



Green Power System Solution

FR Electric(Zhe Jiang)Co.,Ltd.



About Faro



Project in Operation

- Many years of experience in the green energy market
- Investment BESS project cases exceed **500+**



R&D

- A research and development team of over **50+** people
- Master the core technology of energy storage system
- Full functional lab with over 2*8000KVA power



Manufacture

- Battery pack with an annual production capacity exceeding **4GWh+**
- PCS with an annual capacity exceeding **5GW+**



Solution

- One-step complete solution: energy storage, photovoltaics and power distribution
- Meet energy needs in different scenarios



Operation and maintenance

- Fast response within **24 hours**
- Provide comprehensive and timely technical support

2018

Establishment Time

\$100+million

Registered Capital

28000+m²

Factory

50+

R&D Personnel

Development Milestone



2010

ZheJiang Maofeng Electrical was founded

Focus on high and low voltage distribution equipment manufacturing, the current annual output value is over \$21 million



2018

Faro Electric (Zhe Jiang) Co.,Ltd was founded

- Clear company development strategy, team quickly set up
- Self-developed PACK, PCS, BMS, EMS, etc.



2022

Zhejiang headquarters completed

- Battery pack with an annual production capacity exceeding 4GWh; PCS with an annual capacity exceeding 5GW
- Reward: Provincial special, new and high-tech enterprises, with a total of 25 product patents
- The first generation of C&I BESS products launched



2024

The European Representative Office established

- The second generation of liquid cooling products was launched
- Cumulative energy storage projects exceed 200+
- The first overseas project was completed and put into operation in the Netherlands



2023

The first C&I BESS power station in operation

- Broad participation in BESS industry standard setting
- More than 50+ energy storage projects have been put into operation, with annual shipments over 100MWh+



2020

Launched Air Cooling BESS

- Passed the quality system certification and products through the CGC certification
- The first 80MWh energy storage power station project on the power generation side in operation



2013

ZheJiang Suyuan electric was founded

Focus on construction and investment of electric power projects and photovoltaic renewable energy programs



