



Company Profile

Address: No. 1688, Danhe East Road, Dandong Subdistrict,
Xiangshan County, Zhejiang Province



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1. Company Overview

Company Overview – Basic Information



Ningbo Tianan Smart Grid Technology Co., Ltd. (hereinafter referred to as “the Company”), founded in **2011** with a registered capital of **RMB 100 million**, is headquartered in Xiangshan, Ningbo. The Company has built a new factory, an R&D center, and a power engineering company in the Ningbo High-tech Zone. With **more than 400 employees**, the Company is primarily engaged in **the R&D, production, and sales of intelligent power distribution and transformation complete equipment, switchgear components, intelligent devices, and automation systems for sectors such as smart grids, new energy, industrial enterprises, and municipal engineering**. In addition, the Company provides **power engineering installation, general contracting, and maintenance services**.

The Company has always kept pace with the development of smart grid construction, standing at the forefront of power advancement and focusing on the evolution of intelligent technology. Adhering to the philosophy of developing green energy equipment that is intelligent, **environmentally friendly, safe, and efficient**, the Company remains committed to independent R&D and the meticulous creation of its own brand, continuously pursuing innovative development along the path of deep integration of primary and secondary equipment in the power and electrical industry.

Company Overview – Basic Information

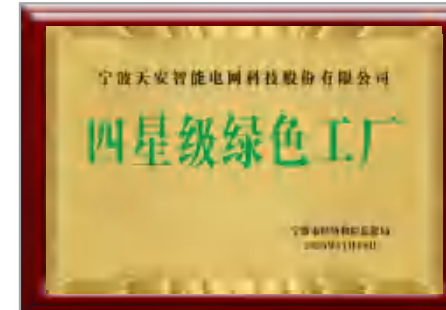
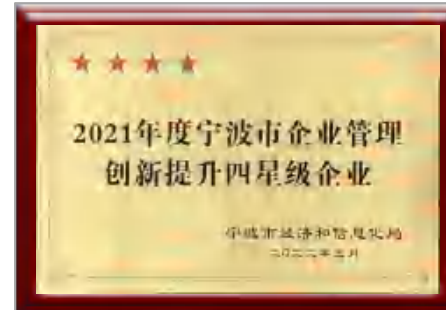
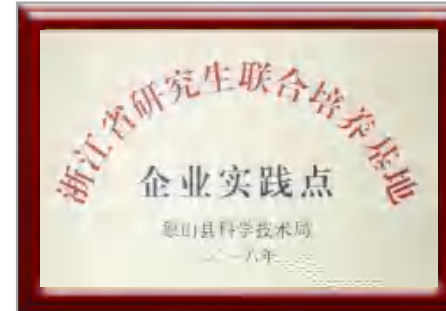
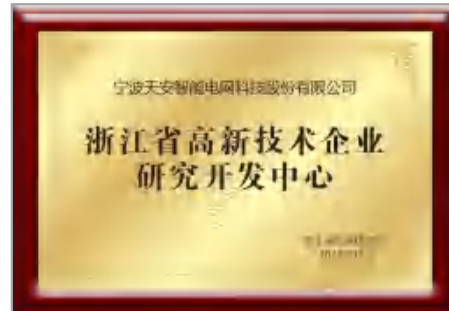
The Company has established a Zhejiang Provincial High-tech Enterprise R&D Center, a Postdoctoral Workstation, and a Zhejiang Provincial Postgraduate Joint Training Base, with technical R&D centers and laboratories located in the Ningbo High-tech Zone and Xiangshan. It holds over 100 national patents and other intellectual property rights (including 26 invention patents), and its leading products rank among the top in market share within their niche segments in China. The Company's products are distributed nationwide and exported to more than 20 countries, including Australia, Saudi Arabia, and Ethiopia. The Company also has extensive sales and service networks across various regions. Its power engineering subsidiary possesses the licensed qualifications for power installation, repair, and testing, as well as the capability for project general contracting, enabling it to provide users with integrated services covering installation, maintenance, commissioning, and turnkey solutions.



The Company is deeply engaged in the fields of smart distribution networks and new energy applications. In line with the national "dual carbon" strategic goals (carbon peak and carbon neutrality), it continues to innovate and explore in the directions of intelligent, compact, environmentally friendly, and standardized solutions. The Company strives to build its brand as a complete electrical system integrator and a specialized component manufacturer. Adhering to the technology development strategy of "offering what others lack, outperforming where others match, perfecting where others excel, specializing where others perfect, and innovating where others specialize," it provides safe, reliable, low-carbon, and environmentally friendly smart power distribution equipment and system solutions. The Company remains committed to the philosophy of green and sustainable development, promoting harmonious coexistence among society, the environment, and stakeholders, and making unremitting efforts to realize the vision of "Green Energy, Smart Power."

Company Overview – Corporate Honors

The Company is a National High-tech Enterprise, a National Key "Little Giant" Enterprise (Specialized, Refined, Distinctive, and Innovative), a Demonstration Pilot Unit for the National Intellectual Property Power Construction (2025–2027), a Zhejiang Provincial Intellectual Property Demonstration Enterprise, and a Zhejiang Provincial Cultivation Enterprise for Manufacturing Single Champions.



