



We are StarEnergy

Co-Building The World's Mobile Energy Network Ecosystem



www.starcharge.com

01

About Wanbang Star Digital Energy



Two Core Brands



Three Core Business Groups



Wanbang Star Digital Energy, formerly known as Wanbang Digital Energy Co., Ltd., is headquartered in Changzhou, China. It operates two core brands, StarCharge and StarEnergy, and encompasses three major business segments: charging, energy, and asset management.

StarCharge has been deeply engaged in the research, development, manufacturing, and operation of new energy vehicle charging equipment for over a decade. It has achieved the number one position globally in the cumulative sales of charging piles over the past ten years, propelling the electrification of transportation worldwide.

StarEnergy is your partner in the digital energy revolution, delivering sophisticated microgrid solutions that seamlessly blend advanced software with robust hardware across a spectrum of applications. Leveraging AI and cloud innovations, our adaptable, economical, and scenario-specific solutions are designed to facilitate a seamless shift to green energy for our partners, paving the way to a zero-carbon future.

With a solid R&D foundation, leading core technologies, intelligent manufacturing, and extensive operational experience, StarEnergy is expanding globally, partnering with numerous ecological collaborators to cultivate a dynamic energy network ecosystem, championing a sustainable and vibrant future for all.

02

Success Business Model

StarEnergy dedicates to integrate software, services and hardware to deliver tailored solution and life-time service based on various customer needs to support customers' success.



Software

- Energy Management Software
- Energy Operation Software
- Charging Management Software
- Cloud Solution
- Customized Integrated Solution



Service

- Charging Station Operation
- Energy Storage Asset Operation
- User Development Solution
- Merchandise Solution
- Smart Maintenance



Hardware

- Energy Storage
- AC/DC Charger
- V2G (Vehicle-to-Grid)
- Energy Inverter
- Microgrid

03

Honors & Achievements

- Digital energy unicorn of Asia
- ESBL Top 10 C&I Energy Storage Brand 2024
- Winner of the 7th China Industrial Award
- National Industrial Design Center Award 2023
- MIIT Service-Oriented Manufacturing Demonstration Enterprise 2023
- MIIT New Information Consumption Demonstration Platform 2023
- iF Design Award
- National Green Factory
- MIIT New Model of Smart Manufacturing 2025



Digital energy unicorn of Asia



#1 Cumulative Sales Volume of Charging Station



2024 Global Unicorn Index 2024



MIIT Manufacturing Champion 2024



Outstanding Project of Zero Carbon China 2024

04

Globalization

3

Manufacturing Base

- Changzhou, China
- Yancheng, China
- Columbus, USA

6

R&D Center

- Changzhou, China
- Hangzhou, China
- Nanjing, China
- Beijing, China
- Fremont, USA
- Singapore, Singapore

4

Regional Service Center

- China
- India
- Malaysia
- Germany
- USA



14

Local Hotline

30+

Area Parts Warehouse

70+

Certified Service Partners

1K+

Certified Service Engineers

05

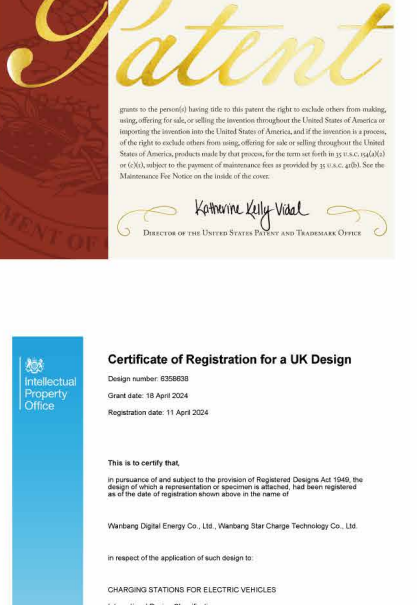
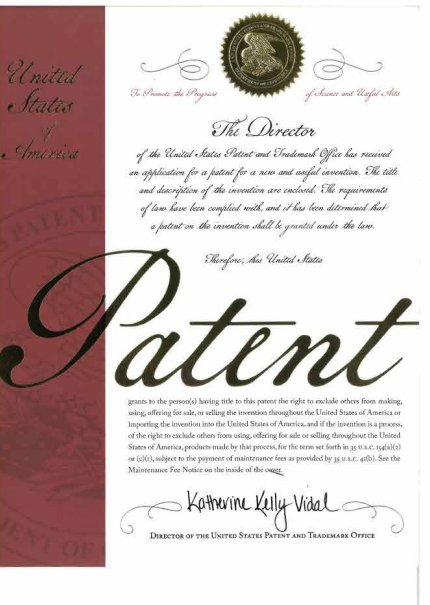
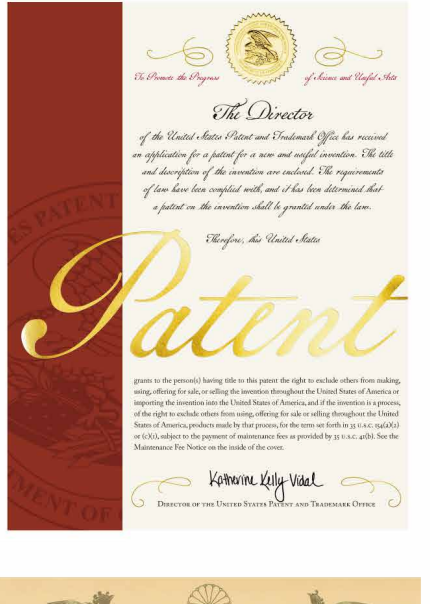
R&D Capability

Intellectual Property (As of July 2024)

