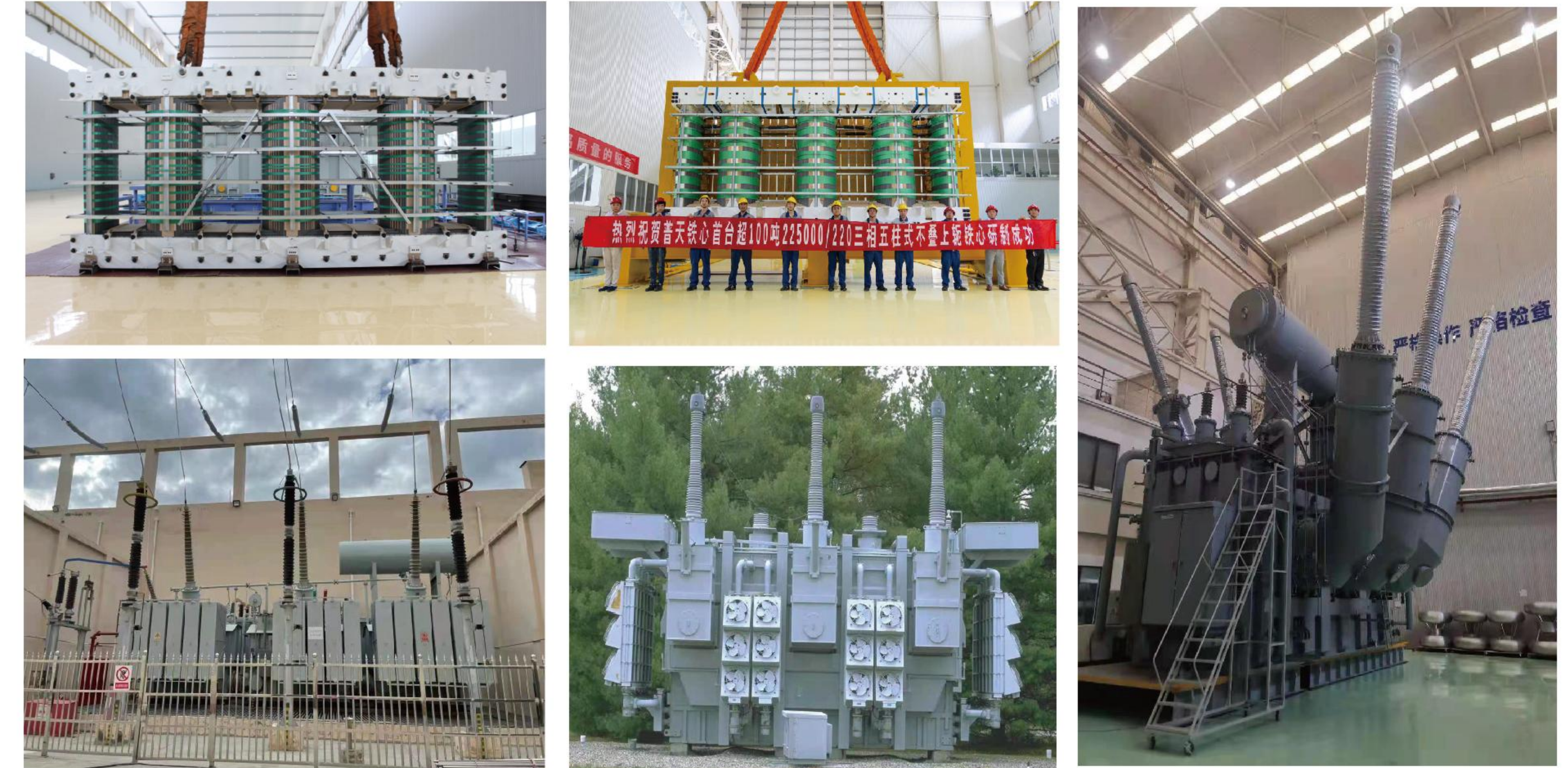
Core products are Jiangsu Province high-tech products, national key new products. "7-step staircase seam transformer core" reduce the seam at the magnetic density of 22%, reduce the no-load loss of 3%, reduce the transformer noise 2-3 dB, reduce the no-load current 40%. Convenient for customers to dismantle and insert the piece. Set coil plucking, inserting on the yoke process, improve efficiency up to 300%.

Product application scope: solar energy, power station, large hydroelectric power station, wind energy, nuclear power station, high-speed railway, underground, national power grid and other fields. The products are matched with Class 1 energy-efficiency transformers, which can upgrade the national transformer energy-efficiency level to Class 2 and above. Main customers: national power grid, large transformer manufacturers, electrical companies, power equipment companies.



Landmark Project

Domestic projects: Sichuan-Tibet Railway, Anjiu Railway, Jingtong Railway, Wujiu Railway, Zhengwan Railway and other railway construction projects, Ningxia Water Conservancy, Jinshan Substation Project, Hainan Wenchang PV Project, etc.



Foreign projects: Egyptian National Grid, Indonesian National Grid, Saudi National Grid, Spanish National Grid, Vestas Project, Kuwait Project, Cote d'Ivoire Project, Egyptian Military Project, ADWEA Project, Madagascar and Libya Project, etc.



Focus on technological innovation, wholeheartedly leading the industry

The implementation of "product life cycle quality management system", from materials, supplier selection, product reliability design, process reliability design, type test verification, environmental protection design, environmental protection process, intelligent manufacturing, incoming material inspection, process inspection and testing, to the user site quality feedback and other processes, to achieve the quality of the whole life cycle and closed-loop control of reliability.

Passed ISO9001 quality management system, ISO14001 environmental management system, ISO45001 occupational health management system, ISO50001 energy management system certification.



Quality Policy:

- Focus on technological innovation
- Professional core manufacturing
- Building brand management
- Gaining customer trust
- Focus on continuous improvement
- Wholeheartedly leading the industry

Quality Management Core: Total quality management (TQM)