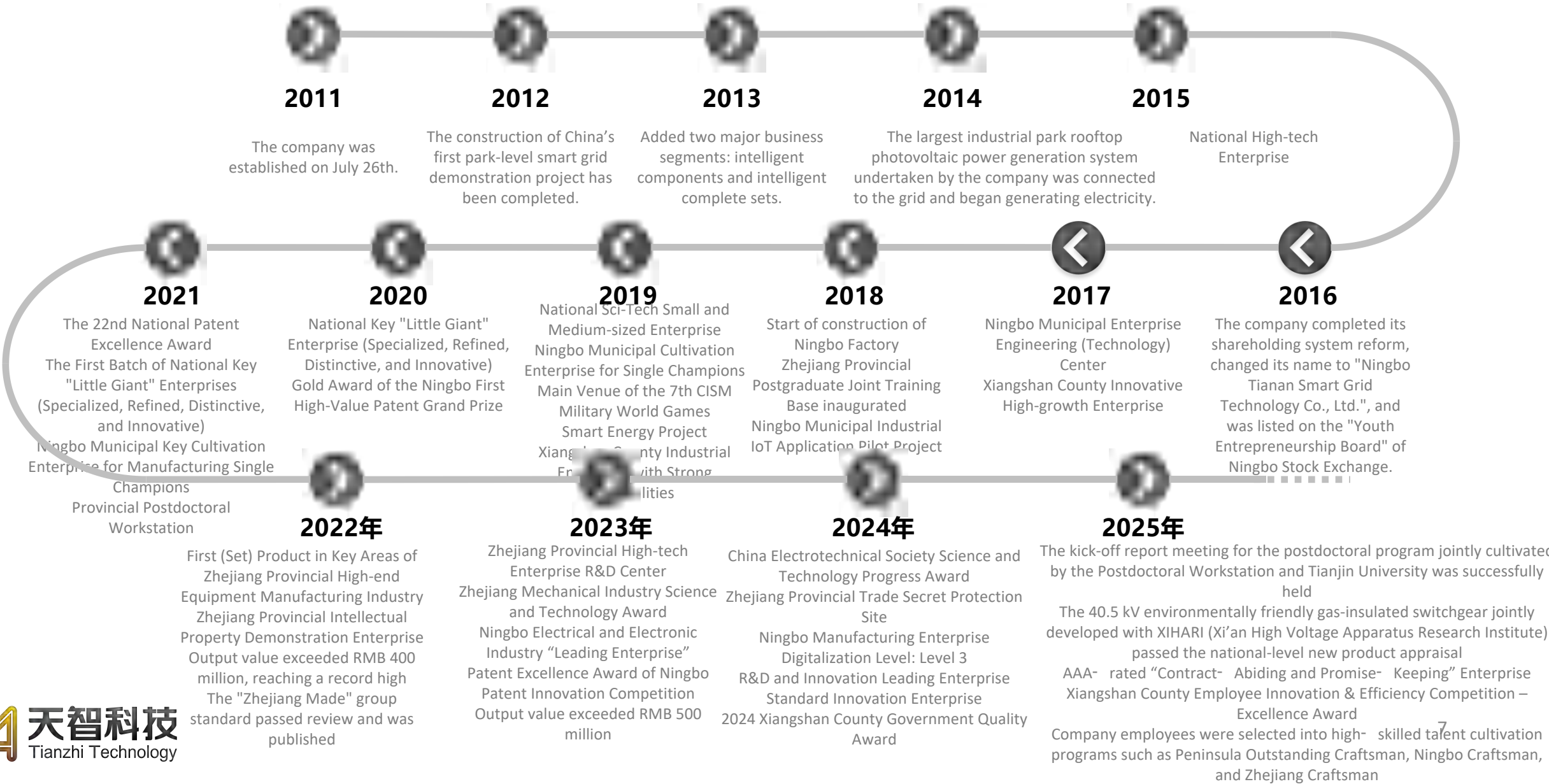
Company Overview — Management Systems

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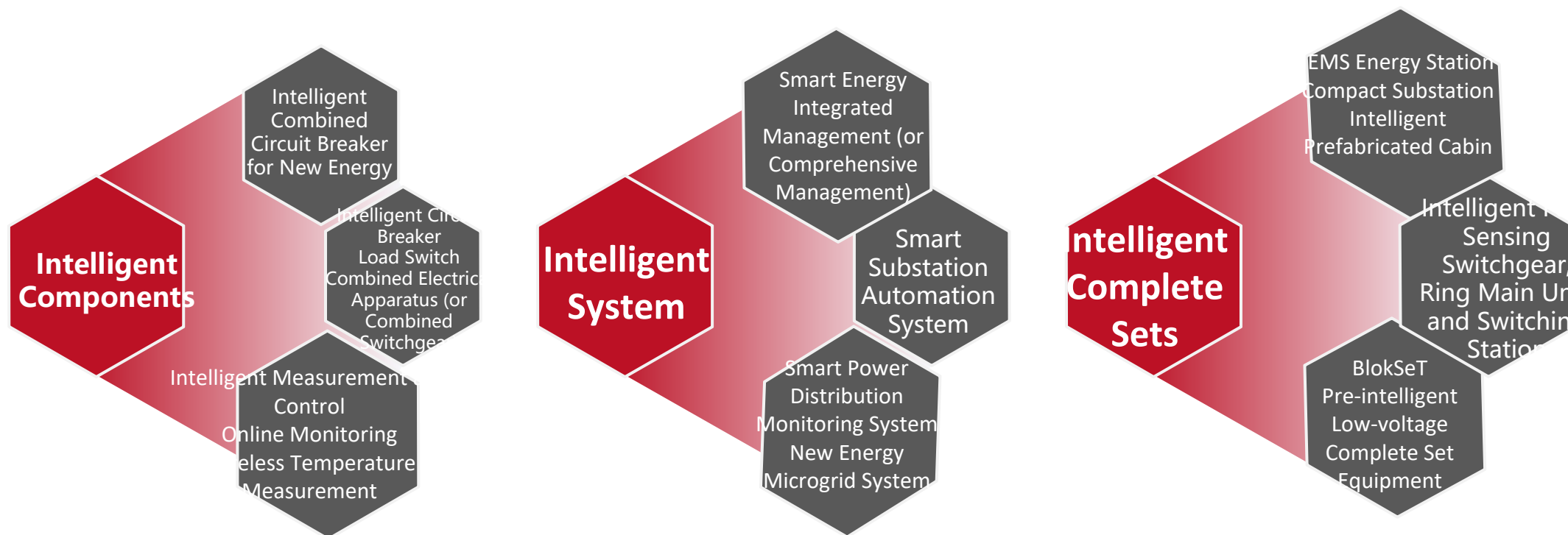


