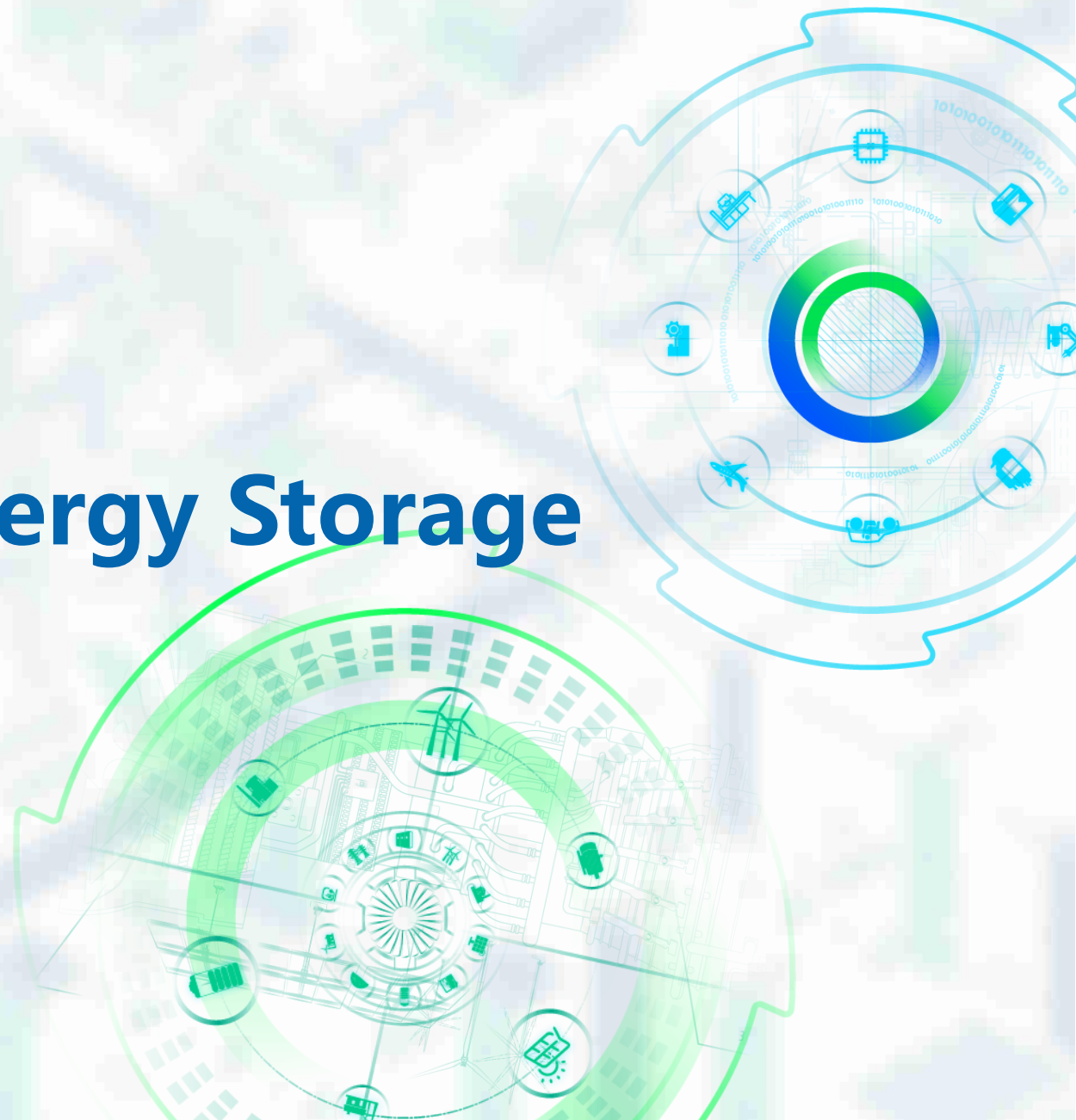




Shanghai Electric Lithium Battery Energy Storage

Shanghai Dixi New Energy Co., Ltd



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Company Profile

Shanghai Electric Overview



Large comprehensive equipment manufacturing group

Shanghai Electric Group is a world-class comprehensive high-end equipment manufacturing enterprise, focusing on three business areas of **smart energy, smart manufacturing, and smart infrastructure**, to provide customers with industrial-grade green intelligent system solutions. The company focuses on high-end, intelligent and green development, and promotes the high-quality development of Chinese and global industry with the empowerment of science and technology, creating green and sustainable value for the better life of human beings.