- > 793 Applied Patents
- > 272 Granted Patents
- > 272 Registered Software Copyrights
- > 139 Countries/Regions Trademark Registered
- > 23rd China Patent Award for Design Excellence
- > 24th China Patent Award for Excellence
- > 2023 National Patent-Intensive Product Recognition
- > 2022 National Intellectual Property Advantage Enterprise

Information Security

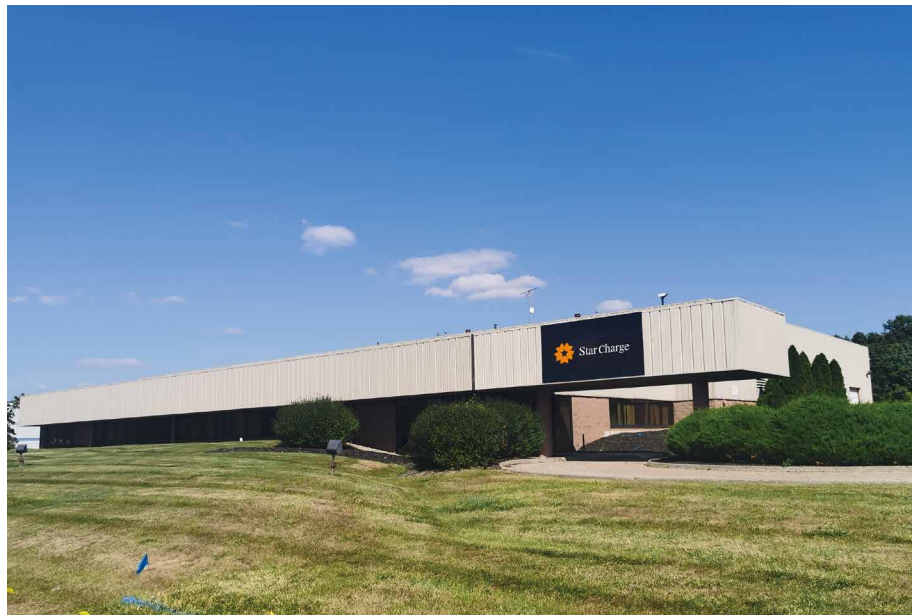
- > IEC 62443 Industrial Cyber Security CB Certified
- > ISO27001 Information Security Management System Certified



06

Manufacturing Base

 Columbus, USA



 Yancheng, China



 Changzhou, China



Manufacturing Excellence

- > Globalized manufacturing base
- > State-of-the-art manufacturing facilities
- > Robust supply chain
- > Efficient production processes
- > Highly educated and skilled workforce
- > Advanced quality assurance methods
- > Large-scale production capacity