Quality Commitment: Delivered products 100% qualified

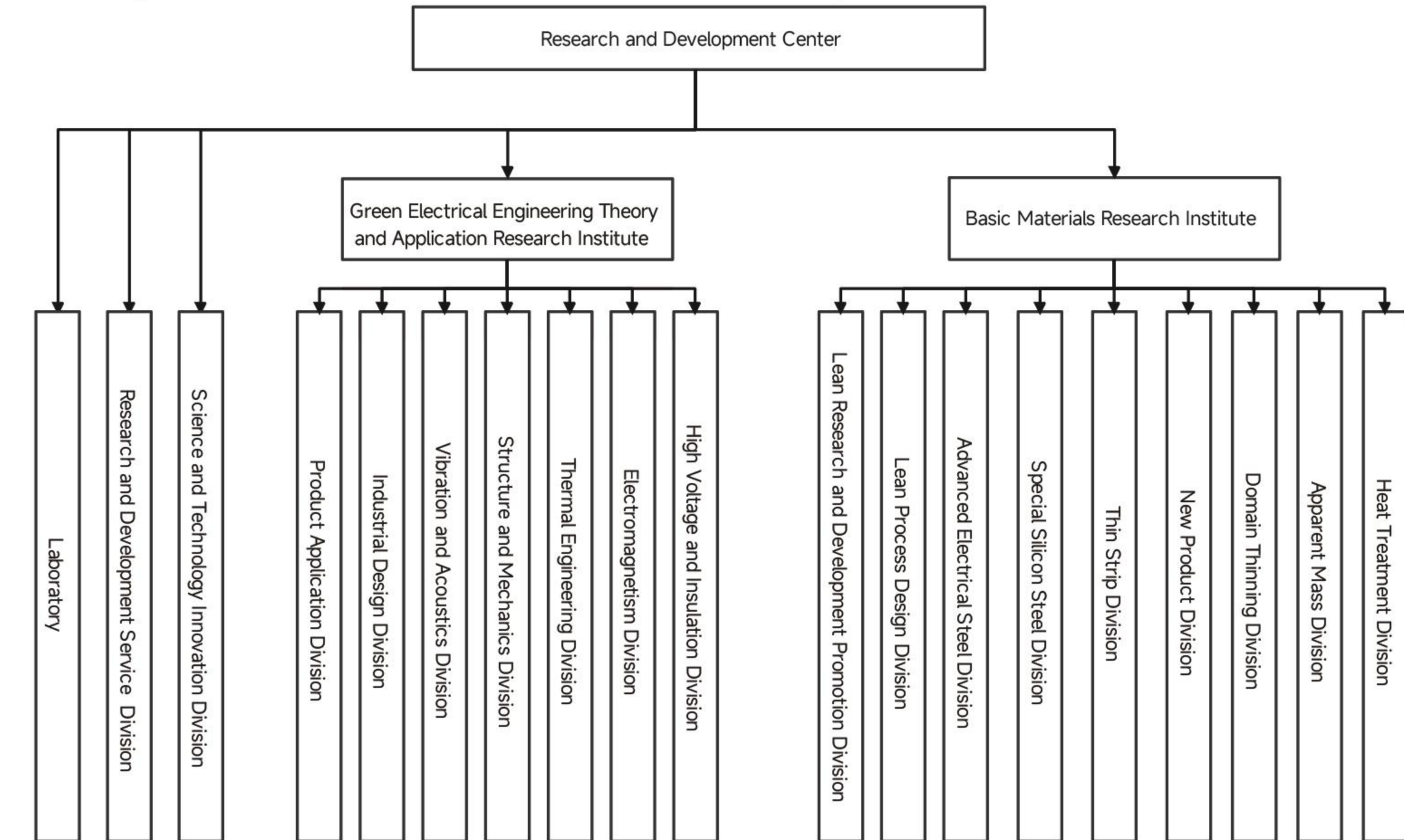


Testing Equipment - Multi-Channel Vibration and Noise Data Acquisition and Analysis System

05 Technology Development and Innovation

R&D organisation optimisation and R&D capacity enhancement

Organizational structure of the R&D Centre: Institute of Basic Materials, Institute of Green Electrotechnical Theory and Application, R&D Service Department, Science and Innovation Department and Laboratory. The two research institutes have set up a total of 16 institutes.

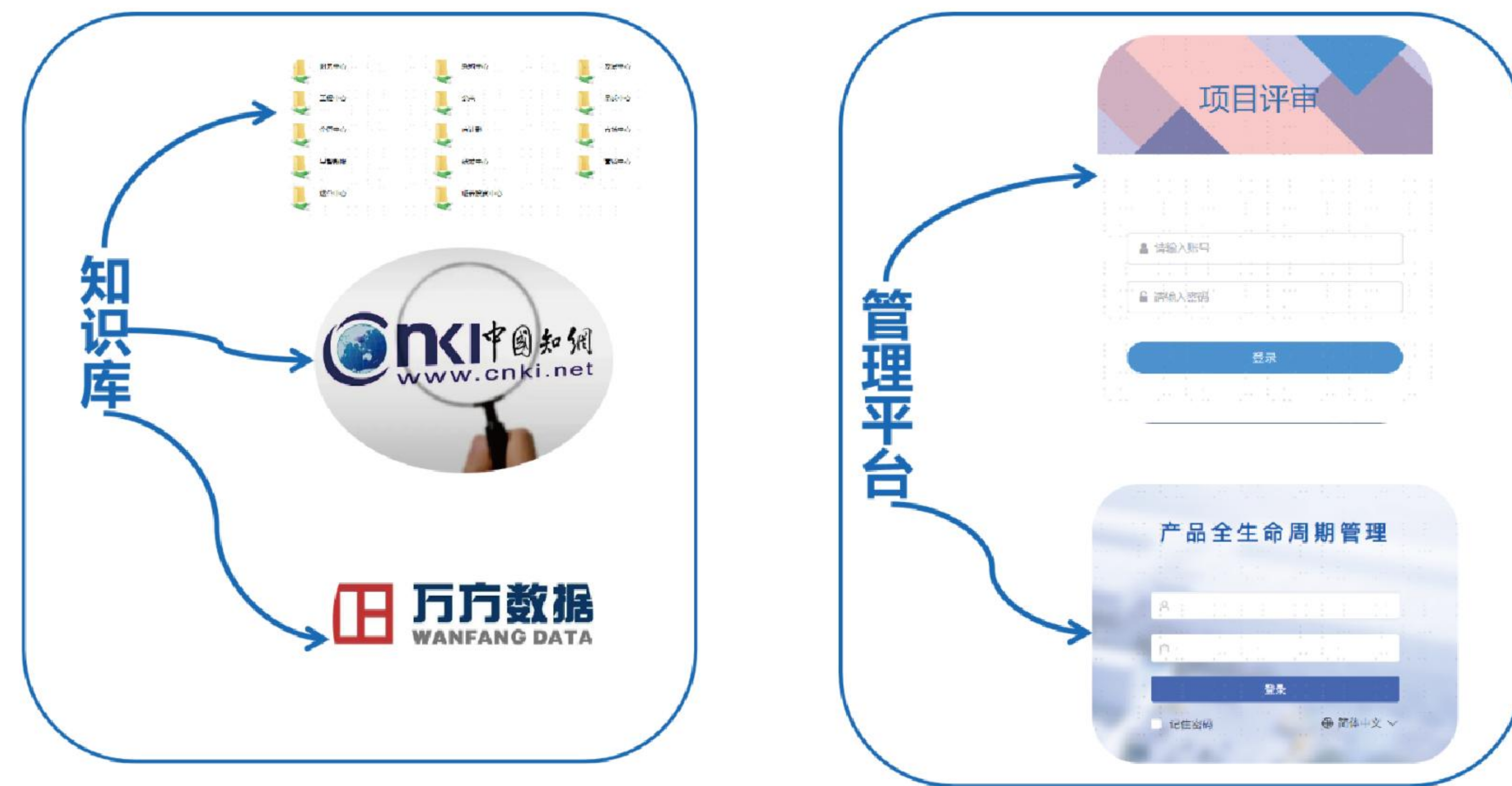


Investment in R&D equipment. 2023 accumulated investment in R&D equipment more than a hundred sets, of which imported equipment accounted for more than half, involving Hitachi, Thermo Fisher, Agilent, Shimadzu and other high-end

Knowledge base construction: In 2023, the company purchased Wanfang and Knowledge.com, and built a knowledge base platform on Netflix.

