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COSPOWERS

COSPOWERS

HANDBOOK OF DATA CENTER ENERGY STORAGE PRODUCTS

Cospowers Technology Co., Ltd.



ABOUT COSPOWERS

Cospowers Technology Co., Ltd. is a high-tech enterprise specializing in the field of new energy storage. With a technical team boasting over 30 years of deep expertise in the energy storage battery industry, the company possesses comprehensive capabilities in R&D, manufacturing, sales, and service across materials, cells, battery management systems, energy management systems, and system integration. It has provided diversified products and systematic solutions for more than 70 countries and regions worldwide in sectors such as utility-scale energy storage, commercial and industrial energy storage, data center energy storage, telecommunications energy storage, residential energy storage, sodium-ion battery energy storage, and consumer batteries.

23GWh+

Global Cumulative Shipments

Tier1

BloombergNEF Energy Storage Manufacturer

860K m²

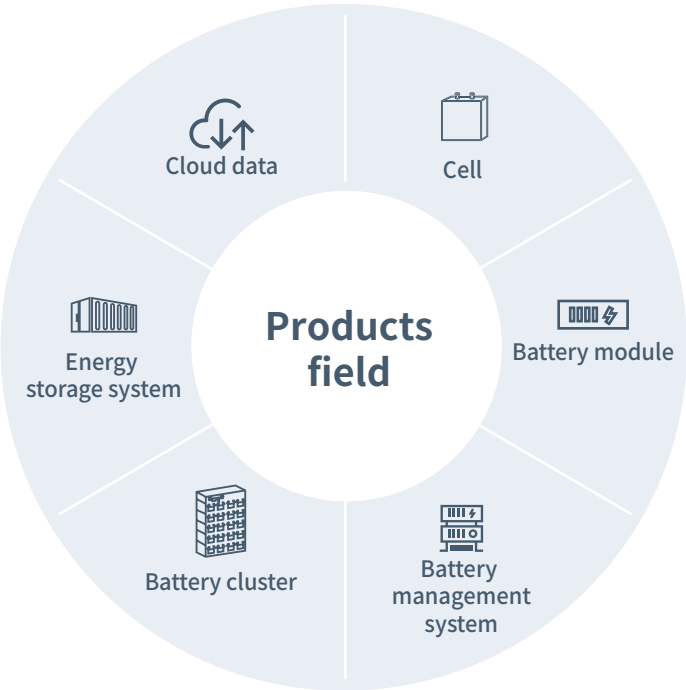
Factory area

530+

Patents and Software Copyrights

30+

Participation in Standard Formulation



GLOBAL LAYOUT

COSPOWERS has in-depth expertise in power and energy storage systems, has witnessed and chronicled the evolution of lithium-ion energy storage, and is driving the advancement of the industry.

70+

Service Coverage

29

Domestic and overseas subsidiaries and service outlets

3

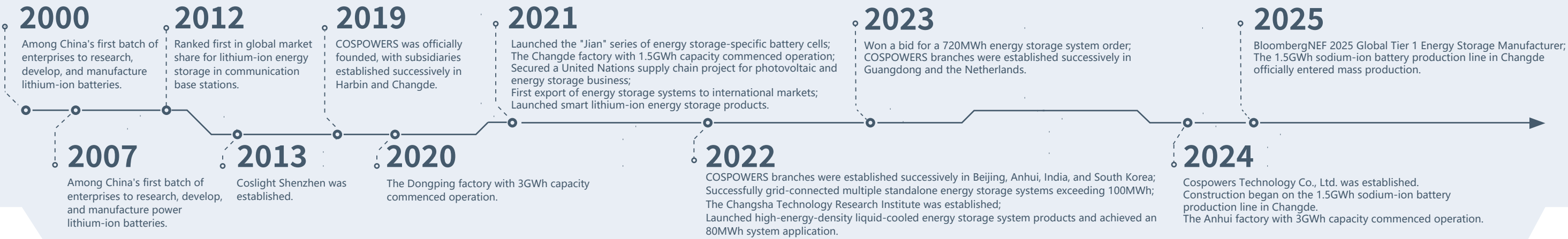
Production Base

4

R&D Centers



DEVELOPMENT HISTORY



Lithium-ion Cell



50Ah

Product Model	FP31136170A
Rated Capacity	50Ah
Nominal Voltage	3.2V
Voltage Range	2.5~3.65V
Maximum Charge/Discharge Rate	2C/6C
Product Certification	