Company Overview – Development History

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2. Product Series

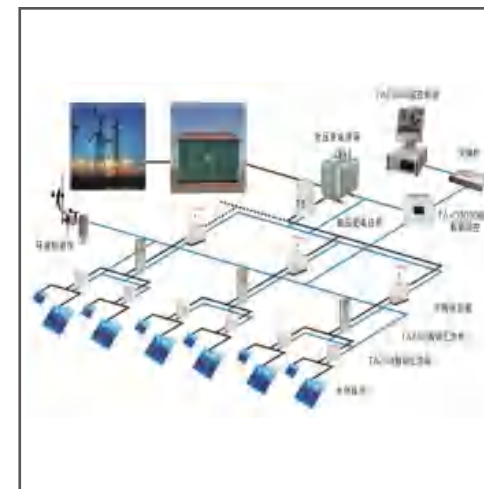




**Intelligent
Components**



**Intelligent
Complete Sets**



**Intelligent
System**

Indoor and Outdoor Intelligent Circuit Breakers



VT19(VS1)-12 Series

Environmentally Friendly
Indoor AC High-Voltage
Vacuum Circuit Breaker
(with Online Monitoring)



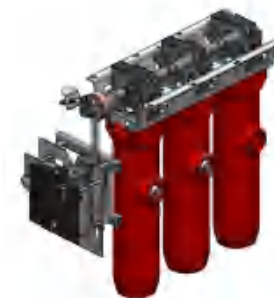
VZ19(ZN85)-40.5 Series

Indoor AC High-Voltage
(Online Monitoring)



VZ3-40.5 Series

Gas Tank Vacuum Circuit
Breaker (Online
Monitoring)



VZ□ -72.5

Indoor High-Voltage AC
Vacuum Circuit Breaker
(Gas Tank Circuit Breaker)



ZW32-12/24 Series

(Outdoor) Primary-Secondary
Integrated Pole-Mounted Circuit
Breaker

Product Series - Intelligent Components

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Load Switches, Combined Electrical Apparatus



FZ16-40.5 Series

Indoor AC High-Voltage Vacuum
Load Switch, Load Switch-Fuse
Combination Apparatus



FT8-12/24 Series

Next-Generation Compact
Integrated Load Switch and
Combination Apparatus



FN16A-12 Series

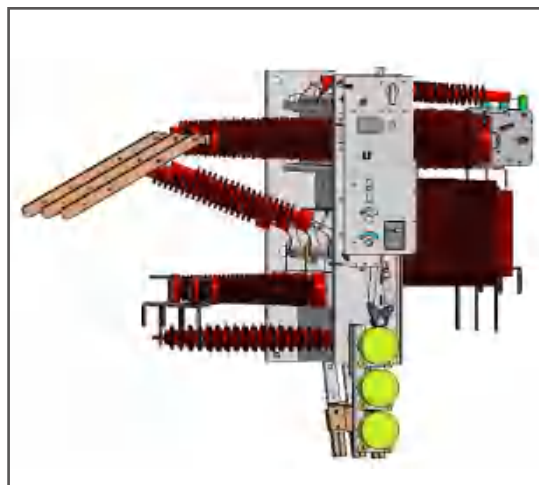
Indoor AC High-Voltage Vacuum
Load Switch, Load Switch-Fuse
Combination Apparatus

Intelligent Combined Circuit Breaker



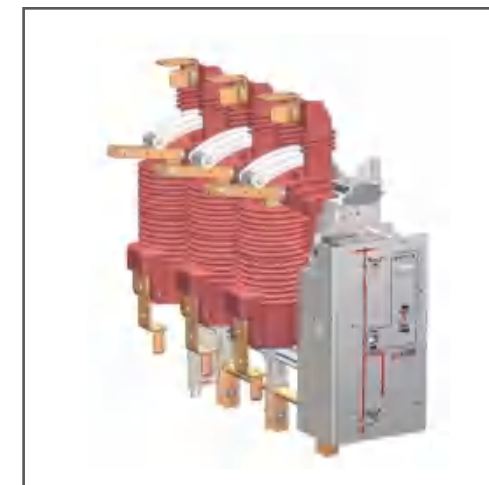
VTZ1-40.5EP/T1250-31.5

Indoor AC High-Voltage
Combined Vacuum Circuit
Breaker (Online Monitoring)



VTZ1-40.5EP/T1250-31.5

Indoor AC High-Voltage Combined
Vacuum Circuit Breaker (Five-in-One)



VT28-12/24 Series

Next-Generation Compact
Integrated Intelligent AC High-
Voltage Vacuum Circuit Breaker



IEMS-12/40.5

Integrated Energy Intelligent Management
Station



YBZ-40.5/0.69-8000

High-voltage/Low-voltage Prefabricated
Smart Substation



XGTZ7-12

Intelligent Eco-friendly Gas-
Insulated Metal-Enclosed
Switchgear



XGT9-12/24

Next-Generation Compact Box-Type
Fixed AC Metal-Enclosed Switchgear



DY1 (GZDT)

Integrated AC/DC Uninterruptible
Power Supply System for Smart
Substations



HXGZ6-12

SF₆ Fully Enclosed, Fully Insulated Ring Main Unit



XGZ16-40.5

Fully Modular Box-Type Fixed AC Metal-Enclosed Switchgear



XGWZ□-12/40.5

Smart Outdoor Ring Main Unit (RMU)

Product Series – Intelligent Complete Sets (Gas-Insulated)

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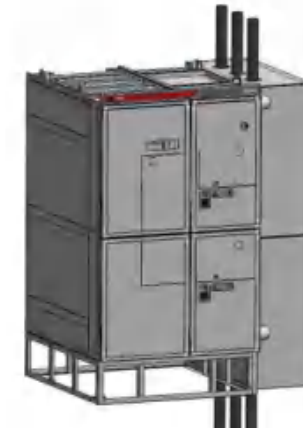
XGNZ9-40.5

Box-type Gas-insulated Fully Sealed
Switchgear (Max. 3150A-40kA)



XGZ10-40.5

Box-type Gas-insulated Fully Enclosed
Switchgear



XGZ19(HW)-72.5

High-voltage Gas-insulated Switchgear

Product Series – Intelligent Complete Sets (Environmentally Friendly Cabinet)

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XGZ18-40.5
Box-type Gas-insulated Fully Sealed
Switchgear (Max. 3150A-40kA)