Project management system implementation: In 2023, R&D quality management platforms such as project review system and PLM system were gradually put online.





Industry-academia-research co-operation:

In 2023, we carried out industry-academia-research co-operation with many schools.

Cooperation with Tsinghua University around the "110kV high-voltage dry-type transformer composite insulation system research" and successfully declared "Xishan Tsinghua deep integration of industry, academia and research special projects"; and North China Electric Power University to carry out joint research on the "integrated magnetic performance test system for silicon steel sheet". The research of "Comprehensive Magnetic Performance Test System for Silicon Steel Sheet" is carried out jointly with North China Electric Power University. At the same time with Xi'an Jiaotong University, Northeastern University, Wuhan University of Science and Technology, Shanghai University of Engineering and Technology and other colleges and universities are also continuing the cooperation.

R&D personnel training:

There are more than 170 R&D personnel, including 119 master's degree graduates and 10 doctoral graduates, accounting for 72.1% of the total number of master's degree graduates. It has a post-doctoral workstation.

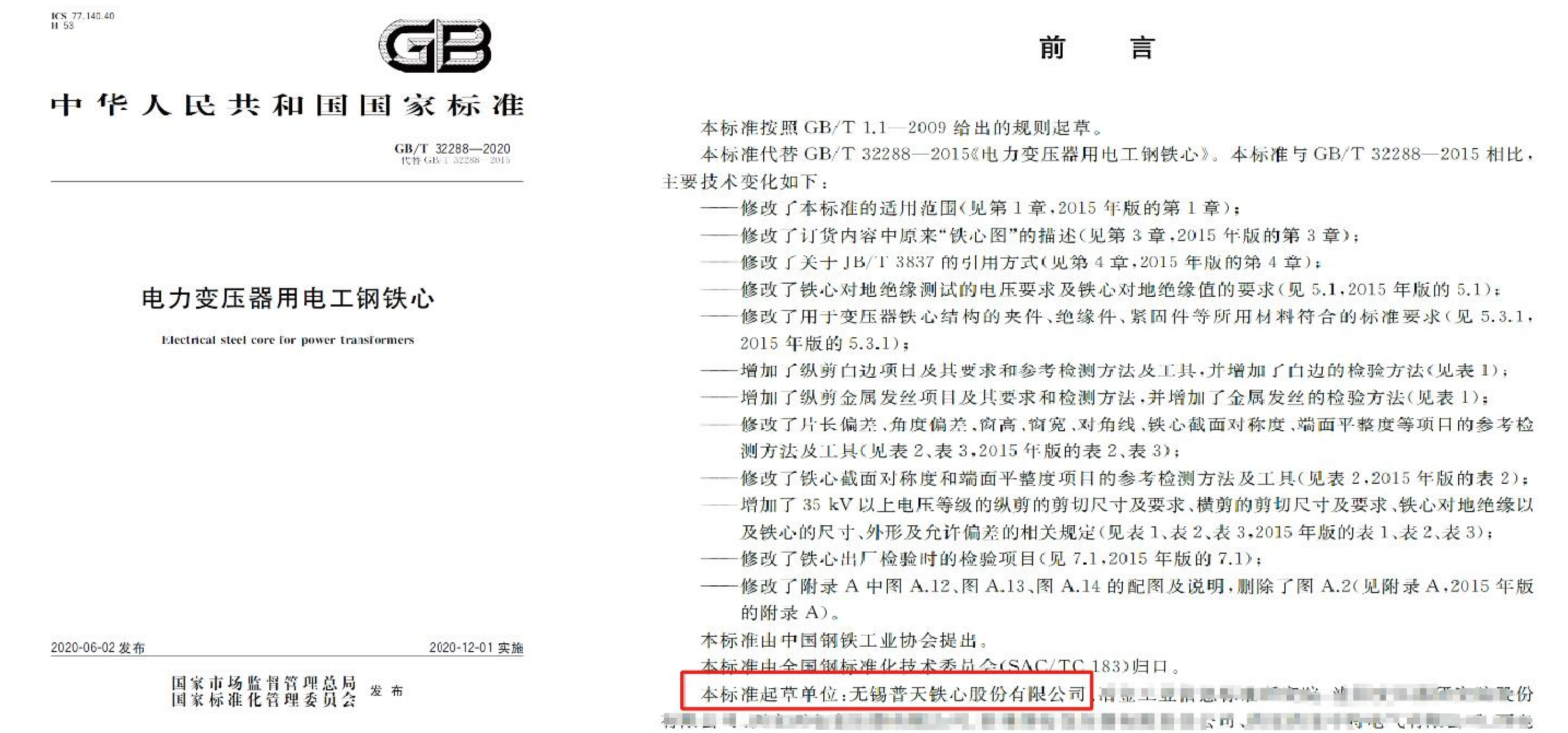
Talent incentives:

In order to ensure the progress and quality of R&D, the company mobilises R&D staff through generous patent incentives, project bonuses, KPI formulation and other ways to promote the progress of production technology and improve the company's market competitiveness and economic benefits.



Promoting technological innovation with standards

Leading the manufacture and revision of national standard GB/T 32288 "Electric steel core for power transformer".



It is participating in the formulation and revision of 5 national standards, 5 trade standards and 2 group standards.

Initiated the establishment of the Core Application Branch of China Electrical Apparatus Industry Association.

In 2023, the R&D Centre has 24 projects under research and development, of which 16 R&D projects, such as "Research on high magnetic susceptibility ordinary oriented silicon steel", have been completed.



Strengthening intellectual property protection

It has obtained the certification of intellectual property management system and the qualified unit for performance evaluation of intellectual property management standardisation in Jiangsu Province.

In 2023, 53 patents were filed for R&D projects and 26 were granted, including 21 patents for inventions, 4 utility models and 1 design.

Putian has 97 effective patents, including 47 invention patents, 49 utility model patents, 1 appearance patent, 14 domestic registered trademarks, 28 foreign registered trademarks, including 2 Madrid registered trademarks, and 18 software works.

◎ 06 Provide Professional Solutions for Customers

"Customer-centred"

"Providing professional solutions to our clients"

Main focus: energy efficiency upgrades, green and low carbon

Obtained AEO customs premium certification



Putian Iron Core has been awarded the AEO Customs Premium Certification, which can help clients provide lower inspection rates for imported goods; help clients provide priority inspection for goods requiring physical inspection; designate customs liaison officers responsible for communicating with and handling problems encountered by AEO enterprises in customs clearance; and give priority to customs clearance after international trade has been interrupted and resumed.

Establishment of a customer service system

Build a balanced and efficient lean production system based on intelligent manufacturing. Comprehensively improve optimised scheduling, manufacturing, quality control, delivery logistics and arrival accuracy.

Adhere to the quality concept of "customer first, once qualified"



Protecting the rights and interests of customers

Protect clients' intellectual property and trade secrets.