Competition & Cooperation of "Multi-Energy Storage"

Committed to
Being an one-station
ESS solution provider

394.9b CNY

Total assets

75,000

Employees

9,248

Valid patents

Shanghai Electric relies on its comprehensive equipment advantages and actively lays out multi-energy storage solutions of **molten salt, compressed air, pumped storage, lithium-ion battery, liquid flow, flywheel, superconducting**, etc. It can provide one-stop "high-quality storage" system solutions for the power supply side, power grid side, industrial and commercial side, etc.

Company Profile

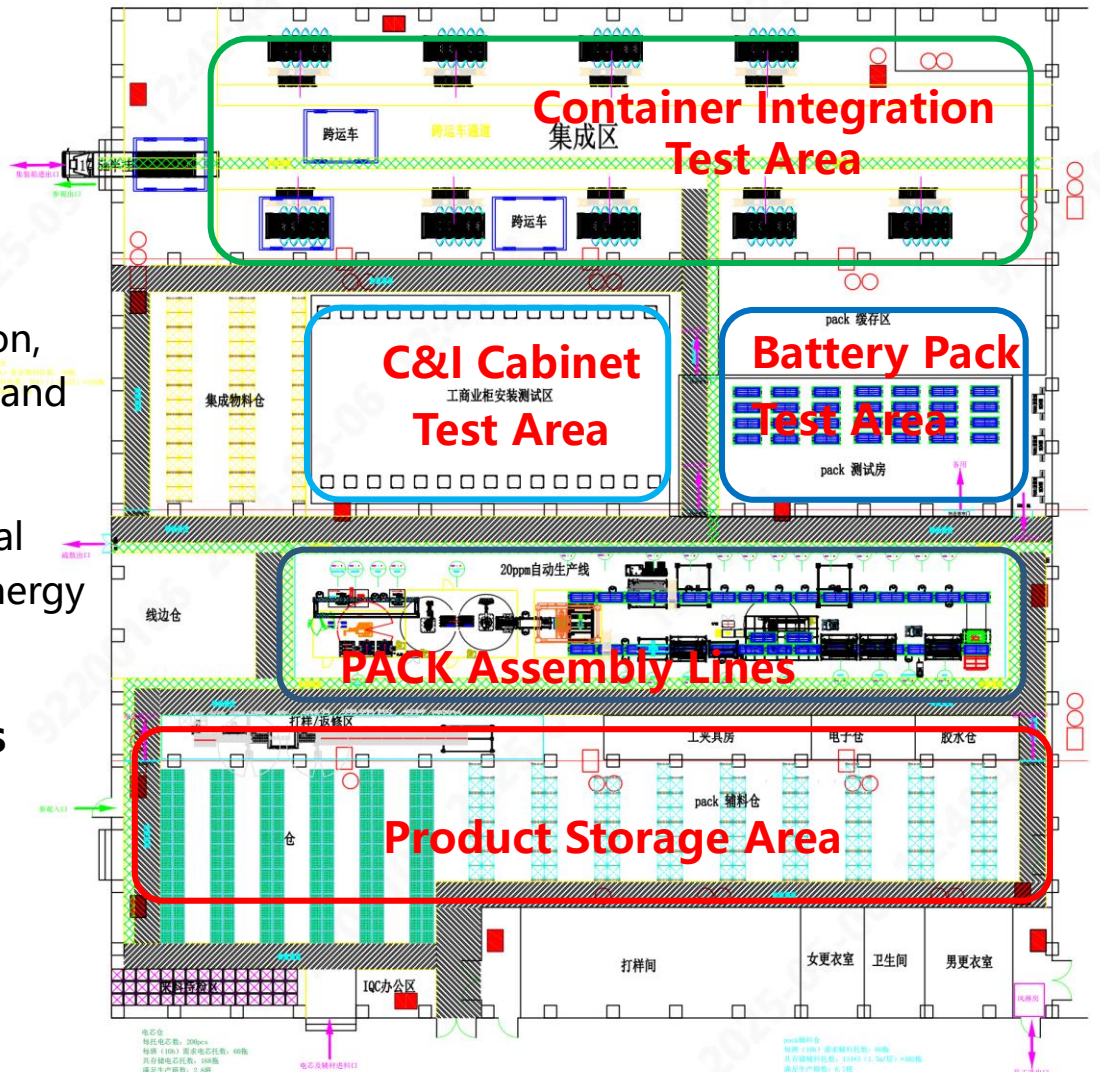
Shanghai Dixi New Energy Co., Ltd. Is committed to technical R&D, engineering application and market development of electrochemical energy storage business. We have the expertise to provide one-station ESS solutions for scenarios including **new energy & ESS, peak & frequency modulation, grid side energy storage, C&I energy storage**, etc.