XGZ12-12
Normal Pressure Sealed Metal-
Enclosed Switchgear



XGZ7-24
Environmentally Friendly Ring Main
Unit (RMU) Series Products



SCB13/14/18 and other series

Dry-type Power Transformer



S13/S22-M Series

10kV Oil-immersed Power Transformer



S13/S22 Series

35kV Oil-immersed Power Transformer



TA-D3000 Series

Compact Substation
Intelligent Monitoring and
Protection Device



TA26B-2 Series

Microcomputer Protection
and Measurement & Control
Device



TZ28 Series Intelligent Device

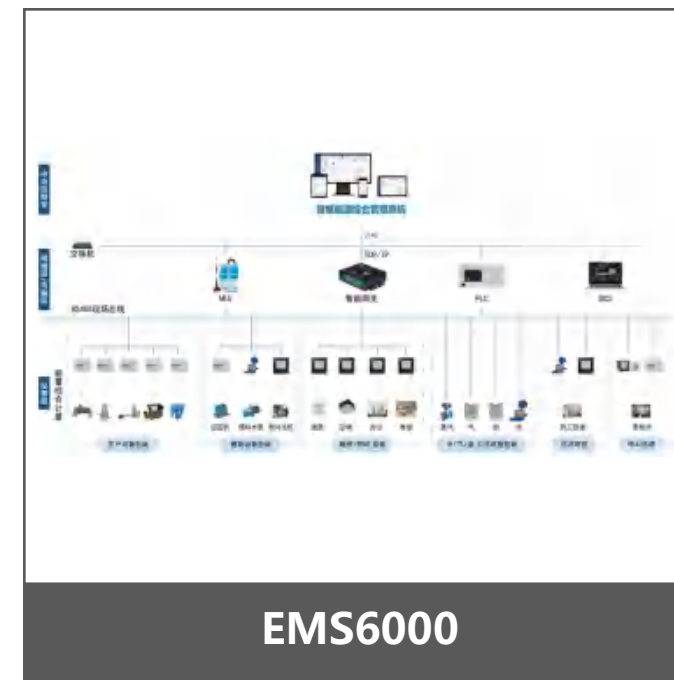
Switch Online Monitoring
Devices and Systems



Substation Integrated Automation System



New Energy Intelligent Power Distribution Monitoring System



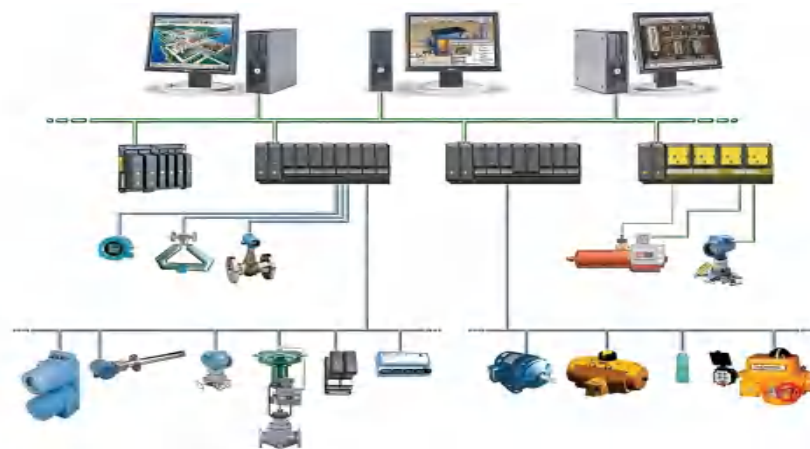
Smart Energy Integrated Management System

Product Series – Smart Energy Integrated Management System Project Cases

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Ganzi Prefecture Project, Sichuan



Kangpeng Chemical Smart Energy Project



Brothers Clothing Project

3. R&D and Innovation

- ▼ In 2011, it was recognized as a Ningbo Municipal Informatization Pilot Unit.
TA26 Smart Substation Monitoring System (National Key New Product)
- ▼ In 2012, it was recognized as the Xiangshan County Enterprise Engineering (Technology) Center.
ZW32/ZW20 pole-mounted distribution switch, TA-D10/D20 distribution automation terminal.
- ▼ In 2013, four software products passed the certification.
DY1(GZDT) AC/DC Integrated Power Supply System (National Key New Product)
- ▼ In 2014, it was rated as a high-growth enterprise in Ningbo.
FT16 Series Load Switches and Combined Electrical Apparatus
- ▼ In 2015, it was recognized as a National High-Tech Enterprise.
TAZ3000 Intelligent Power Distribution Monitoring System
- ▼ In 2016, the R&D center settled into the Ningbo High-tech Zone Software Park.
IEMS Integrated Energy Intelligent Management Station

▼ In 2017, it was recognized as the Ningbo Enterprise Engineering (Technology) Center.

XGZT7-12 Intelligent Environmentally Friendly Gas-Insulated Metal-Enclosed Switchgear

▼ In 2018, the industrial IoT application pilot project passed the acceptance review.

Next-generation compact integrated load switch, circuit breaker, air-insulated switchgear.

In 2019, it was selected as a National Technology-oriented SME.

▼ VTZ1-40.5kV High-Voltage Combined Circuit Breaker (for New Energy Power Generation)

In 2020, it was selected as a National "Little Giant" Enterprise specializing in niche sectors, sophisticated technologies, unique features, and innovation.

▼ XGN9-40.5kV Gas-Insulated Switchgear

In 2021, it was selected as a National Key "Little Giant" Enterprise specializing in niche sectors, sophisticated technologies, unique features, and innovation; Tianzhi Technology (Ningbo) R&D Center was established.

VZ15-12/T4000-40 Tank-Type Circuit Breaker, VTZ1-40.5 Integrated Combined Vacuum Circuit Breaker

▼ In 2022, the Postdoctoral Workstation was established; the intelligent combined circuit breaker for new energy passed the appraisal, filling a domestic gap; drafted a group standard.

XGZ10/12/15 and other series; 12kV-40.5kV high-voltage switchgear, environmentally friendly switchgear, gas-insulated switchgear.

▼ In 2023: Zhejiang Provincial High-tech Enterprise Research and Development Center; Best Demand Award at the 8th China (Ningbo) Innovation Challenge; selected for the Ningbo Major Science and Technology Innovation Project; Zhejiang Machinery Industry Science and Technology Award.