60Ah

Product Model	FP31136155A
Rated Capacity	60Ah
Nominal Voltage	3.2V
Voltage Range	2.5~3.65V
Maximum Charge/Discharge Rate	6C
Product Certification	



100Ah

Product Model	FP26122341A
Rated Capacity	100Ah
Nominal Voltage	3.2V
Voltage Range	2.5~3.65V
Maximum Charge/Discharge Rate	1C/3C
Product Certification	



Short Duration Power Backup Series

CFS512120U

Immersion-Cooled Lithium Battery System



- 1

High Safety: Fully immersion technology completely isolates oxygen,providing protection against fire, explosion, and smoke.
- 2

Temperature Uniformity: Immersion battery cells offer excellent temperature uniformity.
- 3

Cost-Effectiveness: Precise temperature control with a temperature difference $\leq 2^{\circ}\text{C}$ ensures high consistency and ultra-long cycle life.
- 4

Flexibility: Space-saving, modular design supports compact layouts,reducing the required footprint.
- 5

Compatibility: The system is compatible with two/three-line configurations, meeting the requirements of various UPS models.
- 6

Efficient Thermal Management: Full-time, full-area immersion of battery cells enables efficient thermal management, increasing system efficiency by 3%.

Product parameters

Product model		CFS512120U	
Cell Material	LFP		
Nominal Voltage	512Vdc		
Rated Charging Voltage	560Vdc		
Nominal Capacity	120Ah/61.44kWh		
Self-Discharge Rate	≤3% (0~30°C/3 months)		
Standard Discharge Current	120A Continuous discharge(1C)		
Maximum Discharge Current	600A Continuous discharge(5C)		
Standard Charging Current	60A(0.5C)		
Maximum Charging Current	120A(1C)		
Cycle Life	3000 cycles @80%DOD, 0.5C/0.5C		
Communication Interface	CAN; RS485; Dry contact		
Protection Functions	Over-temperature, over-current, short circuit, over-charging, over-discharging, etc.		
Dimensions (W*D*H)	600*1200*2300mm		
Environment			
Storage Temperature	-20~45°C		
Transportation Temperature	-20~60°C		
Operating Ambient Temperature	0~45°C		
Relative Humidity	5~95%		
Altitude	≤2000m		
Single Rack Performance Data			
Time	12-minute	15-minute	20-minute
Power	275kW	222kW	167kW
Energy	600A	480A	360A

Short Duration Power Backup Series

CFS80085U

Immersion-Cooled Lithium Battery System



- 1

High Safety: Fully immersion technology completely isolates oxygen,providing protection against fire, explosion, and smoke.
- 2

Temperature Uniformity: Immersion battery cells offer excellent temperature uniformity.
- 3

Cost-Effectiveness: Precise temperature control with a temperature difference $\leq 2^{\circ}\text{C}$ ensures high consistency and ultra-long cycle life.
- 4

Flexibility: Space-saving, modular design supports compact layouts,reducing the required footprint.
- 5

Compatibility: The system is compatible with two/ three-line configurations, meeting the requirements of various UPS models.
- 6

Efficient Thermal Management: Full-time, full-area immersion of battery cells enables efficient thermal management, increasing system efficiency by 3%.

Product parameters

Product model	CFS80085U
Cell Material	LFP
Nominal Voltage	768Vdc
Rated Charging Voltage	850Vdc
Nominal Capacity	85Ah/58kWh
Self-Discharge Rate	$\leq 3\%$ (at 0~30°C for 3 months)
Standard Discharge Current	85A continuous discharge (1C)
Maximum Discharge Current	510A continuous discharge (6C)
Standard Charging Current	42.5A (0.5C)
Maximum Charging Current	85A (1C)
Cycle Life	3000 cycles @ 80% DOD, 0.5C/0.5C
Communication Interface	CAN; RS485; Dry Contact
Protection Functions	Over-temperature, over-current, short-circuit, over-charge, over-discharge, etc.
Dimensions (W*D*H)	1200*1000*2000mm