Scope: Focusing on new energy sectors of electricity generation, power and C&I application. Devoted to R&D, practice and **services** of BESS integration technologies.

Vision: Committed to develop into innovation pioneer of global smart energy storage solutions, and promote global energy revolution with **safety, efficiency and sustainability**.

Digitalized Factory: Battery pack production lines
Integration assembly
Electrical logging platform

- High automatized
- BESS container & E-bus products covered
- Capable of upgrading batteries of the coming generation and reach their performance
- Capable of integrating solid batteries and sodium batteries



Focusing on core technologies & upholding quality and security standards

Continuously enhance and ensure the development of the energy storage field with high levels of safety, efficiency, lifespan and intellectualization

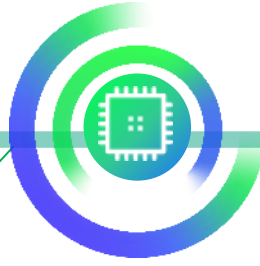
Cells

- Using long-lasting cells special for energy storage
- Guarantee of performance and group matching



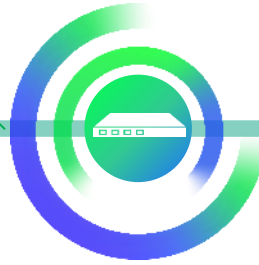
BMS

- Safety & reliability ensured
- Performance guarantee & optimization



SCS

- System-level control
- Upgraded safety
- Optimized performance



OPS

- Performance and value extension parts
- Digging into data value
- Reducing O&M costs



System integration

- Battery module design
- Reliability for system thermal design
- Comprehensive system management strategies



Fully-serviced lifecycle





Products

Smart ESS Products: Value Creation for Clients & Innovative Scenario Application

The products of **Elite Cool liquid-cooling smart ESS** series cover voltage platforms of 1000V and 1500V, featured by high security, high output, fine management and high integration.

Elite Cool 3.44MWh Liquid-cooling BESS



**20ft container
(1500V)**

- Meet high power **1P** application scenario, FM mainstream
- **Progressive multi-level fire protection system**: automatic explosion-proof exhaust & automatic gas fire-fighting system & water spray system (equipped as required)

Elite Cool 5MWh Liquid-cooling ESS



**20ft container
(1500V)**

- Meeting 0.5P scenario demand, with FM and PV & energy storage mainstream
- **AC&DC integration**
- Smart liquid-cooling operation strategies of fine thermal management, resulting in **MW-level BESS temperature difference within 3°C**
- Management by cluster, **full lifecycle system discharge energy enhanced by over 8%**, and online rate of system operation strongly optimized

Elite Cool 6.25MWh Liquid-cooling ESS



**20ft container
(1500V)**

- Using 587Ah cells and **meeting demands of 0.5P scenarios**
- 20ft container with an highly enhance energy of over 6MWh
- **Smart liquid-cooling operation strategies of fine thermal management applied**

Multiple application scenarios, including power side, grid side, distributions side, user side, etc.

Application Scenarios

Functions of frequency modulation, new energy resources consumption, electrical quality optimization, peak shaving & load shifting, comprehensive energy management, etc.