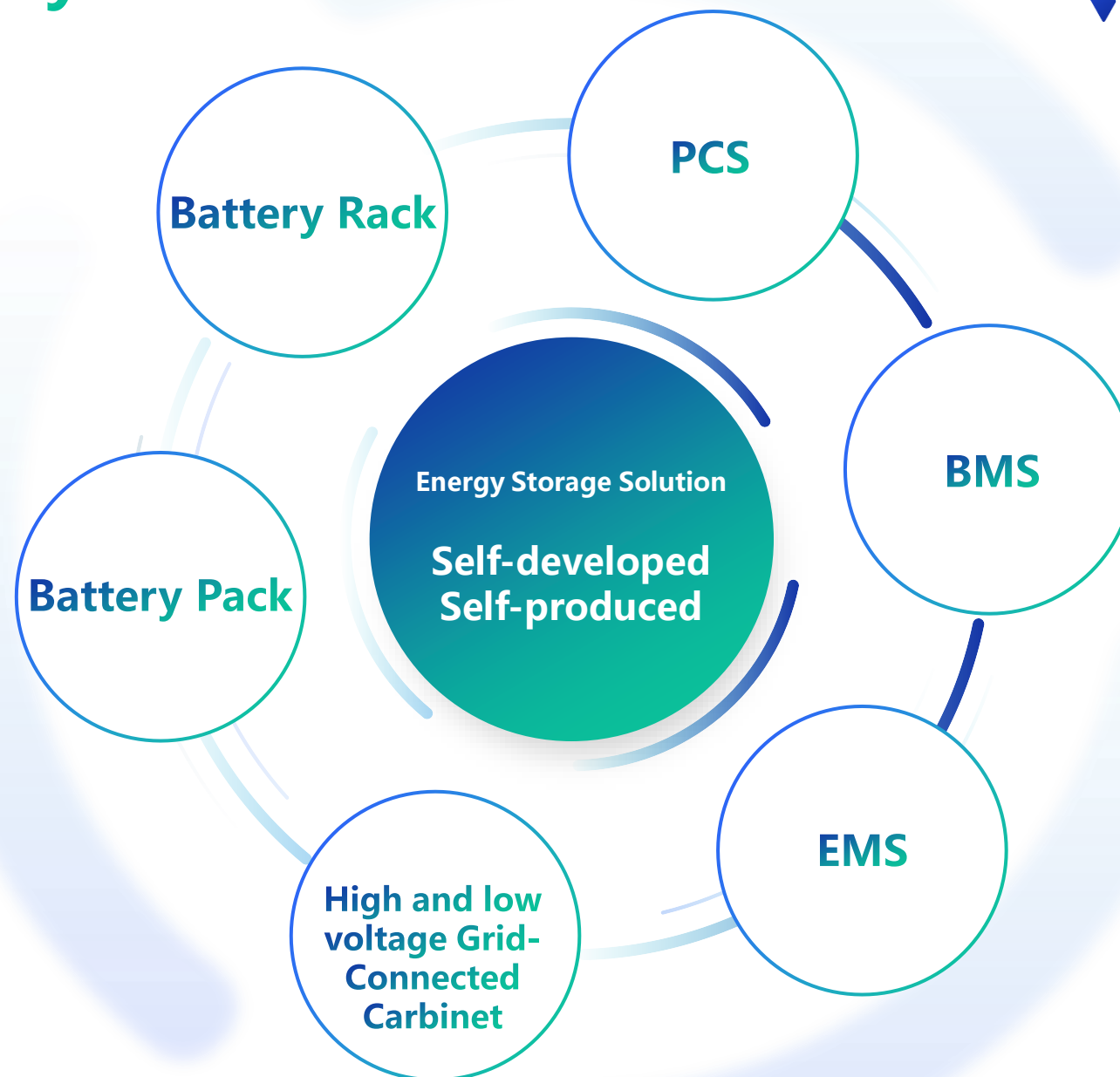
Energy Storage Industry Layout

01 Project Investment

Faro makes fully invests, and provides equipment, construction and installation, operation and maintenance services, etc., to share the benefits with our partners.

02 Energy Storage EPC

The owner invests, Faro provides equipment, construction and installation, operation and maintenance services, etc., and the owner enjoys the benefits exclusively.



Energy Storage Market Trend

2000~2021

R&D Period

- Carry out a demonstration project
- Explore the application models
- Expand the international market
- Verify the application value

By the end of **2021**, the cumulative installed capacity of power energy storage projects which have been put into operation in China has reached to **14.2GW**

01

2021~2025

Early Stage of commercialization

- The policy support has been strengthened
- The installed capacity has been increased rapidly
- The infiltration and integration of multi-domain has been achieved
- The business model has been gradually established

By the end of **June 2024**, the cumulative installed capacity of power energy storage projects which have been put into operation in China has reached to **103.3GW**, with a year-on-year growth of 47% and a growth of 20% compared to the end of last year

02

2025~2030

Large-scale Development

- Energy storage projects are widely used
- The technological level has been rapidly improved
- The system cost decreased by more than 30%
- The integrated industrial system is formed

It is expected that by **2030**, China's energy storage capacity will reach to **300GW**

03

2030~

Comprehensive Marketization

- Form a technical standard system
- The market mechanism is well-established and the business model is mature
- The industrial chain is mature to meet the diversified needs of the market
- The energy storage policy environment is stable

04

储能应用场景

Power generation side energy storage

Intraday peak shaving, smoothing output, and reducing Wind and solar curtailment



Solar power generation



Wind power generation



Thermal power generation



Pumped storage power station



Power grid side energy storage

Frequency regulation, peak shaving and valley filling, reserve capacity

Power grids



I&C energy storage

Peak-valley arbitrage, Off-grid operation, Standby power



Factory



Industrial park



Office building



Charging Station



Microgrid energy storage

Ensuring power balance in microgrid systems, high-efficiency utilization of distributed energy resources