Environment

Storage Temperature	-20~45°C
Transportation Temperature	-20~60°C
Operating Ambient Temperature	0~45°C
Relative Humidity	5~95%
Altitude	$\leq 2000\text{m}$

Single Rack Performance Data

Time	10-minute	15-minute	20-minute
Power	347kW	232kW	174kW
Energy	510A	340A	255A

Short Duration Power Backup Series

5-15mins

Data Center Energy Storage System



- 1

Good high-temperature performance, no need for air conditioning cooling below 40°C, saves energy.
- 2

The PACK module is designed with a modular standard, allowing for flexible combinations and easy maintenance.
- 3

It has a long cycle life, with 3000 cycles at 0.5C/0.5C, 80% DOD, at 25°C.
- 4

The touch LCD provides an intuitive display of various parameters, records, status, and alarms.
- 5

It supports parallel operation of multiple units and cabinet-level fire protection.
- 6

It supports two-line design to meet the requirements of UPS models.
- 7

It features a three-level BMS management system, ensuring the safe and reliable operation of the system from the cell level to the system level.
- 8

It has a high energy density, saving 70% of the floor space compared to lead-acid batteries.

Product parameters

Product model	CF24050U	CF48050U	CF486100U	CF512100U
Cell Material	LFP			
Nominal Voltage	240Vdc	480Vdc	486.4Vdc	512Vdc
Rated Charging Voltage	262.5Vdc	525Vdc	532Vdc	560Vdc
Nominal Capacity	50Ah/12kWh	50Ah/24kWh	100Ah/48.64kWh	100Ah/51.2kWh
Self-Discharge Rate	$\leq 3\%$ (0~30°C/3 months)			
Standard Discharge Current	50AContinuous discharge(1C)	50AContinuous discharge(1C)	100AContinuous discharge(1C)	100AContinuous discharge(1C)
Maximum Discharge Current	300AContinuous discharge(6C)	300AContinuous discharge(6C)	600AContinuous discharge(6C)	600AContinuous discharge(6C)
Standard Charging Current	25A(0.5C)	25A(0.5C)	50A(0.5C)	50A(0.5C)
Maximum Charging Current	50A(1C)	50A(1C)	100A(1C)	100A(1C)
Cycle Life	3000 cycles @80%DOD, 0.5C/0.5C			
Communication Interface	CAN; RS485; Dry contact			
Protection Functions	Over-temperature, over-current, short circuit, over-charging, over-discharging, etc.			
Dimensions (W*D*H)	600*800*1400mm	600*800*2000mm	600*800*2200mm	600*800*2200mm
Certifications	UN			

Environment

Storage Temperature	0~40°C
Operating Temperature	15~45°C (Recommended operating temperature: 20-25°C)
Relative Humidity	5~95%
Altitude	$\leq 2000\text{m}$

Cell Specifications

Nominal Capacity	50Ah	50Ah	50Ah	50Ah
Nominal Voltage	3.2Vdc	3.2Vdc	3.2Vdc	3.2Vdc
Operating Voltage Range	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc

Battery Module Specifications

Configuration	1P15S	1P15S	2P20S/2P18S	2P20S
Nominal Voltage	48Vdc	48Vdc	64/57.6Vdc	64Vdc
Operating Voltage Range	42~52.5Vdc	42~52.5Vdc	56~70Vdc/50.4~63Vdc	56~70Vdc

Battery Pack Specifications

Configuration	1P75S	1P150S	2P152S	2P160S
Nominal Capacity	50Ah	50Ah	100Ah	100Ah
Nominal Voltage	240Vdc	480Vdc	486.4Vdc	512Vdc
Operating Voltage Range	210~262.5Vdc	420~525Vdc	425.6~532Vdc	448~560Vdc
Weight	290Kg	430Kg	790Kg	810Kg

Short Duration Power Backup Series

CFC512300U

Containerized Lithium Battery System



- 1

Excellent Environmental Adaptability: The cabin utilizes special designs and materials, offering superior protective performance.
- 2

Highly Integrated: Incorporates the UPS host, battery pack, distribution cabinet, monitoring and security systems, reducing on-site installation and debugging workload.
- 3

Flexible Configuration and Expandability: Allows configuration of UPS capacity and battery pack endurance based on different user needs and load requirements.
- 4

Convenient Transportation and Installation: Compact overall structure facilitates transportation and hoisting.
- 5

Safe and Reliable: The integrated cabin includes comprehensive safety protection measures.
- 6

Intelligent Monitoring and Management: Equipped with an intelligent monitoring system to track the operational status of the UPS system, battery pack power, health condition, and other information in real time.