Product Model	3.125MW/6.25MWh	2.5MW/5MWh	3.44MW/3.44MWh
DC Voltage V	1164.8 ~ 1497.6	1164.8~1497.6	1075.2 ~ 1382.4
Dimension (L*W*H)mm	6058×2438×2896	6058×2438×2896	6058×2438×2896
Weight (T)	45	42	36
Cell capacity (Ah)	587	314	280
Working platform	0.5P/1500V	0.5P/1500V	1P/1500V
IP Protection	IP55	IP55	IP55
Working temp. °C	-30~55	-30~55	-30~55
Cooling method	Liquid cooling	Liquid cooling	Liquid cooling

C&I All-in-one Cabinets: liquid-cooling, single-cabinet & multiple cabinets

C&I product series are characterized by **high security, high reliability and standardization**. With the highly-integrated system design, these products can be flexibly applied to multiple C&I scenarios and function for peak shaving, load shifting, power trade off, to alleviate power supply pressure.

FlexiStore 261kWh Liquid-cooling Outdoor Cabinet (1000V)

FlexiStore 418kWh Liquid-cooling Outdoor Cabinet (1500V)



- Liquid-cooling system with a higher energy density and **floor area occupation reduced by over 20%**;
- Optimized pack cooling method, resulting in **cell temperature difference within 3°C**
- With auxiliary power, short-circuit protection and BMS control protection



Zero-carbon smart park



PV Storage Charging Integration



Data center



Commercial complex



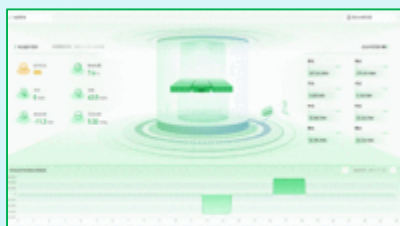
Micro-grid



Mine area

Product model	F400	F260
Configuration	1P52S×8	1P52S×5
Discharge rate	0.5P	
PCS	(100kW-200kW, not included)	125kW
Rated energy (kWh)	418	261
Usable capacity (kWh)	388	235
Voltage range (V)	1164.8-1497.6	728-936
System max. efficiency	93%	90%
IP grade	IP55	
Anti-corrosion grade	C3-M	
External communication	RJ45 interface, Modbus-TCP protocol	
Working temperature (°C)	-30~50	-20~45
Cooling method	Liquid-cooling	
Fire protection	Aerosol	
Lifecycle	≥8000, 0.5C@25°C 100%DOD	
Dimension (W×D×H) mm	1400×1320×2400	1000x1250x2400
Weight (T)	3.7	2.7

Smart OPS



Site-wide monitoring



Panoramic surveillance of power station and all-level equipment operation



Intelligent analysis

Analysis of cell use, efficiency & profitability



Remote diagnosis

Fault alarm, health and lifespan diagnosis & analytical guide



Evaluation & prediction

Cell health evaluation & lifespan prediction



Cell O&M

Proactive generation of O&M work orders, spare parts management & power charge alert strategy



Data security

"Cloud edge" collaboration & proactive security strategy

Smart O&M empowered by AI



Projects

Main Projects Worldwide

UK 100MW/100MWh REP1&2 Energy Storage Project

Hungary 3.75MW/10MWh PV & BESS Project

克罗地亚塞尼风场

塞尔维亚潘切沃161MW联合循环
燃机电站项目

日本北海道2.4MWp光伏电站项目

迪拜700MW光热和250MW
光伏电站项目

吉布提230kV
铁路供电项目

巴基斯坦恰希玛核电厂

澳大利亚Cultana343.7MW
光伏电站项目

- Anhui Jinzhai 100MW/200MWh Energy Storage Demonstration Project
- Gansu 50MW/200MWh Energy Storage Project
- Gansu 20MW/40MWh Wind Storage Project
- Qinghai 32MW/64MWh Shared Energy Storage Demonstration Project
- Hunan 20mw/40mwh Energy Storage Power Station Demonstration Project
- Guangdong 26MW/13MWh Thermal Power Frequency Modulation Energy Storage Project
- Shanghai 3MW/12MWh Smart Energy Storage Project
- Gansu 40MW/90MWh Shared Energy Storage Power Station Project
- Xinjiang 60MW/180MWh Energy Storage Project
- Jilin 10MW/20MWh Energy Storage Project