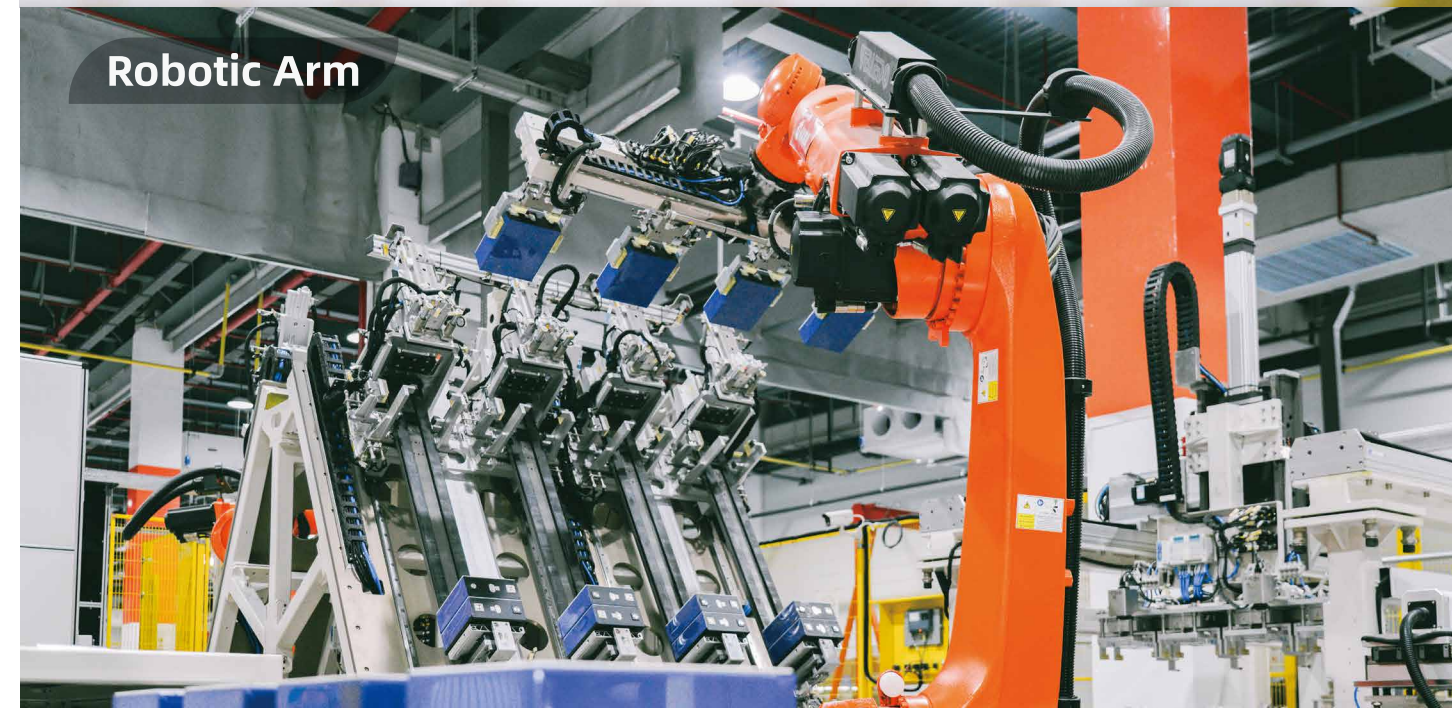
PCBA Automated Production Line



Battery Module Assembly Line



Robotic Arm



AGV Delivery in the Warehouse



07

Our Customers

✓ OEM

✓ Manufacturing

✓ Fleet

✓ Industrial Park

✓ Real Estate

✓ Harbor & Airport

✓ Home

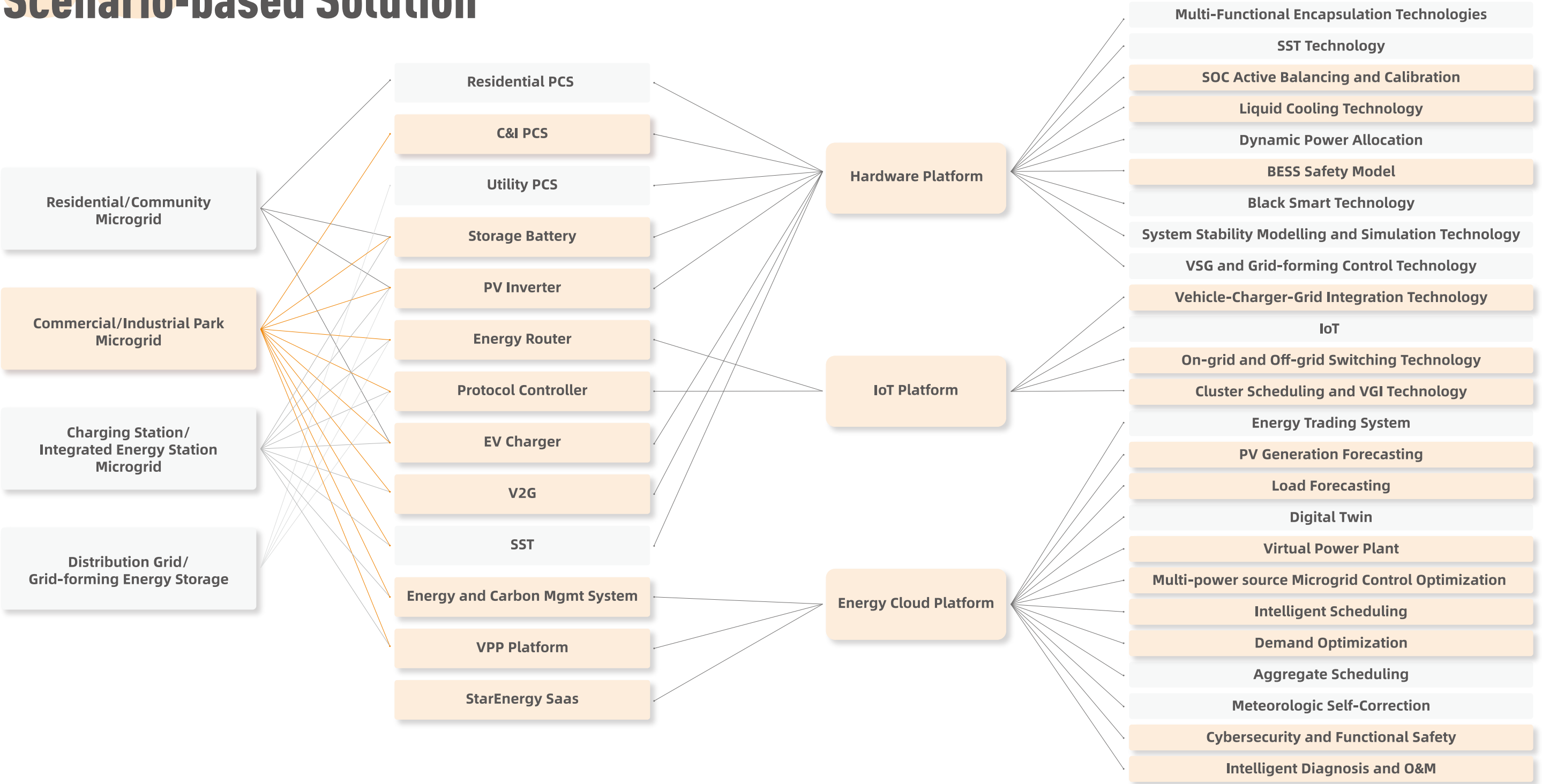
✓ Energy Company

✓ Community

✓ Government



From Cutting-edge Technology to Scenario-based Solution



Scenario-based Solution



Product Matrix



Platform



Core Technology

PRODUCTS CERTIFIED BY CE, UL, GB, AND OTHER STANDARDS MAY EXHIBIT VARIATIONS IN APPEARANCE.

09

Product Portfolio

ENERGY PRODUCT



PRODUCTS CERTIFIED BY CE, UL, GB, AND OTHER STANDARDS MAY EXHIBIT VARIATIONS IN APPEARANCE.

CHARGING PRODUCT



PRODUCTS CERTIFIED BY CE, UL, GB, AND OTHER STANDARDS MAY EXHIBIT VARIATIONS IN APPEARANCE.