Smart Energy Integrated Management System. KYN28i-12 Fully Perceptive Intelligent Switchgear
XGT9-24 Series Switchgear. XGZ16-40.5 Fully Assembled Ring Main Unit / Switchgear

▼ In 2024, Third Prize of the Science and Technology Progress Award of the China Electrotechnical Society, passed the re-certification as a National High-tech Enterprise, Zhejiang Province Trade Secret Protection Park, Ningbo Manufacturing Enterprise Digitalization Level Evaluation Level 3, Intellectual Property Protection Procuratorial Liaison Station.

TZ Series Digital Power Equipment IoT System. KYN28i-12/T1250-31.5 Intelligent Indoor High-Voltage AC Metal-Clad Armored Switchgear (Fully Perceptive)
VTZ1-40.5EP/T630-31.5 Indoor High-Voltage AC Combined Vacuum Circuit Breaker (High-Altitude Series, Five-in-One). VZ1-24/T1250-31.5 Indoor High-Voltage AC Vacuum Circuit Breaker (Tank-Type Circuit Breaker)

▼ In 2025, the kick-off report meeting for the postdoctoral program jointly cultivated by the Postdoctoral Workstation and Tianjin University was successfully held.

The 40.5kV environmentally friendly gas switchgear jointly developed with XIHARI (Xi'an High Voltage Apparatus Research Institute) passed the national-level new product appraisal.

AAA-level "Contract-abiding and Credit-worthy" Enterprise, Xiangshan County Government Quality Award, Xiangshan County Staff Innovation and Efficiency Competition Excellence Award.

First Prize of Ningbo Staff Outstanding Technological Innovation Achievement Award 2025.

VZ1A-24/T630-20 24kV Low-Carbon Eco-Friendly Tank-Type Circuit Breaker. KYN61-40.5/T1250-31.5 One-Key Sequential Control Fully Perceptive High-Voltage Switchgear. VTZ1-40.5EP/T630-31.5 Indoor High-Voltage AC Combined Vacuum Circuit Breaker (High-Corrosion-Resistant Combined Circuit Breaker). VTZ1 Dedicated Automatic Assembly and Inspection Automation Equipment

15 senior
experts

3 Ph.D.s

6 external expert
consultants

The R&D center currently has more than 80 people, of which personnel with a bachelor's degree or above account for 85%.



The company currently holds over 100 intellectual property rights including national patents, among which there are 26 invention patents, 55 utility model patents, 6 design patents, and 17 software copyright certificates, as well as 2 trademarks.

R&D and Innovation – Industry-University-Research Collaboration

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Partner Enterprises					
	ABB Switzerland	Siemens Germany	Schneider Electric (France)		
Partner Research Institutes	Shenyang Transformer Research Institute	Xi'an High Voltage Apparatus Research Institute	Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences	Shanghai Nuclear Engineering Research Institute	AI College of Ningbo University

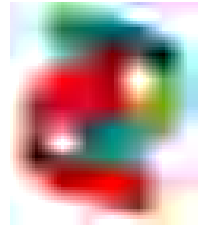
4. Sales Network

Sales Network - Key Customers

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**State Grid
Corporation of China**



**State Power Investment
Corporation (SPIC)**



**China Railway
Construction
Electrification Bureau**



China Datang Corporation



**China Resources
Power**



**China Guodian
Corporation**



**China Energy
Investment
Corporation (CHN
Energy)**



**Power Construction
Corporation of China
(PowerChina)**

Sales Network - Key Customers

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China Power Investment Corporation (CPI)



China General Nuclear Power Corporation (CGN)



China Energy Engineering Group (CEEC)



Shanghai Siyuan Electric Co., Ltd.



China Huaneng Group Co., Ltd.



China Huadian Corporation Ltd.



Guangdong Mingyang Electric Co., Ltd.



China Three Gorges Corporation (CTG)

DOMESTIC MARKET

The company's sales network covers 31 provinces, autonomous regions, and municipalities directly under the central government across China. Major sales locations include: Tianjin, Heilongjiang, Harbin, Shenyang, Changchun, Hangzhou, Nanjing, Ningbo, Guiyang, Hefei, Jinan, Zhengzhou, Xi'an, Wuhan, Changsha, Guangzhou, Shenzhen, Shantou, Xiamen, Dalian, Sanya, Chongqing, Kunming, Chengdu, Fuzhou, Urumqi, Yinchuan, Nanchang, and others. Tianzhi Technology has now become one of the leading designers and manufacturers of power system automation, intelligent devices and systems, intelligent power components, and intelligent complete switchgear in China.

GLOBAL EXPORT

The company's products are exported to nearly twenty countries and regions across five continents, including Ethiopia, Saudi Arabia, Nigeria, Palestine, Mozambique, Iraq, the Central African Republic, Botswana, South Africa, Vietnam, Australia, and others.

Core Projects

As a strong manufacturer of power system automation, intelligent devices and systems, intelligent power components, and intelligent complete switchgear in China, Tianzhi Technology fully leverages its product advantages and technical expertise to actively participate in power grid construction projects across the country, applying its products to various regions.

Active Participation in Engineering Construction

Tianzhi Technology assists in wind power, hydropower, thermal power, and photovoltaic power generation projects.

Tianzhi Technology's intelligent distribution network technology is widely used in large-scale construction projects such as agriculture and water conservancy.

World's Largest Integrated Green Hydrogen, Ammonia, and Methanol Project

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
	KYN 61, MNS, Dry-type Transformer	China Power Engineering Consulting Group Northeast Electric Power Design Institute Co., Ltd.	China Energy Engineering Songyuan Hydrogen Energy Industrial Park (Green Hydrogen, Ammonia and Methanol Integration) EPC Project – 35kV and Low-voltage Distribution Equipment Package	Songyuan City, Jilin Province	Running well