Cuba
100MW/100MWh
ESS Project

境外并购公司

境外工程项目

境外子公司、分公司

审图号
GS (2016) 2950号

> 30 + Projects
Global Cases

> 8GWh
Shipment

Power Side Projects

60MW/180MWh Xinjiang Corps Energy Storage Project

Project under conditions of high altitude,
strong wind and sandstorm



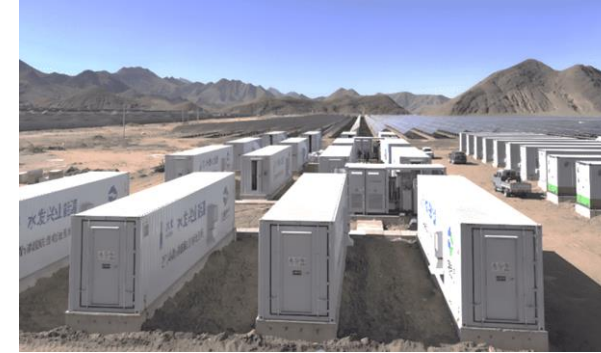
150MW/600MWh Xinjiang Mulei Energy Storage Project

Grid-forming project with conditions of strong wind
and sandstorm, and low temperature



2.5MW/20MWh Xizang PV & ESS comprehensive energy storage project

- High altitude PV & ESS project
- Demonstration project of weak grid support with longtime backup power



10MW/10MWh Anhui Shencun/Boyong Wind & ESS project

- One of the first batch of wind & ESS projects for Anhui province



22.5MW/45MWh Jilin Liaoyuan ESS Project

- Project with the temperature condition of -30°C



Grid Side Projects



100MW/200MWh Anhui Jinzhai Independent ESS Project

- First independent ESS plant with over 100MW power in Anhui
- First shared energy storage pilot project of Anhui



55MW/220MWh Qinghai Tara ESS Project

Project with conditions of high altitude, fierce wind and strong sandstorm



26MW/13MWh Guangdong Yangxi Frequency Modulation ESS Project

- 200m from the seashore
- FM project with the highest K value in Guangdong



32MW/64MWh Qinghai shared energy storage project

- First domestic shared energy storage project with third party's investment
- Largest building-type energy storage power station in China



20MW/40MWh Hunan Mahuangtang Grid Side Energy Storage Project

- Rental model pilot project
- First grid side liquid-cooling pilot project in China

Grid Side Projects



100MW/100MWh UK REP1&2 Energy Storage Project

- First large-scale overseas energy storage project
- Meet the demand of dynamic service containment



40MW/90MWh Gansu Compressed Air + Lithium Battery Combined Energy Storage Power Station Project

- State Power Investment Corporation 's first compressed air + lithium battery combination scheme network side shared energy storage innovation demonstration project



100MW/100MWh Cuba Energy Storage Project

- The first large-scale energy storage project in Latin-America
- Connected and adapted to the national grid in Cuba

User Side Projects



3MW/12MWh Minhang Smart Energy Demonstration Project

- C & I energy storage project in Shanghai



500kW/1157KWh Dubai PV & ESS Diesel Micro-grid Project

- Micro-grid PV & ESS demonstration project in Dubai, with conditions of high temperature, fierce wind and strong sandstorms



1MW/1MWh Guangdong Shantou Micro-grid Project

- Micro-grid project under high salt and strong fog
- Provide black start service for large-scale wind power generators



10MW/40MWh Lianyungang Binxin Steel Electric ESS Project

- One of the first batch of user-side projects for demonstration application of auxiliary services for the grid

Small-scale C&I Projects



- Kunshan Smart Low-carbon New Energy Micro-grid Project
- Shandong Highway C&I ESS Project
- Other C&I Projects in Nantong, Qingdao, etc.



Off-grid Energy Storage Projects



0.3MW/0.64MWh Salt Mine BESS



0.5MW/1MWh
PV-ESS-Diesel BESS in Malaysia



1MW/1.2MWh Oil Rig BESS

上海电气 与创造者共创未来

SHANGHAI ELECTRIC CREATE OUR FUTURE TOGETHER