10

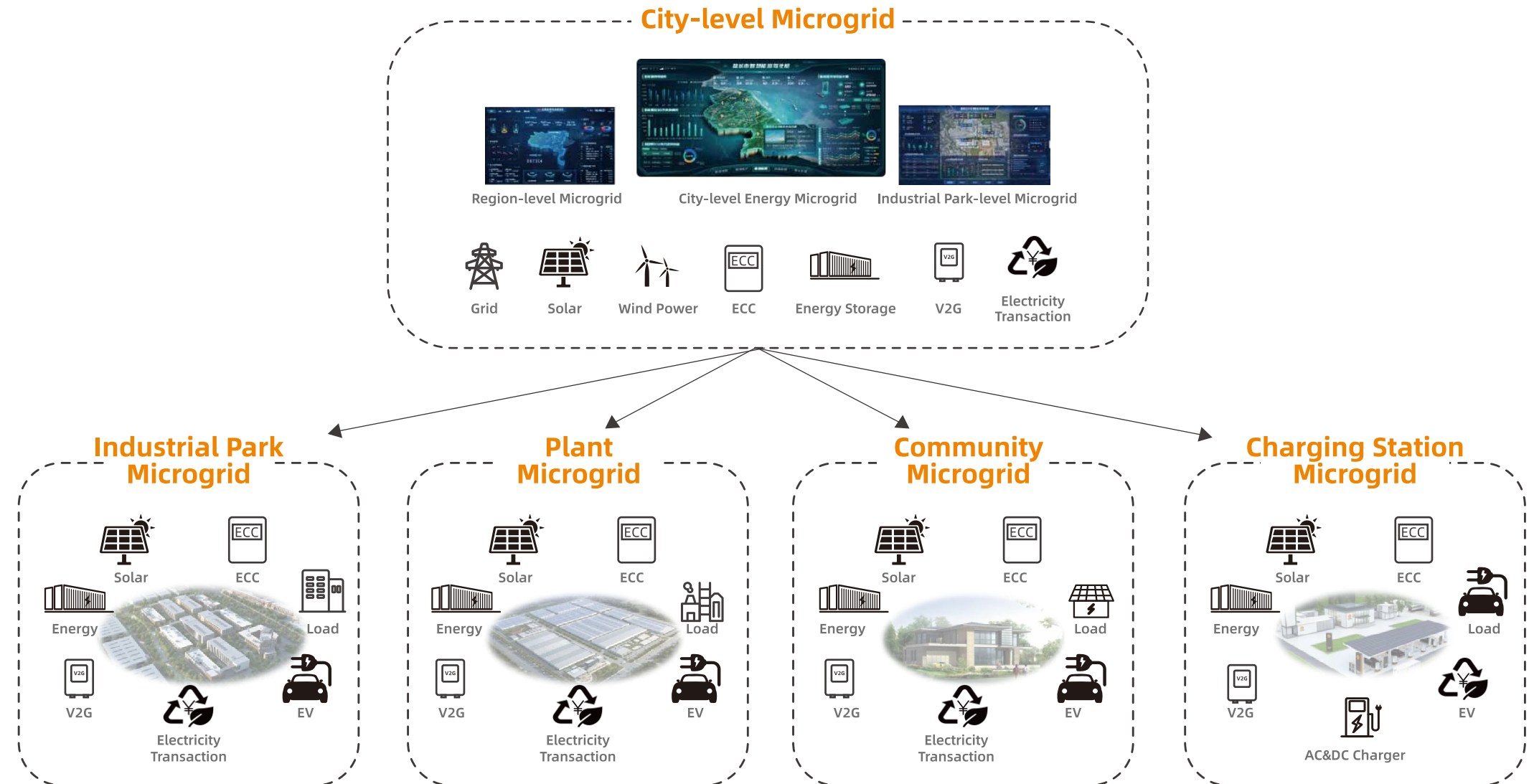
The World's Leading Microgrid Solution

Microgrid

A self-sufficient system integrating energy generation, transmission, storage, and consumption, enabling both on-grid and off-grid operation.

- ⬇ Energy Usage
- ⬇ Energy Costs
- ⬇ Dependency On Grid
- ⬇ Carbon Emissions

StarEnergy Innovation: Scenario-based Microgrid



Microgrid Hardware Product



Products certified by CE, UL, GB, and other standards may exhibit variations in appearance.

11

Residential Microgrid Solution

● Grid Code Compliance and Safety Certified Globally

USA/Other North Americas/South Americas/Europe/Asia/Africa

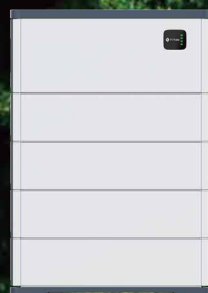
● Software

Smart home App/Demand response/Green energy trading

● Capability

- Monitoring of power generation and consumption data
- PV generation and household consumption forecast
- The linkage and remote control of household appliances
- Emergency power supply
- Load management
- Peak-shaving
- Various mode setting