Distributed photovoltaic



Distributed wind power



Isolated island



Remote districts



Energy Storage Products



**Air Cooling
All-in-one BESS**

FRES200-A10-241
FRES200-A11-313



**Liquid Cooling
All-in-one BESS**

FRES200-L10-261
FRES200-L20-418



Container BESS

FRES100-L20-5015



PCS Combined Transformer

FRP2500I-2A
10KV-35KV



Modular Design



Safe and Reliable



Economical and Efficient



Smart and User-Friendly



Convenient Maintenance

Product Safety Design



Battery Life Tracking

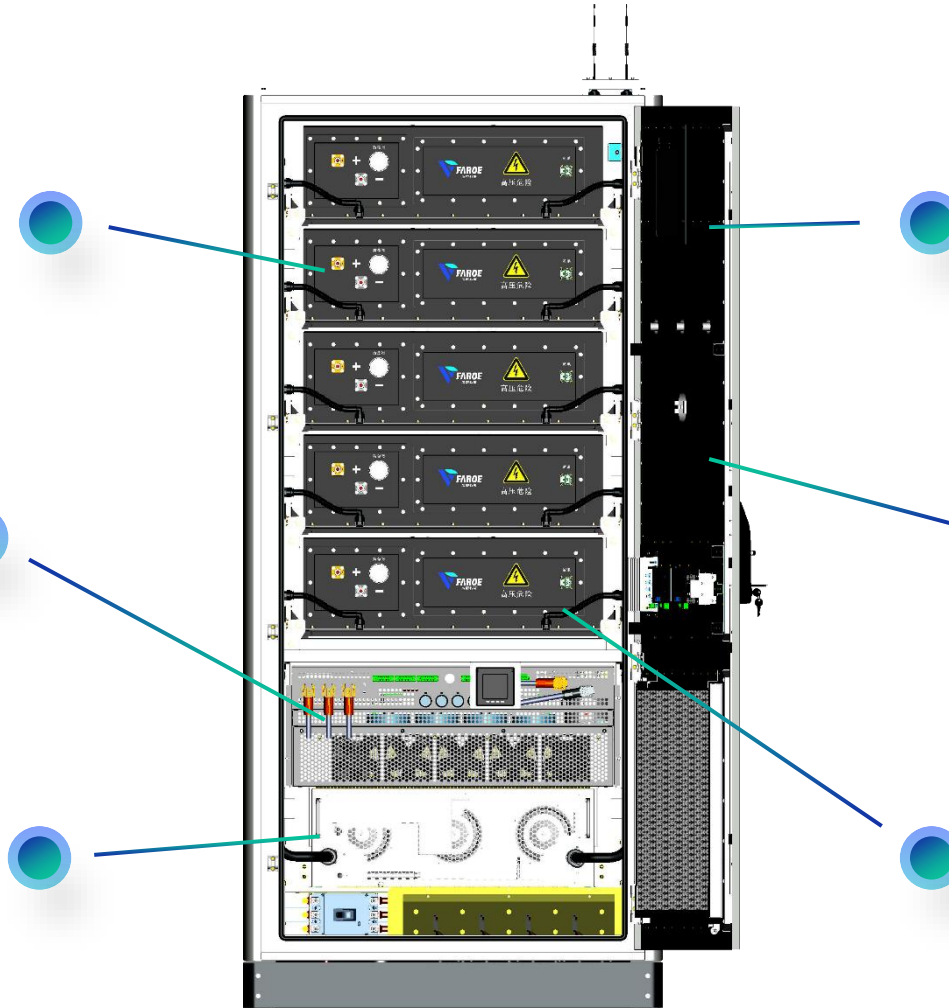
Strict selection of high-quality cells, the self-developed BMS to **make sure** real-time collection of battery data, according to the data results, the BMS develops a reasonable maintenance and management strategy to ensure the safety of the entire energy storage system and extend the service life.

Electrial Safty Design

Self-developed PCS, PACK, the electrical isolation, overvoltage protection, grounding protection, etc., are set to prevent safety problems caused by electrical faults. Optimized electrical design, the system conversion efficiency is up to 92%.

Thermal Management Design

The thermal conductivity material with high temperature resistance and good thermal conductivity is selected, and the power consumption is reduced by 25% through the optimal air duct design and intelligent ambient temperature control technology. The temperature difference of the system is $<5^{\circ}\text{C}$ to ensure the stable operation of the system.



Structrual Stability Design

The self-developed cabinet has explicitly corrosion resistance and high temperature resistance, and other characteristics, through the optimization of structural design, connection design, and increasing shock absorption measures to ensure stability further; IP54 protection level ensures stable operation under various harsh environmental conditions.

Operation Safety Design

The user interface is easy to understand and operate, enabling quick power-off in emergency situations; the design of the explosion venting valve prevents explosion accidents caused by excessive internal pressure of the equipment.

Fire-fighting Active Alert

The three-level fire fighting system composed of box level, cluster level and PACK level can monitor the key parameters such as temperature, smoke and gas concentration of the energy storage system in real time. When a fire is detected, the system automatically starts the fire extinguishing system and quickly extinguishes the fire.

Product Quality Guarantee



System Certification

Product Certification



ISO 9001、ISO 14001、ISO 45001



The battery module, battery cluster, and energy storage inverter independently developed and produced by FARO are all compliant and certified

Strictly Select High-quality Components

Commit to the use of only industry-leading high-quality components and materials

Tight Control over Production Processes

Standard Operating Procedure(SOP), regular equipment inspection and maintenance

Strict Quality Inspection

Thorough product inspection system, including online inspection, finished product inspection and other links

Continuous Product Optimization

Actively collect customer's comments and suggestions, and will keep up improving

Honorary & Qualification



Brand Reputation



Provincial specialization
and novelty

2023



Provincial science and
technology enterprises

2023



Product Patent

Invention
patent

6

Appearance
patent

13

Utility
model

3

Software
copyright

3

The data is as of November 2024



Intelligent Manufacturing



Automation

The automation degree of the factory is more than 85%, and more than 10 processes such as cell feeding, plasma cleaning, OVA sorting, module stacking are automated, and the yield is greatly improved through fine management.