Figure: Aerial view of Songyuan Hydrogen Energy Industrial Park

- ◆ The project is built in phases, with a total of 3,000 MW of new energy power generation and an annual production capacity of 800,000 tonnes of green synthetic ammonia and green methanol. The total investment is RMB 29.6 billion. Phase I includes 900 MW of new energy (800 MW wind power and 100 MW solar PV), a 45,000-tonne-per-year electrolytic hydrogen production facility, a 200,000-tonne flexible synthetic ammonia unit, and a 20,000-tonne green methanol unit. Once Phase I is operational, it is expected to save approximately 600,000 tonnes of standard coal and reduce carbon dioxide emissions by 740,000 tonnes annually.
- ◆ The project adopts the “Wind-Solar-Hydrogen-Ammonia-Methanol Integration” model. The specific technical route consists of: direct supply of wind and solar power, energy storage for peak shaving, a high-efficiency electrolytic hydrogen production system, and integrated dynamic ammonia synthesis.
- ◆ Achieve 100% domestic production of key core equipment, and generate over a hundred patents, proprietary technologies, standards, and specifications.
- ◆ The project has been selected as one of the first batch of “three national-level demonstrations”: a green low-carbon advanced technology demonstration project by the National Development and Reform Commission, a pilot for green liquid fuel technology development and industrialization by the National Energy Administration, and a pilot hydrogen project in the energy sector. It achieves local consumption of green electricity and high-value-added conversion, establishing a “zero-carbon, circular, efficient” green development model. This is of great strategic significance for optimizing the national energy structure and ensuring energy security.

East China's Largest: Zhoushan Oil Transshipment Company Expansion Project

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
Sinochem Xingzhong	GCK GGD KYN28i-12	Sinochem Xingzhong Oil Transshipment (Zhoushan) Co., Ltd.	Sinochem Xingzhong Oil Transshipment (Zhoushan) Co., Ltd. – Sinochem Xingzhong Crude Oil Tank Area Low-Sulfur Fuel Oil Retrofit Project	Zhoushan City, Zhejiang Province	Running well



Figure: Sinochem Xingzhong Crude Oil Tank Area Phase 6 Expansion Project

- ◆ The project covers a total area of 138 mu, equivalent to the size of 12 standard football fields, and is shaped like an equilateral triangle.
- ◆ The expansion project includes 14 fuel oil storage and transportation bases with a total capacity of 410,000 cubic meters. Upon completion and acceptance, the total tank capacity of Sinochem Xingzhong will be expanded to 2.97 million cubic meters, and the annual throughput capacity will reach 45 million tonnes. As a result, Ningbo Zhoushan Port will solidify its position as the largest bonded fuel oil bunkering port in China.
- ◆ The goal of “building red projects and creating sunshine projects.”
- ◆ The commissioning of the Phase 6 expansion project will further increase our city’s market share of bonded marine fuel oil bunkering, enhance the quality and efficiency of the construction of Zhoushan International Maritime Service Base, and establish its position as a ship refueling transshipment hub in Southeast Asia.

Nationally designated key local petrochemical enterprise (retained by the state)

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
	KYN28i-12	Lihuayi Lijin Refining & Chemical Co., Ltd.	1 million t/a olefins and aromatics joint project, 200,000 t/a propylene oxide co-producing 450,000 t/a styrene project supporting steam engineering, and Lihuayi Weiyuan 220,000 t/a phenol co-producing 130,000 t/a acetone project.	Lijin County, Shandong Province	Running well



Figure: Lijin Refining & Chemical

- ◆ The project has a total investment of RMB 6.622 billion and introduces internationally leading process technologies from companies such as the U.S. firm KBR;
- ◆ The project has been included in the 2018 Key Projects of Shandong Province, the Key Projects for the Conversion of Old and New Growth Drivers in Shandong Province, the first batch of selected projects in the Major Project Bank for the Conversion of Old and New Growth Drivers in Shandong Province, and the Key Project of the Lubei High-end Petrochemical Industry Base Development Plan of Dongying City;
- ◆ The technology applied in the project offers advantages such as low reaction temperature, flexible product distribution, energy saving, low carbon emissions, and environmental friendliness. It aligns with the future direction of the green chemical industry, fills gaps in the domestic market, and serves as a strong leading and exemplary model;
- ◆ The implementation of the project benefits the optimization and upgrading of the enterprise and the petrochemical industry, as well as structural adjustments. It further establishes the development direction of the petrochemical industry with refining as the foundation and chemicals as the pilot, accelerates the development of high-end chemical new material products that are green, safe, and high-value-added, builds a leading domestic "refining-chemicals-fine chemicals-new materials integrated" petrochemical industrial cluster, and drives the enterprise toward higher value chain levels.

The Second Batch of National Large-scale Wind and Photovoltaic Power Base Projects

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
	XGWZ	PowerChina Northwest Survey, Design and Research Institute Co., Ltd.	PowerChina Gonghe 1000MW Photovoltaic and Solar Thermal Project - 330kV Power Transmission and Transformation Outgoing Project	Gonghe County, Hainan Tibetan Autonomous Prefecture, Qinghai Province	Runs well.



Figure: Hainan Ecological Solar Power Park in Gonghe County, Hainan Tibetan Autonomous Prefecture, Qinghai Province

- ◆ Total installed capacity of 1 GW (900 MW photovoltaic + 100 MW solar thermal), supported by a 100 MW / 200 MWh electrochemical energy storage system. The total investment for the project is approximately 5.019 billion yuan, covering an area of 28,125 mu. It is part of the second batch of national large-scale wind and photovoltaic power base projects. Upon completion, the annual power generation is expected to be about 2.09 billion kWh, which can meet the electricity demand of 500,000 households.
- ◆ Annual on-grid electricity of 130.78 million kWh, annual savings of 39,400 tons of standard coal, and reduction of 108,300 tons of carbon dioxide emissions;
- ◆ The project is located at an elevation of approximately 2,910 meters.
- ◆ As a clean energy transmission corridor for the integrated development of "photovoltaic + solar thermal," this project can transmit billions of kilowatt-hours of green electricity annually, replacing over one million tons of standard coal, injecting strong momentum into the construction of a clean, low-carbon, safe, and efficient modern energy system in the Northwest region. At the same time, the entire construction process adheres to the principle of ecological priority, minimizing disturbance to the plateau environment and achieving harmonious coexistence between humans and nature.

World's First Ultra-High Altitude Photovoltaic Empirical Experimental Base Project

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
	XGWZ	SPIC Xiangcheng Xingchuan New Energy Investment Development Co., Ltd.	Garze Prefecture Zhengdou Photovoltaic Empirical Experimental Base Project	Zhengdou Dingong Grassland, Garze Tibetan Autonomous Prefecture, Sichuan Province	Runs well.