● Product



vBox



Vesta



HEMS



MID

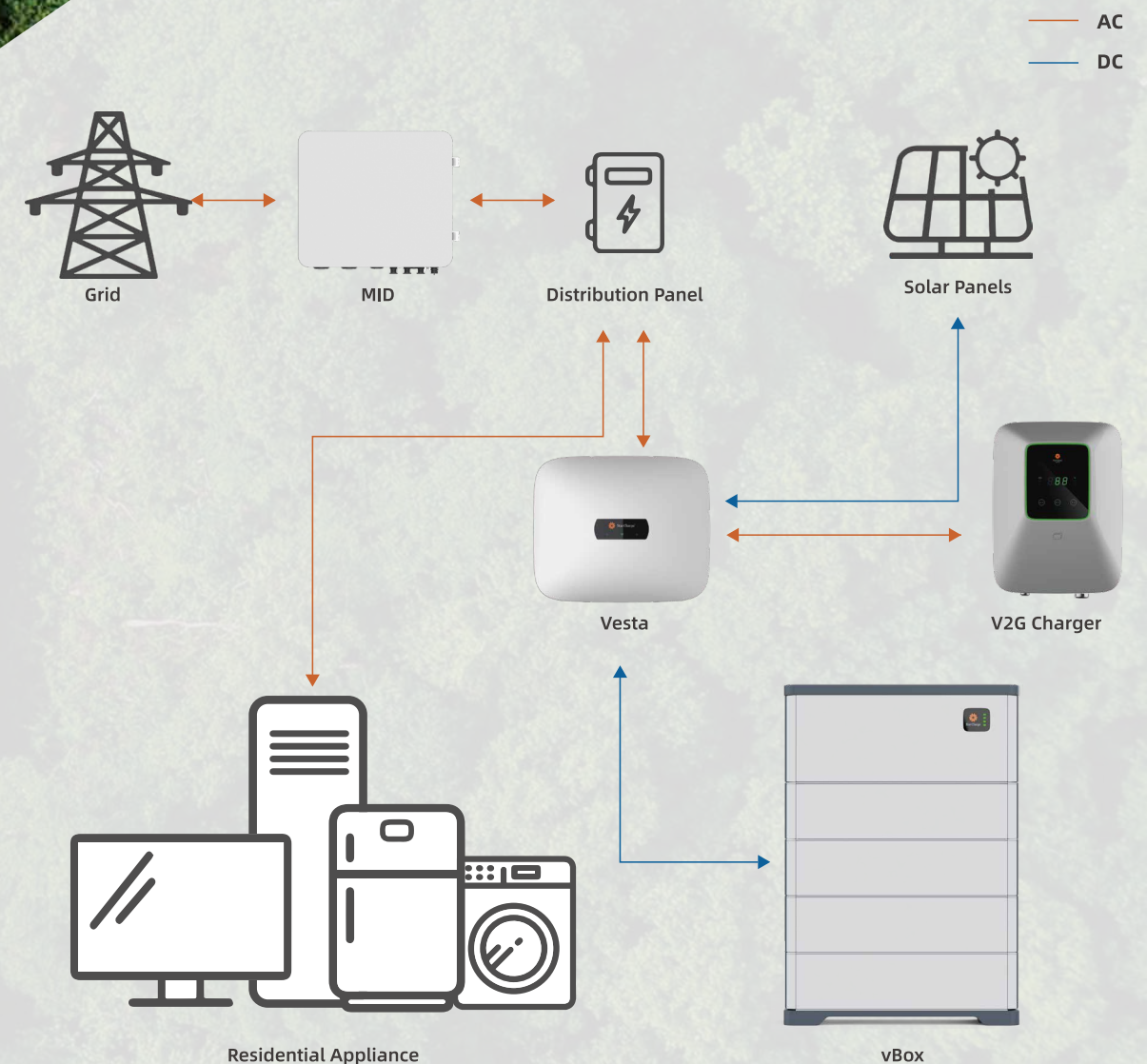


Charger



APP

Residential Microgrid Solution



Products certified by CE, UL, GB, and other standards may exhibit variations in appearance.

12

C&I Microgrid Solution

Software

- Private cloud docking
- Green energy trading
- User management
- Trade via block-chain
- Demand response
- Smart O&M

Capability

- Real time management
- Monitoring of power generation, storage, and consumption data
- Smart storage scheduling emergency power supply
- Load management
- Peak-shaving, virtual power plant