Customer satisfaction survey

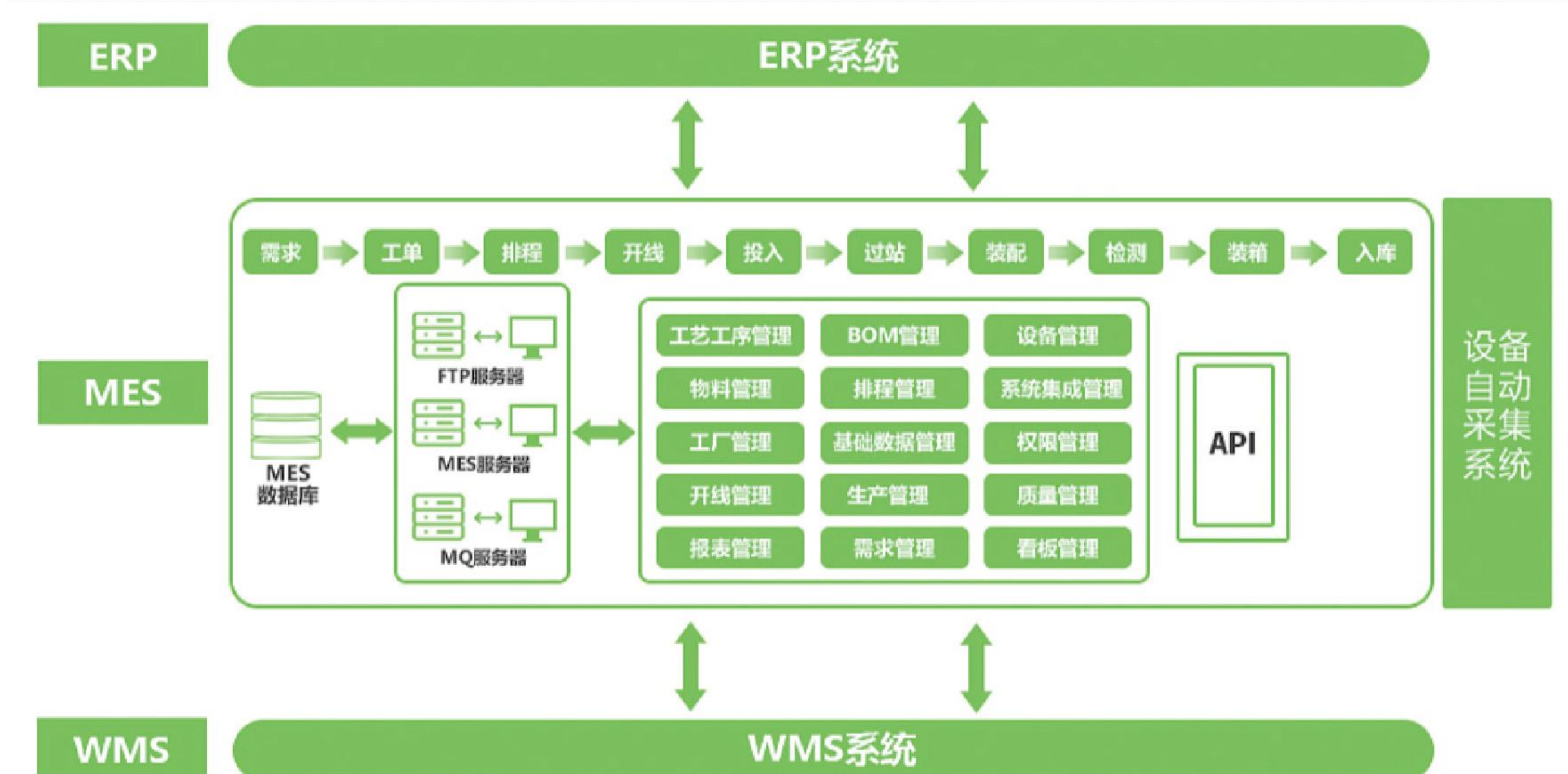
2023 Customer Satisfaction Survey 40 questionnaires were distributed and 38 questionnaires were returned with a 95% validity rate.

The overall average customer satisfaction score was 96.18, giving a customer satisfaction rate of 100 per cent (96 being satisfactory).

Customer objection and complaint response mechanism

Set up a Customer Complaints Team to respond quickly to customer objections and complaints to ensure stable and sustainable customer relationships.

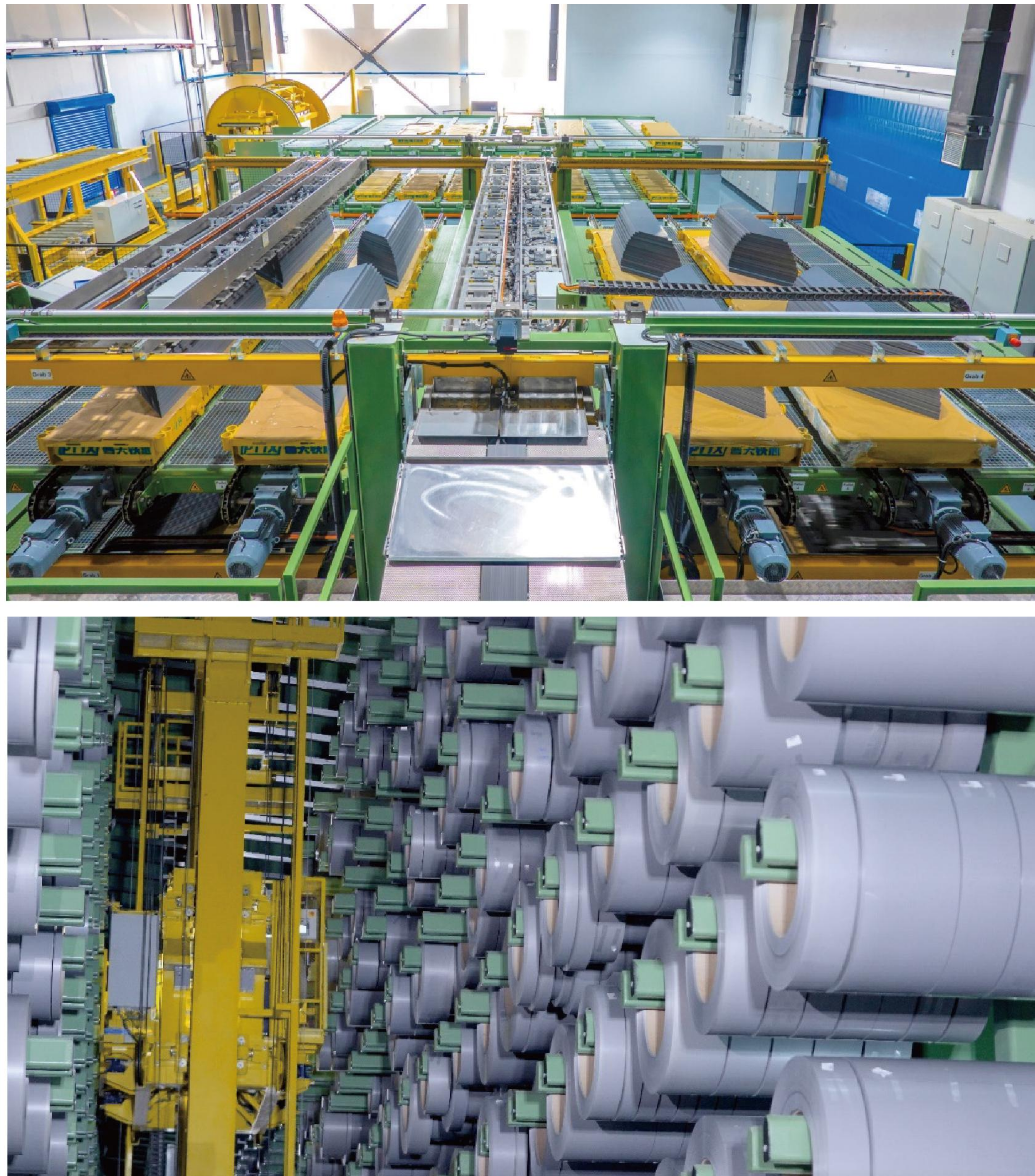
Informatisation management platform: Created an integrated quality management system QMS including customer complaints, customer returns, non-conformity handling, rework and repair, incoming material, process, finished product testing, measurement, corrective prevention and other quality management.