Product parameters

Parameters/Model		CFC512300U
Battery Cluster Parameters	Model	CFC512100U
	Nominal Voltage	512Vdc
	Operating Voltage Range	448~560Vdc
	Rated Capacity	100Ah
	Rated Energy	51.2kWh
	Standard Charging Current	0.5C
	Maximum Continuous Discharging Current	5C
	HMI (Human-Machine Interface)	7-inch LCD Touch Screen
	Operating Temperature	0~45°C
	Cycle Life	3000 times @80%DOD, 0.5C/0.5C
	Communication Interface	CAN; RS485; Dry Contact
	Protection Functions	Over-temperature, Over-current, Short Circuit, Overcharge,Over-discharge, etc.
	Dimensions(W*D*H)	600*800*2200mm
	Weight	810Kg
System Parameters	Model	CFC512300U
	Nominal Voltage	512Vdc
	Operating Voltage Range	448~560Vdc
	Rated Capacity	300Ah
	Rated Energy	153.6kWh
	Standard Charging Current	0.5C
	Maximum Continuous Discharging Current	5C
	HMI (Human-Machine Interface)	10-inch LCD Touch Screen
	Communication Interface	CAN; RS485; Dry Contact
	Backup Time	10-15min
	Safety	Four-level Safety Protection
	Dimensions(W*D*H)	2991*2438*2896mm
	Weight	7T

Extended Duration Power Backup Series

30-60mins

Data Center Energy Storage System



- 1

Good high-temperature performance, no need for air conditioning cooling below 40°C, saves energy.
- 2

The PACK module is designed with a modular standard, allowing for flexible combinations and easy maintenance.
- 3

It has a long cycle life, with 3000 cycles at 0.5C/0.5C, 80% DOD, at 25°C.
- 4

The touch LCD provides an intuitive display of various parameters, records, status, and alarms.
- 5

It supports parallel operation of multiple units and cabinet-level fire protection.
- 6

It supports two-line design to meet the requirements of UPS models.
- 7

It features a three-level BMS management system, ensuring the safe and reliable operation of the system from the cell level to the system level.
- 8

It has a high energy density, saving 70% of the floor space compared to lead-acid batteries.