Product



Power Unit with PDU



eBox



eHub

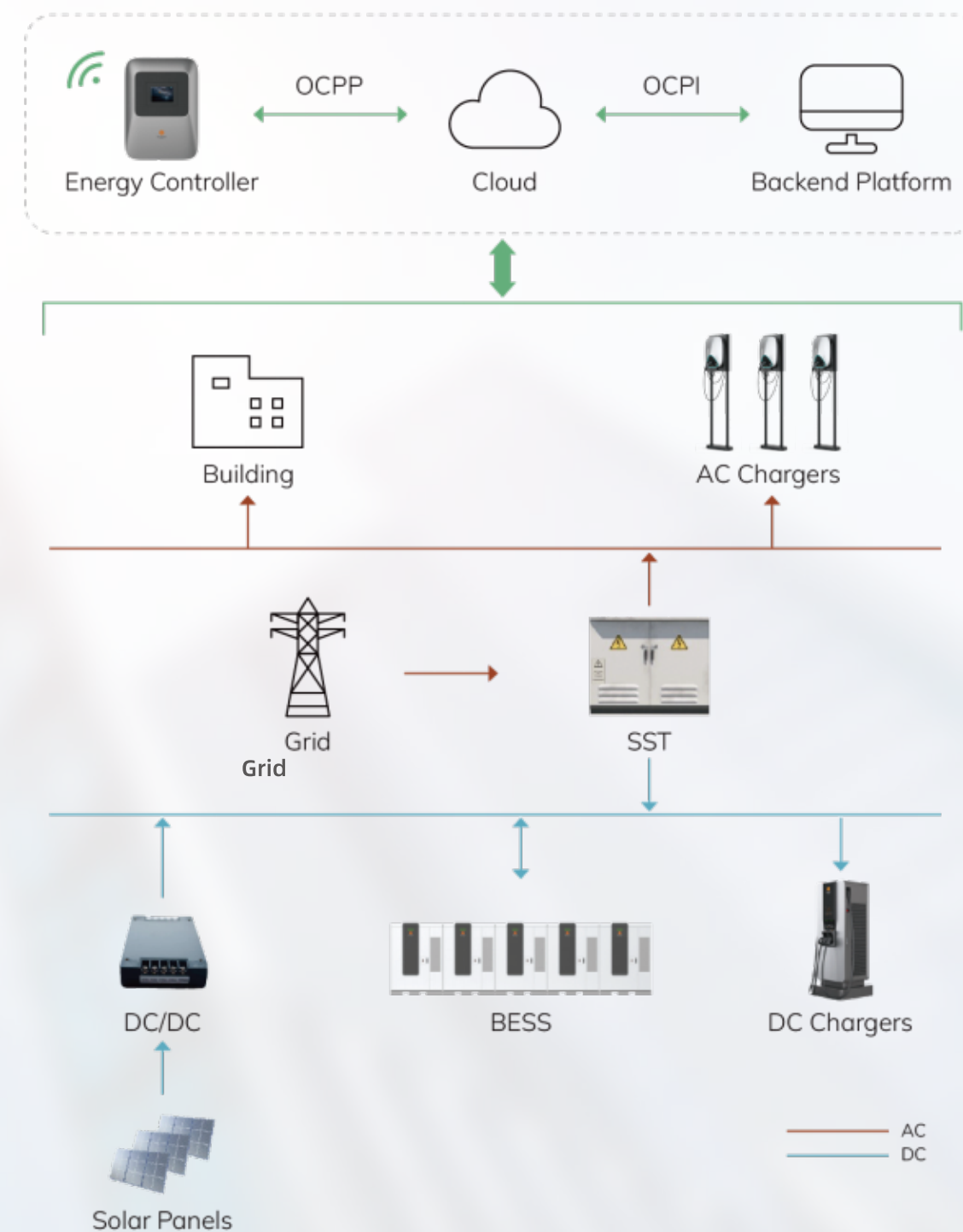


Charger



PCS

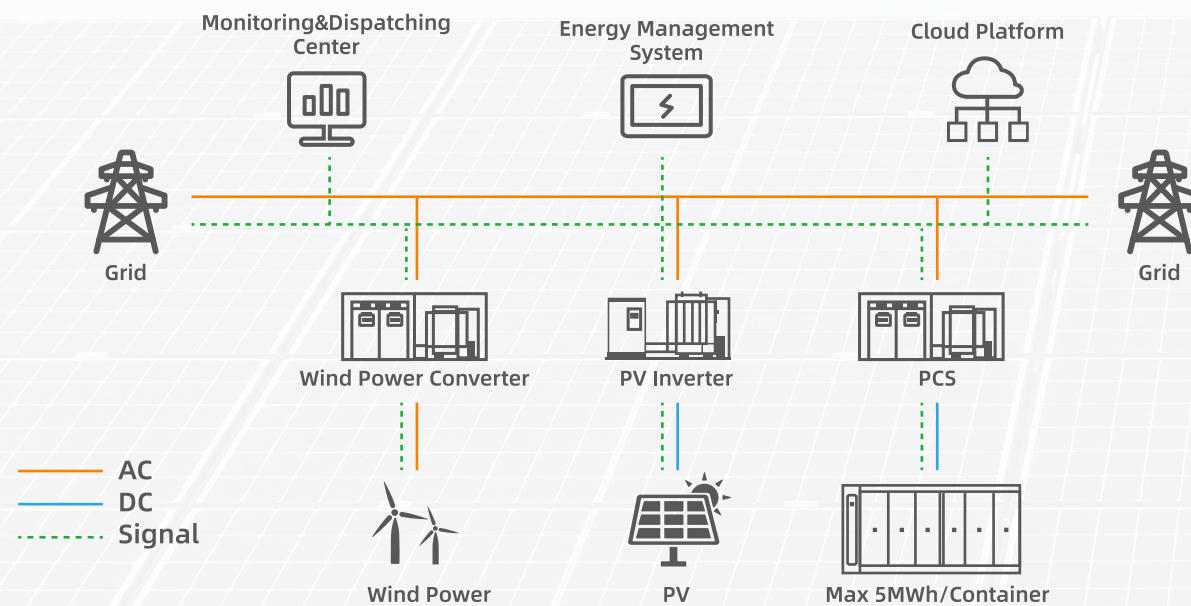
Energy-Saving | Cost-Saving | Efficient | Safe | Green Energy



Products certified by CE, UL, GB, and other standards may exhibit variations in appearance.