© 07 Intelligent Manufacturing and Green Production

Intelligent Manufacturing was awarded the national-level intelligent manufacturing excellent scene and national-level intelligent manufacturing maturity level 3 certification

Software systems used: Advanced Planning and Scheduling System APS, Product BOM System
 Intelligent operation, human-machine interaction and visualisation in all workshops.
 Construction of 4.0 Intelligent Liku, Intelligent Workshop and Intelligent Factory.



Green development awarded national green factory

Actively practice the green development concept of "green manufacturing iron Core, ensure health and safety", and continue to promote the level of green and low-carbon development.

Obtained the national green factory.



08 Environmental Protection and Supply Chain Management

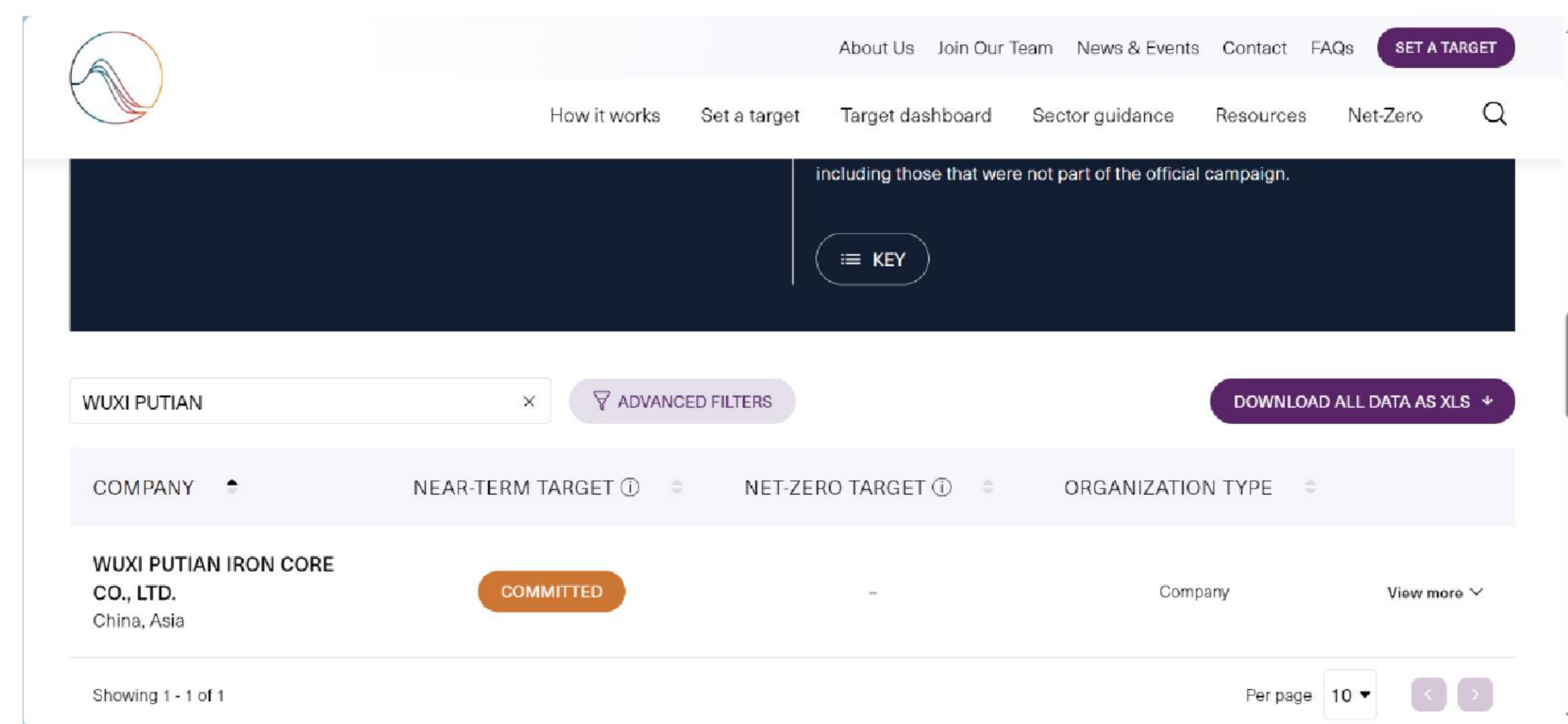
Responding to climate change

Join the Science-Based Carbon Targets Initiative (SBTi).

The Science-Based Carbon Targets Initiative (SBTi) is an organisation formed by the CDP, the United Nations Global Compact the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF), a collaborative organisation dedicated to defining and advancing science-based carbon reduction targets and best practices, providing resources and guidance on overcoming related barriers, and providing independent third-party assessment of carbon neutrality targets set by companies.

The Science-based Carbon Target is designed to help organisations set science-based carbon reduction targets that are consistent with the 2°C decarbonisation level, and aims to promote the setting of science-based carbon reduction targets as the norm for business. The initiative provides sector-specific resources and practical guidance to help organisations set targets that are consistent with the United Nations Intergovernmental Panel on Climate Change's Fifth Assessment Report (IPCC AR5) decarbonisation levels, which are well below 2°C or 1.5°C. The initiative also aims to promote science-based carbon targets as the norm for business.

A 7-year project on "Research on Energy Saving and Carbon Reduction in Core Processes under the Scientific Carbon Targets".



Transformation of the energy mix

Actively responding to the national strategy, accelerating the transformation of energy structure, through electrification, automation and digitalisation together with innovative technologies, focusing on the use of clean energy, optimisation of energy efficiency, electrification rate increase, helping to improve energy efficiency, and boosting the industry's green, low-carbon transformation and high-quality development.

Environmental management

The annual environmental protection objectives will be included in the indicators of the performance appraisal of the responsible persons, the results of environmental protection will be linked to income, education on environmental protection awareness will be strengthened, the responsible units and relevant managers will be assessed, and the green development of regulated enterprises will be promoted.