Figure: Aerial view of Xingchuan Empirical Photovoltaic Power Station.

- ◆ Total installed capacity of 600 MW, with a total project area of approximately 13,650 mu and a total investment of about 3.2 billion yuan. After full-capacity grid connection, the average annual power generation is 1.268 billion kWh, saving approximately 390,000 tons of standard coal and reducing carbon dioxide emissions by about 1.07 million tons each year.
- ◆ Five empirical test zones are set up for PV modules, inverters, mounting structures, energy storage devices, and comprehensive comparison, adopting 127 comparison schemes to conduct empirical experiments on PV products, energy storage products, and new technologies.
- ◆ After being put into operation, it will fill the gap in China's photovoltaic empirical base in ultra-high altitude, mid-latitude regions, and provide a reference for photovoltaic construction in the Sichuan-Tibet Plateau and similar scenario areas across the country.
- ◆ The project integrates surface vegetation and the original land use patterns of the site to create a photovoltaic power ecosystem combining "power generation, water collection, water storage, irrigation, and planting." At the same time, high-quality grass species suitable for high-altitude growth will be planted, achieving a win-win situation for ecological protection and project development.

CGN Project (China General Nuclear Power Corporation Project)

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
	XGWZ	Xinjiang Jimunai CGN Wind Power Co., Ltd.	CGN Xinjiang Jimunai Source-Grid-Load-Storage Integrated Distribution Network Project	Jimunai County, Xinjiang	Runs well.



Figure: Project Grid-Connection Ceremony Site

- ◆ Total project investment is approximately 3.5 billion yuan, covering a total area of about 2,600 mu. The main construction includes a 390 MW wind power project and a 10 MW photovoltaic project; supporting facilities include one 220 kV step-down substation in the border cooperation zone, one 220 kV wind farm collector substation, approximately 51 km of 220 kV transmission lines (two circuits) along with supporting load distribution network; a 40 MW / 80 MWh lithium carbonate energy storage facility is built at the renewable energy 220 kV collector substation; annual power generation is 1.18 billion kWh, with total electricity consumption of nearly 3 billion kWh.
- ◆ This project was officially connected to the grid and put into operation on December 8, 2023. The commissioning of this project plays a positive role in promoting high-quality development of the power sector in both the nation and the autonomous region, building a new power system dominated by new energy, and supporting the green and low-carbon development of the Jimunai Border Cooperation Zone, delivering favorable social, ecological, and economic benefits.

China Huaneng Group Project

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
 中国华能 CHINA HUANENG	XGNZ9	Shanghai Siyuan Power Transmission and Distribution Engineering Co., Ltd.	Huaneng Yunnan Lincang Yun County Azhutian Agricultural Photovoltaic Power Generation Project	Lincang City, Yunnan Province	Runs well.



Figure: Aerial view of this project.

- ◆ "Photovoltaic above, industry below" — Huaneng Group has built photovoltaic power generation projects on steep slopes with poor soil and planted Chinese medicinal herbs beneath the solar panels. This achieves a shift from "borrowing sunlight" to "photovoltaic-agriculture complementarity," and from "relief through external support" to "self-sustaining development."
- ◆ Huaneng Group closely focuses on the development of green energy, vigorously promotes the integrated construction of wind, solar, hydro, and storage, and innovatively explores the "photovoltaic + industry + N" model, making solid efforts to leverage the "N" component, generating a "common prosperity effect," and creating a new situation of multi-party cooperation and win-win outcomes among enterprises, village collectives, and farmers.
- ◆ Through the construction of green energy projects, the annual industrial added value of green energy in Yun County is expected to account for over 10% of its GDP. Green energy projects will become the "golden key" to unlocking local economic and social development, opening the window to green and beautiful industrialization as well as green and beautiful development of industries, fostering a "green and beautiful +" economy, and shaping a new ecological development paradigm where "green energy empowers a green and beautiful

China Datang Group Project

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
 大唐集团公司 CHINA DATANG	FT16 VTZ1	Fuzhou Tianyu Electric Co., Ltd.	China Datang Zhangjiakou Yuxian Project	Yuxian County, Zhangjiakou City, Hebei Province	Running well



Figure: Project site photo

- ◆ To ensure stable power supply to the capital, this project takes the “wind-solar-thermal-storage integration” as a key approach. China Datang Group has secured a planned capacity of 350 MW and utilizes the remaining capacity of the already-built double-circuit 500 kV transmission line from the Datang Yuxian Power Plant to Mentougou, delivering electricity to the Beijing load center. This achieves a new model of “bundled transmission” combining thermal power and new energy.
- ◆ Upon completion, the large-scale base project will greatly contribute to the wind prevention and sand fixation efforts in the "Three Norths" region, promoting a rapid virtuous cycle between the ecological environment and the improvement of people’s livelihoods in the Zhangjiakou area. It will generate over 1.9 billion kWh of additional "green electricity" annually, save more than 640,000 tonnes of standard coal, and reduce carbon dioxide emissions by over 1.53 million tonnes per year.
- ◆ The project reduces power fluctuations in grid transmission lines, responds quickly to peak and valley load changes, significantly improves the power quality of the bundled "green electricity sent to Beijing," continuously optimizes the capital’s energy consumption structure, and enhances energy utilization efficiency.

China Huadian Group Project

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
	XGWZ	Hubei Electric Power Survey and Design Institute Co., Ltd.	Hubei Huadian Xiangzhou Huangji 190MW Agro-Photovoltaic Complementary Power Generation Project	Xiangzhou, Hubei	Running well



Figure: Aerial view of the project

- ◆ The project has a total installed capacity of 170 MW (240 MW on the DC side), with the construction of one 220 kV step-up substation. It is temporarily connected to the Xiehe substation, with a transmission line length of approximately 2.25 kilometers.
- ◆ The project adopts the "agro-photovoltaic complementary" construction model, where electricity is generated above while crops are grown below, enabling three-dimensional and efficient utilization of land, space, and sunlight, thereby promoting a win-win outcome for photovoltaic power generation and agricultural development.
- ◆ After full-capacity grid connection, the project can provide over 150 million kWh of clean electricity annually. Each year, it can save approximately 77,200 tonnes of standard coal, reduce carbon dioxide emissions by about 251,600 tonnes, sulfur dioxide emissions by about 7,500 tonnes, and nitrogen oxide emissions by about 3,780 tonnes, while also significantly reducing the discharge of ash, dust, and wastewater. With remarkable energy-saving and emission-reduction benefits, the project helps improve the regional energy mix, promote the green ecological industry and high-quality economic development in relevant areas, and support rural revitalization.