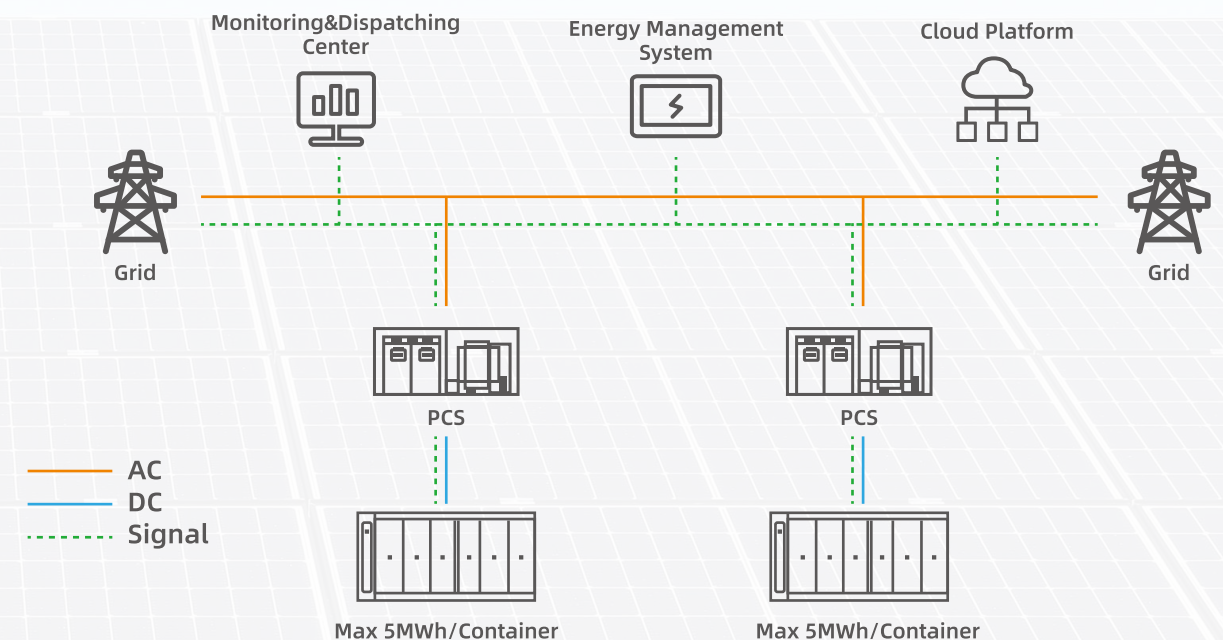
13 Utility-scaled Energy Storage

Co-located Solution with Wind and PV plant



- ✓ Tame the issue of intermittency, fluctuations and unpredictability arising along with renewable energy development
- ✓ Reduce wind/solar curtailment and improve economic efficiency
- ✓ Improve power generation
- ✓ Ancillary services such as peak shaving and frequency regulation

Stand-alone Solution



- ✓ Maintain safe and stable operation of grid
- ✓ Participate power ancillary services
- ✓ Capacity Leasing
- ✓ Peak shaving
- ✓ Frequency regulation