Pollution prevention and control

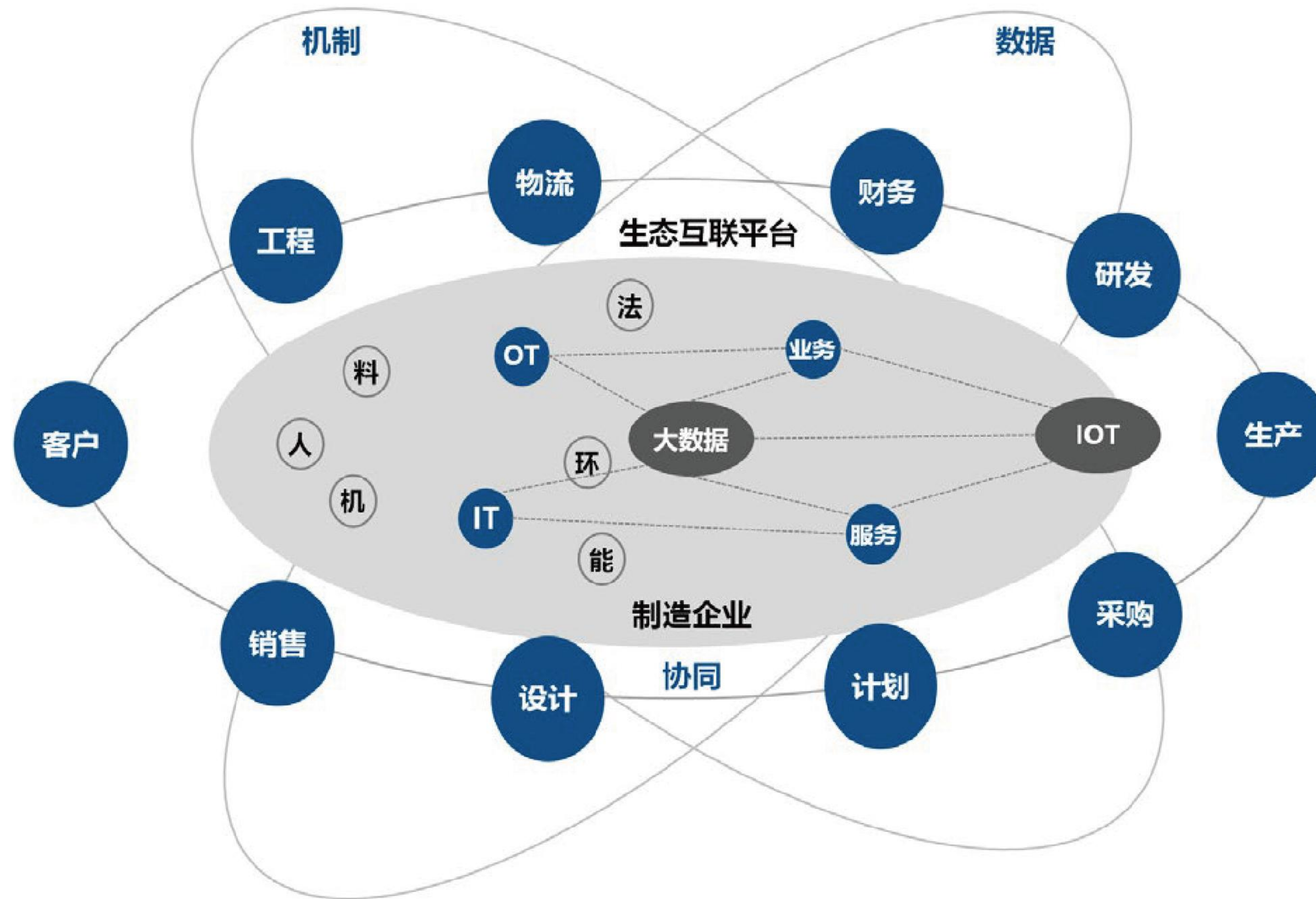
There are annual targets, measures, timetables and monitoring plans for pollution prevention and control.

Three-waste management programme

Solid waste	Non-reusable waste	Domestic rubbish	Regular removal and harmless disposal by professionally qualified suppliers
	Cafeteria kitchen waste	Food waste cooking oil and grease	Courtesy of professional qualifications Supplier Harmless Disposal
	Reusable waste	Triangle material, Scrap iron,Wires,tail material	Regular removal and recycling by a professionally qualified supplier
Drain water	Hazardous waste	Chemical packaging containers	Fixed-point storage, uniformly handled by qualified companies
	Cafeteria wastewater	Oily catering wastewater	First treated by.grease trap and discharged to the municipal network after reaching the standard.
Exhaust gas	Other domestic wastewater	Wastewater from washrooms, pantries, cleaning, etc.	Directly into the septic tank, after treatment to meet the standards, discharged to the municipal network
	Catering exhaust	Lampblack	First through the fume hood, then through the electrostatic fume purifier, meet the standards and then organised emissions
	Industrial waste gas	Industrial emissions from production processes	Collected centrally to the roof of the industrial waste gas treatment facilities, and discharged after the standard is met.

◎ 09 Green Supply Chain Management

Implement green procurement and promote green suppliers



Publication of suppliers' green information: Supplier Code of Conduct commitment letter, related party EHS notification letter, related party EHS status questionnaire, related party EHS agreement that suppliers are required to sign.

Green packaging and transport

Adoption of environmentally friendly materials and packaging, reduction of resource consumption and environmental pollution, development and introduction of anaerobic degradable film and biodegradable film to replace the existing PE film.

Optimise logistics and transport to reduce carbon emissions during transport.

The average annual reduction in CO₂ emissions was measured internally to be about 168 tonnes.

Cleaner production

- ◆ Development of oriented silicon steel scoring process, which turns low performance silicon steel into high performance material after lowering the orientation angle through scoring, which can release the stress of silicon steel sheet, thus reducing the iron loss of silicon steel sheet, and ultimately reducing the no-load loss of the core by 15%~20%;

- ◆ Compacting machine presses the core online, which can reduce the noise of the core by 3~5dB and the no-load loss of the core by 1%~2%;

- ◆ Apply 550 glue, no irritating odour, no eye-stinging situation, the original gas mask of the painter can be replaced by a normal type gas mask;

- ◆ The application of Slitting shear dust removal equipment can far reduce the amount of dust in the air and improve the working environment for employees;