Intelligentization

It features an industry-leading intelligent module production line with numerous built-in scheduling strategies to adapt to complex and dynamic process routes. Coupled with lean production principles, it significantly enhances production efficiency.



Digitization

ERP+MES system is used to realize the digital information integration of factory resources, process design, production management, equipment management, plan management, energy consumption management and logistics management, and can be traced



“Production - Engineering - Operation and maintenance”
Full chain information traceability



“Business-Design-Application”
Full chain information closed loop



“R&D - Manufacturing - Service”
Full chain information integration

Service process (User Side)



01 Customer information collection

- Transformer information
- Electricity bill
- Load curve
- Property description

02 Preliminary scheme

- Installed capacity calculation
- Profit calculation

03 Business negotiation

- Business clauses: profit-sharing/price
- Pre-sale survey: installation site, transformer situation, real time load (to assist in determining the installed capacity)

04 Contract sign

- Draft and sign the contract
- Collect filing materials
- The contract capacity is confirmed to be consistent with the planned capacity
- Third-party agreement on electricity bill collection (Zhejiang)

05 NDRC filing

- Feasibility study report: technical solution (capacity, layout etc.)
- Preliminary power access scheme
- Opinion letter from economic development zone (street)
- Owner's information

10 Project completion

- Operation and maintenance service

09 Collect electricity bills

- Electricity price confirmation
- Confirmation of electricity consumption and electricity bills
- Issue an invoice, receive payment

08 Project acceptance

- Get the grid-connection acceptance certificate by the power supply bureau
- Signature on the owner's project acceptance certificate

07 Project construction

- Civil construction
- Delivery and installation
- Scheduling and debugging

06 Power project filing

- Power access diagram, installation location diagram
- On-site survey (power supply bureau, fire department)
- Power access opinion letter
- High voltage: switchyard, transformer, protection, communication

Project Cases-Power Generation Side



* Only recent cases are presented. For more project sharing, please pay attention to Faro' s public WeChat



Jinchang Photovoltaic Energy Storage Project

Capacity of energy storage: 40MW/80MWh

Features of energy storage: The project aims to improve the utilization rate of renewable energy, promote the development of clean energy and meet the needs of power grid peak regulation, backup and stable operation



Gannan Photovoltaic Energy Storage Project

Capacity of energy storage: 9MW/18MWh

Features of energy storage: The project has the advantages of optimizing energy structure, stabilizing power grid operation, realizing energy peak shaving and valley filling, improving power supply reliability, reducing energy costs and promoting the development of renewable energy

Project Cases-User Side



* Only recent cases are presented. For more project sharing, please pay attention to Faro' s public WeChat



📍 Holland 1260KW/2580KWh



📍 Jiangsu Kunshan 5000kW/10750kWh



📍 Zhejiang Zhuji 1992kW/5568kWh



📍 Jiangsu Haian 1200kW/2580kWh



📍 Shanghai 1620kW/3132kWh



📍 Jiangsu Haian 5900kW/14219kWh

Project Cases-User Side



* Only recent cases are presented. For more project sharing, please pay attention to Faro' s public WeChat



📍 Jiangsu Nantong 400kW/964kWh



📍 Zhejiang Jiaxing 488kW/964kWh



📍 Zhejiang Lishui 900kW/1935kWh



📍 Zhejiang Hangzhou 1100kW/2365kWh



📍 Zhejiang Jinhua 800kW/1720kWh



📍 Zhejiang Zhuji 800kW/1720kWh

Project Cases-User Side



*Only recent cases are presented. For more project sharing, please pay attention to Faro' s public WeChat



📍 Jiangsu Suzhou 400kW/1290kWh



📍 Jiangsu Nantong 3200kW/9890KWh



📍 Jiangsu Nantong 800kW/2580kWh



📍 Zhejiang Hangzhou 1400kW/3010kWh



📍 Jiangsu Huaian 800kW/2580kWh



📍 Zhejiang Jiaxing 2970kW/5805kWh

Secure Storage Guards the Way, Green Energy generates wealth.

FR Electric(Zhe Jiang)Co.,Ltd



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