China Energy Investment Group Project

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
 国家能源集团 CHN ENERGY	FT16	Sineng Electric Co., Ltd.	Guonengtou Guazhou Project	Guazhou County, Gansu Province	Running well



Figure: Aerial view of the project

- ◆ The project has a total investment of RMB 380 million. It is located in the Beidaqiao area of Guazhou and involves the installation of 14 wind turbines with a unit capacity of 5 MW each, along with the construction of a 10.5 MW / 42 MWh energy storage facility.
- ◆ Upon completion, the project is expected to generate 203 million kWh of electricity annually, with an annual utilization hours of 2,911.9 hours. Compared to a coal-fired power project of the same capacity, it can save approximately 62,000 tonnes of standard coal and reduce carbon dioxide emissions by about 169,000 tonnes per year.
- ◆ After completion and operation, the project will effectively promote the establishment of a cleaner, low-carbon, safer, and more efficient energy system locally, and inject new momentum into the construction of the Hexi Corridor Clean Energy Base.

China Power Construction Project

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
	FT16 VTZ1	Qingdao TGood Electric Co., Ltd.	PowerChina General Contracting Lan County PV Project	Lan County, Lüliang City, Shanxi Province	Running well



Figure: On-site of the Lan County Wind Power Project

- ◆ Lan County has excellent wind and solar energy resources. The average annual total solar radiation is 1,631 kWh/m², with an average annual sunshine duration of 1,305 hours. The multi-year average wind speed is 2.2 m/s, and the recorded maximum wind speed is 20.3 m/s. At a height of 70 meters, the annual average wind speed reaches 6.65 m/s, and the annual effective wind hours total 7,725 hours, which means the wind turbines could operate continuously for more than 321 days per year.
- ◆ This project is a "livestock + planting + PV" demonstration project, integrating crop farming, animal husbandry, and photovoltaic power generation. It not only effectively conserves water and soil but also increases the income of local residents, thereby boosting labor availability and enabling participation in the operation of planting and breeding cooperatives—achieving "four benefits at once."

China Resources Power Project

Company Name	Product Type	Customer	Project Name	Project Location	Operation Status
	VTZ1	Ningbo Aogao Supply Chain Co., Ltd.	China Resources Chaoyang Project	Jianping County, Chaoyang, Liaoning Province	Running well



Figure: Project construction site.

- ◆ The project is located within 13 townships in the northern part of Jianping County, consisting of four wind power projects: Shaoguoyingzi (300 MW), Luofugou (150 MW), Bajia State Farm (250 MW), and Kalaqin (300 MW).
- ◆ The project has a total investment of RMB 5 billion and is equipped with 200 Goldwind GW191-5.0 wind turbine generators. It connects to the 500 kV main grid of Liaoning Province via a 220 kV transmission line, with the electricity fully consumed within Liaoning. Upon completion, the project is expected to achieve an annual output value of over RMB 1 billion and annual tax revenue of RMB 280 million. It will provide 3.4 billion kWh of clean energy per year, save 1 million tonnes of standard coal, and reduce carbon dioxide emissions by 2.7 million tonnes and sulfur dioxide emissions by 10,800 tonnes annually.
- ◆ The project is fully dedicated to advancing its construction in line with Chaoyang's goal of "striving to become a key clean energy supply base," helping Chaoyang "build a clean energy capital" and injecting new momentum and new driving forces into Chaoyang's high-quality development.

Zhangjiakou 2024 Key Municipal Construction Projects

Product Type	Customer	Project Name	Project Location	Operation Status
KYN61	Hebei Lichuande Information Technology Co., Ltd.	"Source-Network-Load-Storage Integration" Carbon Neutral Demonstration Project – Zhangbei 1,000 MW Wind Power Project	Zhangbei County, Zhangjiakou City, Hebei Province	Running well



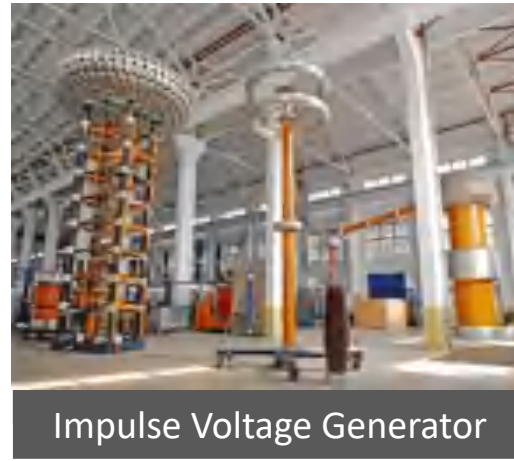
Figure: Aerial view of Zhangbei County Wind Power Project.

- ◆ As a key municipal construction project in Zhangjiakou City for 2024, this project delivers significant environmental benefits and holds important demonstrative value.
- ◆ It consists of wind turbine generators with a unit capacity of up to 6.25 MW and a total installed capacity of 500 MW, spanning approximately 30 kilometers from north to south and 35 kilometers from east to west—a remarkably large-scale installation.
- ◆ The project falls under the category of new energy infrastructure for power construction. Once completed, it will supply green electricity to the local big data industrial base. It is estimated to generate an annual on-grid electricity output of 1,226,000 MWh, with an equivalent annual full-load operating hours of approximately 1,226 hours. Each year, it will reduce emissions of carbon dioxide, sulfur dioxide, nitrogen oxides, and various other harmful gases as well as solid waste. This project is of great significance for enhancing the local clean energy supply capacity, promoting the adjustment and optimization of the local energy structure, and supporting the green transformation and upgrading of the regional energy industry.

5. Company Snapshots

Company Snapshots – Selected Equipment

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Company Snapshots – Corporate Culture

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guidance is
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