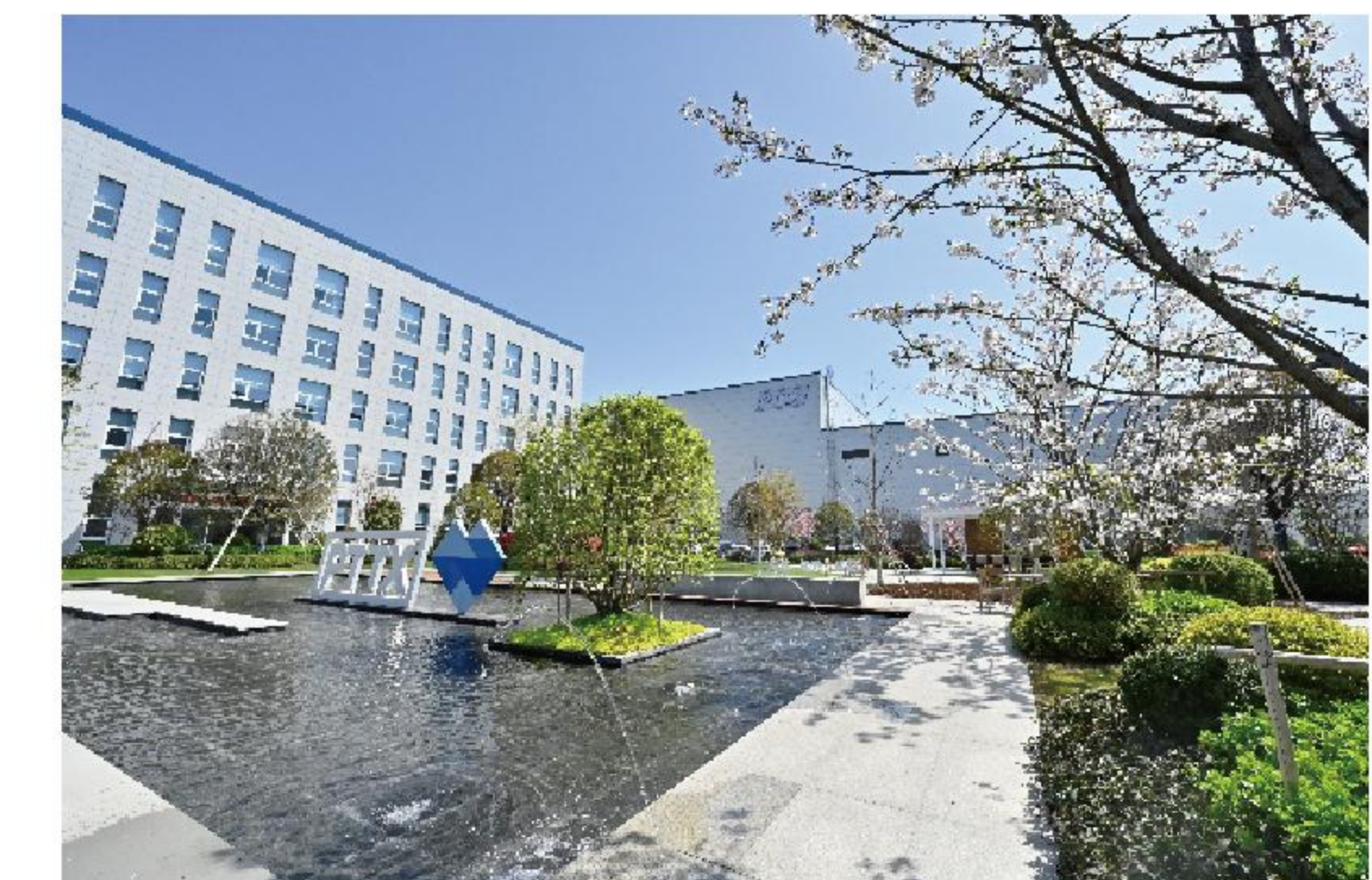
- ◆ Use water-based paint instead of solvent-based paint, which is safe, environmentally friendly and non-polluting.

Green Office

Do not open unmanned lights, air conditioning and equipment and facilities; water conservation; reduce paper waste, "non-essential not to print"; green access, for employees to arrange a commuter shuttle bus, shuttle buses are all new energy trams; employee travel and daily commuting priority use of public transport, the destination of the same or similar counterparts more than one person to drive their own travels, must be carpooling.



PT silicon steel
The energy of craftsmanship



Green Recovery and Recycling

Towards a "dual-track, simultaneous" strategic approach
"Green Manufacturing, Resource Saving, Environmentally Friendly"
Implementation of green procurement

◎ 10 Dual Carbon Verification and Energy Efficiency

Product carbon footprint verification

In 2023, product carbon footprint verification and third-party certification will be carried out in accordance with the requirements of ISO 14067:2018 "Greenhouse Gases - Product Carbon Footprint - Quantitative Requirements and Guidelines" and PAS 2050:2011 "Specification for Evaluation of Greenhouse Gas Emissions of Goods and Services over their Life Cycle".

The boundary of the system is "from cradle to gate", which includes emissions from the upstream raw material extraction and processing stage, raw material transport stage, product production stage, and product transport stage of a unit of product. The emission factors of raw and auxiliary materials are partly derived from the production statistics provided by the suppliers, and the rest of the factors are derived from GaBi Databases, SimaPro Databases, Ecoinvent (including the Lite version of the factor database), and the China Products Carbon Footprint Factors Database.

Greenhouse gas verification and declaration

Based on international standards such as ISO14064-1:2018 and ISO14067:2018, a comprehensive inventory of greenhouse gas emissions from each plant and related areas was conducted in FY2023, and a carbon inventory report was formed and passed on-site verification by a third-party verification agency. The emission sources mainly contain the use of electricity, steam, natural gas and gasoline, and the greenhouse gases emitted are mainly CO₂, CH₄, N₂O, SF₆, HFCs, PFCs, and NF₃.

The reporting boundary is for the period 1 January 2023 to 31 December 2023 and includes direct GHG emission sources (Scope 1), indirect GHG emission sources from energy (Scope 2), and other significant indirect GHG emission sources (Scope 3, mainly indirect GHG emissions from transport and indirect GHG emissions from organisational use of products).

Energy saving and emission reduction pathway practice

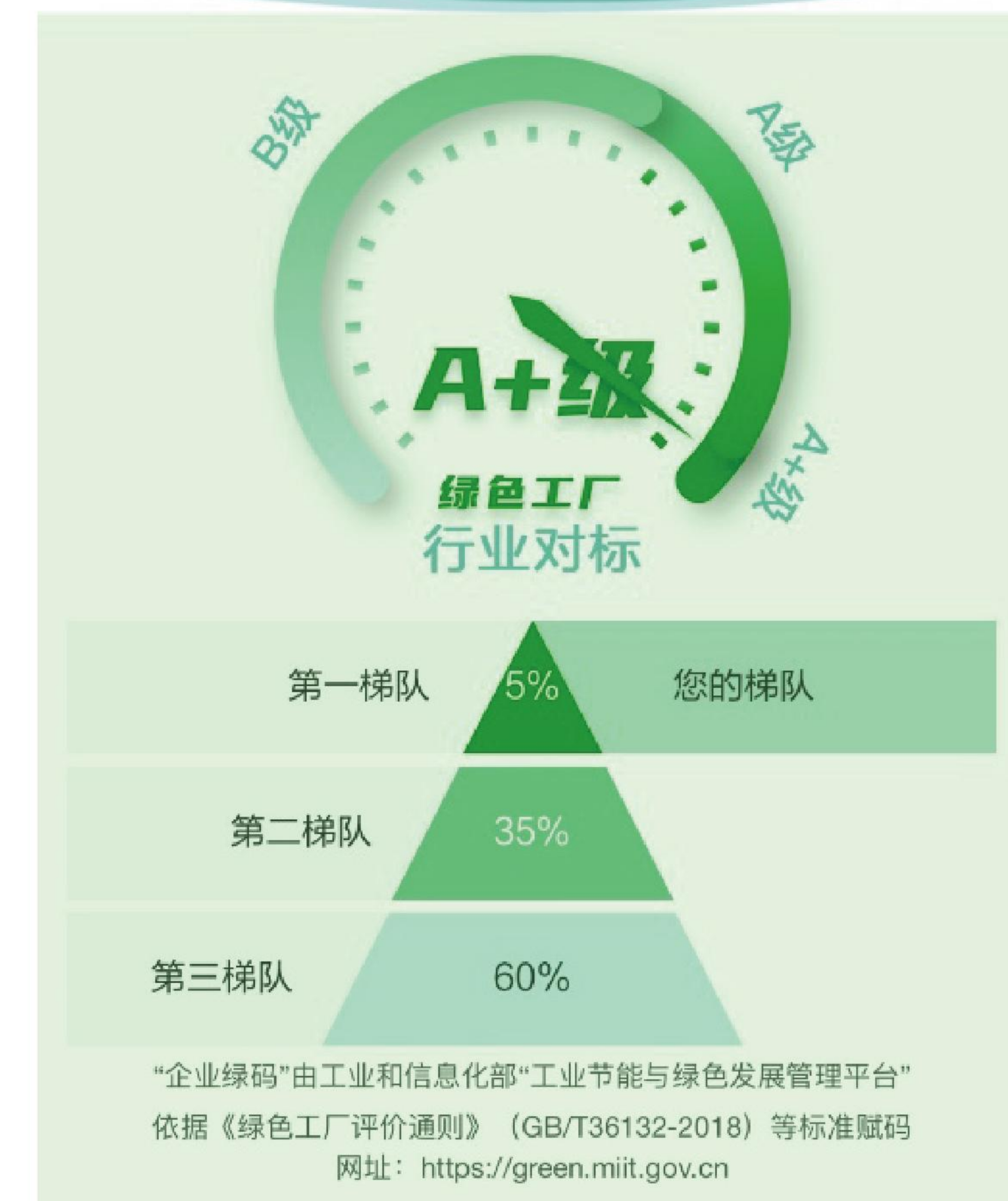
Actively using clean energy, a distributed solar photovoltaic power generation system with an installed capacity of 1.2MW was installed in 2022, and 1,032,900 kWh of photovoltaic power was generated in 2023, equivalent to a reduction of 600 tonnes of carbon dioxide emissions.