3.44MWh Prefabricated Container ESS



5MWh AC/DC Integrated Prefabricated Container ESS



5MWh Prefabricated Container ESS

14

StarEnergy Digital Management & Cloud Platform

In-house R&D

Iteration&Optimization

Customization

Intelligent Scheduling

- Green Power First
- Efficiency Priority

Load Forecasting

- Storage Load
- Charging Load
- General Load

Generation Forecasting

- LGBM Model
- LSTM Model

Electricity Trading

- Medium and Long-Term Trading
- Electricity Spot Market Trading

Demand Side Response

- Resource Consolidation
- Data Settlement
- Response Bidding

Ancillary Services

- Controllable power
- Revenue Settlement

City Energy Dashboard



Energy Management Cloud Platform



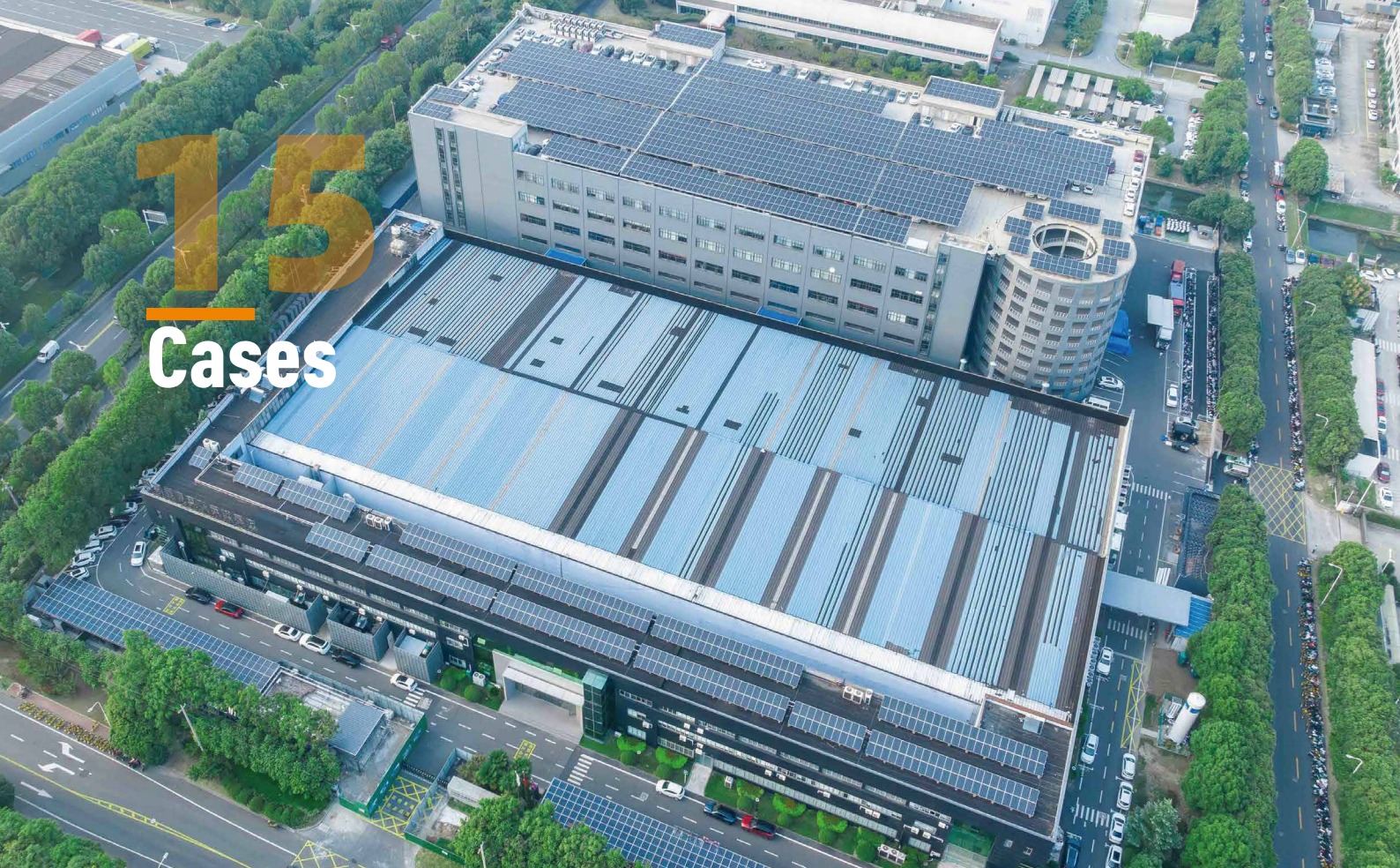
Energy Operation Cloud Platform



C&I Energy Dashborad



15 Cases



Zero-carbon Factory

Wanban Manufacturing Base

Changzhou, China

Rooftop PV system:1044KWp

Energy Storage:10pcs of eBox-215, 1000KW/2150KWh

PV carport + Energy Storage:PV carport 117kWp and Energy Storage 200kW/430kWh

With a total installed capacity of approximately 1162KW, estimated based on the solar irradiation in Changzhou, the system can generate an average of 3,200 kWh of electricity per day. Utilizing the available land within the factory, an energy storage station has been constructed. Based on the analysis of the typical daily electricity load and maximum demand of the enterprise, 10 units of eBox-215 have been deployed, with a total capacity of 1,000 kW/2,150 kWh.

This project is expected to produce about 1.17 million kWh of green electricity annually, with an estimated carbon reduction of approximately 1047.4 t CO₂ in the first year, accumulating to a total of 24,000 t CO₂ over 25 years. Additionally, it can save approximately 1.7 million in electricity costs each year.



Zero-carbon Industrial Park

Fengxiang Industrial Park

Changzhou, China

PV system: 5.66MWp

Energy Storage: 32 pcs of eBox-215, 3.2MW/6.88MWh

Changzhou Fengxiang Science and Technology Park, covering an area of 232 acres, is one of the key standard factory buildings in National High-tech Zone in Changzhou, China. The park's annual electricity consumption is approximately 20 million kWh.

In line with the electricity usage characteristics of the various factory buildings in the park, a total of 32 units of eBox-215 have been designed and equipped, with a combined capacity of 3.2 MW/6.88 MWh, averaging a daily energy throughput of 13,700 kWh. The park/enterprise is provided with a suite of virtual power plant (VPP) integrated services, including peak shaving, dynamic capacity enhancement, green electricity consumption, and demand-side power management, effectively addressing the power restrain associated with peak electricity usage.



Zero-carbon University

Manchester Communication Academy

Manchester, UK

Manchester Communication Academy implemented StarEnergy's comprehensive building solution. StarEnergy's Ebox battery energy storage system with a capacity of 215kWh is incorporated t store excess solar energy for later use and eHub200 energy management system is integrated to orchestrate the entire energy ecosystem.



Utility Energy Storage Project

Tongliao ESS Paired with Wind Power

Tongliao, China

Energy Storage: 476MW/476MWh

The Tongliao Lugu DC-supporting 2.38 million kilowatt wind power base project is part of the second batch of the Large Wind & Solar Base Projects of China in the Inner Mongolia region, located in Keerqin District, Tongliao , Inner Mongolia. With a total installed capacity of 2.38 million kilowatts, this project is known globally as the largest 1P LFP electrochemical energy storage project. StarEnergy provides energy storage products for this project and achieves a one-time successful grid connection and power delivery. After the project is put into operation, it can generate 7.5 billion kilowatt-hours of clean electricity annually, save 2.61 million tons of standard coal, and reduce carbon dioxide emissions by 6.34 million tons. It plays an active role in optimizing the energy industry structure of Tongliao City and empowering the green and low-carbon development of the local economy and society with a strong foundation.



Low-carbon Charging Station

Haugaland Næringspark EV Charging Station Project

Gismarvik, Norway

Haugaland Næringspark EV Charging Station is a site having a grid power capacity of 400kVA with a PV station generating 100kWp providing power to the EV charging station having a power capacity of 360kW (2 Titan V3 180kW), with the support of an eBox (100kW/215kWh). The EV chargers get the power in priority from the battery then PV/grid during high price consumption period and during other period source of power is prioritary from the PV/grid.



Green Yellow Novotel Massy Project

Green Yellow Novotel Massy EV Charging Station

PALAISEAU, France

Grid capacity: 500kVA (2 transformers of 250kVA each)
BESS:ECC+ 1 eBox(100kW/215kWh)
EV Charging Equipment: 3x3x150kW Alpitronic HYC300+2x22kW EV BOX
EMS:Managed by a 3rd party controller

In this case, StarEnergy's ESS paired with 3rd party's chargers and EMS to enable peak shaving and load shifting for tariff arbitration.



City-level Energy&Carbon Management Platform

Yancheng Energy&Carbon Management Platform Yancheng, China

Main function: Energy production and consumption monitoring, Electricity trading, Tracking progress towards dual-carbon goals

Yancheng has made notable strides in renewable energy, with green power making up 59% of its energy output. With StarEnergy's energy management platform, the city was able to integrated data science and digital tech for real-time energy production tracking. Additionally, virtual power plant technology boosts microgrid resilience and harmonizes with the main grid, mitigating the volatility of wind and solar power and stabilizing demand. This approach robustly supports Yancheng's carbon-neutral ambitions and lays a sustainable foundation for local growth.



Smart Microgrid Project

Shengde Southeast Industrial Park Xiamen, China

PV system: 611kWp **Energy Storage:** 500KWh **EV Charger:** 2700kW

Established as Xiamen's first low-carbon demonstration project, Shengde Southeast Industrial Park showcases an integrated facility featuring PV, ESS, EV charging and battery tesing. The park encompasses a Power Battery Technology Research Center, an Electric Vehicle Sales and After-sales Service Center, a Power Battery Skills Training Center, a Power Battery Big Data Center, and talent apartments. It offers a one-stop upgrade service for zero-carbon planning, zero-carbon investment and construction, and zero-carbon industry operations.