The office area and production workshop adopt a lot of natural lighting and apply intelligent lighting control system. The allocation rate of water-saving appliances is 100%. Every year, we carry out environmental month activities to strengthen employees' training and education on climate change and environmental protection, improve employees' environmental awareness and environmental protection ability, transfer the requirements and concepts of low carbon and energy saving, green and sustainable development to employees, encourage employees to participate in environmental protection activities and initiatives, and form an environmental protection culture in which all employees participate.



Obtaining an Enterprise green code

The "Enterprise Green Code" is a national comprehensive evaluation system for enterprises in terms of environmental friendliness, resource conservation and social contribution, aiming at promoting the implementation of green development strategies and realising the harmonious coexistence of the economy, society and ecological environment. Putian Iron Core has obtained the A+ Green Code through the evaluation of the Ministry of Industry and Information Technology (MIIT) in 2023.

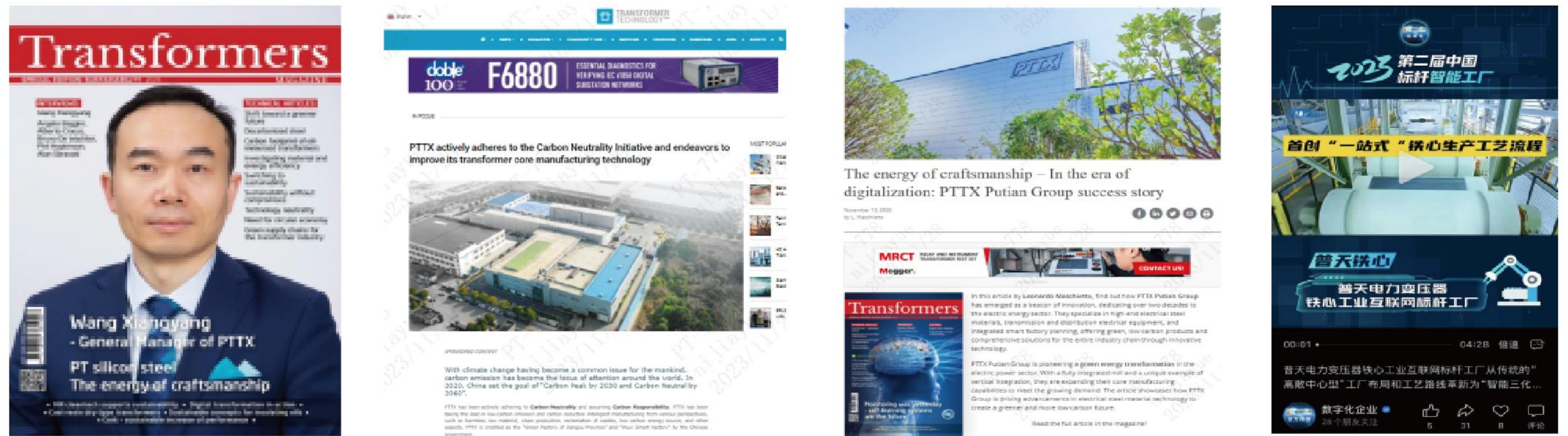


© 11 Social Responsibility and Caring for Employees

Preventing danger and Strengthening the safety cornerstone

- ◆ Establishment of safety and environmental policies
- ◆ Establishment of a safety inspection system
- ◆ Conducting safety and emergency management
- ◆ Conducting safety education and training

Corporate culture Building



Domestic and international media placement

Drinking water, Giving to the community



Employee activities and participation in exhibitions

◎ 12 "Counting" the Putian Iron Core 2023

Business performance

Sports event	Unit(of measure)	2023	2022
Revenue	¥10000	237161	236226
Total tax payments	¥10000	8984	5724
Total assets	¥10000	206707	175344
Gross industrial output	¥10000	251710	239059
R&D investment	¥10000	12302	10280

Green performance



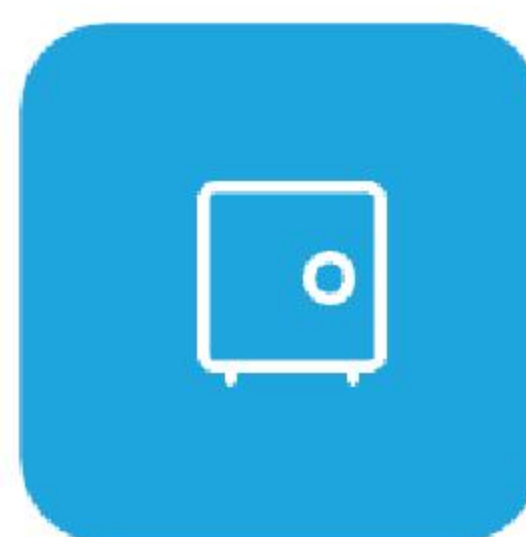
Water, electricity and overall energy consumption
 Electricity: 65,366,652 kW·h, water: 31,382 ton
 Comprehensive energy consumption: 803tce



Energy consumption per ten thousand yuan of output value
 3.19kgce per ten thousand yuan



Energy consumption per unit product
 Fixed-size silicon steel: 27.32kW·h/t
 Iron core column: 41.32kW·h/t
 Iron core :59.7kW·h/t



Pollutant emissions per unit of product
 Solid waste emission: 0.08t/t
 Wastewater discharge: 0.17t/t
 Exhaust gas emission : 1.0171g/t