Product parameters

Product model	CF22450U	CF192100U	CF224100U	CF384100U	CF480100U	CF512100U
Cell Material	LFP					
Nominal Voltage	224Vdc	192Vdc	224Vdc	384Vdc	480Vdc	512Vdc
Rated Charging Voltage	245Vdc	210Vdc	245Vdc	420Vdc	525Vdc	560Vdc
Nominal Capacity	50Ah/11.2kWh	100Ah/19.2kWh	100Ah/22.4kWh	100Ah/38.4kWh	100Ah/48kWh	100Ah/51.2kWh
Self-Discharge Rate	≤3% (0-30°C/3 months)					
Standard Discharge Current	25AContinuous discharge(0.5C)	50AContinuous discharge(0.5C)				
Maximum Discharge Current	50AContinuous discharge(1C)	200AContinuous discharge(2C)				
Standard Charging Current	12.5A (0.25C)	25A (0.25C)	25A (0.25C)	25A (0.25C)	25A (0.25C)	25A (0.25C)
Maximum Charging Current	25A (0.5C)	50A (0.5C)	50A (0.5C)	50A (0.5C)	50A (0.5C)	50A (0.5C)
Cycle Life	3000 cycles @80%DOD, 0.5C/0.5C					
Communication Interface	CAN; RS485; Dry contact					
Protection Functions	Over-temperature, over-current, short circuit, over-charging, over-discharging, etc.					
Dimensions (W*D*H)	600*800*1200mm	600*800*1200mm	600*800*1400mm	600*800*2000mm	600*800*2000mm	600*800*2000mm
Certifications	UN					
Environment						
Storage Temperature	0~40°C					
Operating Temperature	15~45°C (Recommended operating temperature: 20~25°C)					
Relative Humidity	5~95%					
Altitude	≤2000m					
Cell Specifications						
Nominal Capacity	50Ah	100Ah	100Ah	100Ah	100Ah	100Ah
Nominal Voltage	3.2Vdc	3.2Vdc	3.2Vdc	3.2Vdc	3.2Vdc	3.2Vdc
Operating Voltage Range	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc	2.5~3.6Vdc
Battery Module Specifications						
Configuration	1P14S	1P15S	1P14S	1P15S	1P15S	1P16S
Nominal Voltage	44.8Vdc	48Vdc	44.8Vdc	48Vdc	48Vdc	51.2Vdc
Operating Voltage Range	39.2~49Vdc	42~53.5Vdc	39.2~49Vdc	42~53.5Vdc	42~52.5Vdc	44.8~56Vdc
Battery Pack Specifications						
Configuration	1P70S	1P60S	1P70S	1P120S	1P150S	1P160S
Nominal Capacity	50Ah	100Ah	100Ah	100Ah	100Ah	100Ah
Nominal Voltage	224Vdc	192Vdc	224Vdc	384Vdc	480Vdc	512Vdc
Operating Voltage Range	196~245Vdc	168~210Vdc	196~245Vdc	336~420Vdc	420~525Vdc	448~560Vdc
Weight	225Kg	300Kg	310Kg	490Kg	590Kg	610Kg

COSPOWERS AI Smart Cloud Platform



AI Monitoring



Real-time monitoring of battery performance and operating status, enabling lifespan prediction and proactive protection through AI simulation and fault identification.

AI Dispatch



Leveraging multi-source data and intelligent algorithms to collaboratively participate in the electricity market, enhancing system flexibility and accommodation capacity to achieve optimal strategies.

Data Management



High-availability clusters and remote backup ensure data security, while a comprehensive indicator and reporting system supports investment and market decision-making.

Smart Operation and Maintenance



Electrical equipment inspection, diagnostic battery system maintenance strategy push, offline operation and maintenance work order management, and evaluation.

The new platform is built on a microservices architecture, supporting high-availability clusters and multi-tenant management, enabling a fully closed-loop data flow for solar, storage, and charging. By integrating intelligent forecasting and optimized dispatch, it establishes a source-grid-load-storage coordination model, helping comprehensive energy systems achieve economical, low-carbon, and multi-objective optimal operation.

COSPOWERS Energy Management System



Intelligent Control & Efficiency Enhancement



Real-time monitoring of key parameters in energy storage systems, intelligently optimizing charging and discharging strategies to enhance economic benefits through peak-valley arbitrage.

Smart Assessment



Utilizing algorithms to assess battery capacity and state of health, providing a basis for optimizing charging and discharging strategies.

Safety Management



Equipped with multiple safety protections and battery balancing management, enabling fault prediction and diagnosis to facilitate quick maintenance.

Energy Forecasting



Based on historical data and weather forecasts, predicting load and power generation to plan energy storage strategies in response to energy fluctuations.

The platform integrates monitoring, analysis, control, reporting, and optimization functions, providing panoramic monitoring and centralized management with a user-friendly visual interface. Through cloud-edge integration, it enables bidirectional data interaction and dynamically adjusts strategies based on factors such as electricity prices and load, achieving peak shaving, valley filling, and demand control.

Data Center Energy Storage Application Cases



China Mobile Ningxia Company Data Center Distributed Photovoltaic Project
Project Time: 2025
Project Location: Ningxia, China

Data Center Energy Storage Application Cases



China Unicom Shanxi Data Center Project
Project Time: 2022
Project Location: Shanxi, China



Shanghai Mobile Lingang IDC Data Center UPS Project
Project Time: 2025
Project Location: Shanghai, China



South Korea Cheongju Data Center UPS Backup Lithium Batteries
Project Time: 2021
Project Location: South Korea

Data Center Energy Storage Application Cases



South Korea IDC Data Center Project

Project Time: 2015

Project Location: South Korea



India Reliance Data Center Project

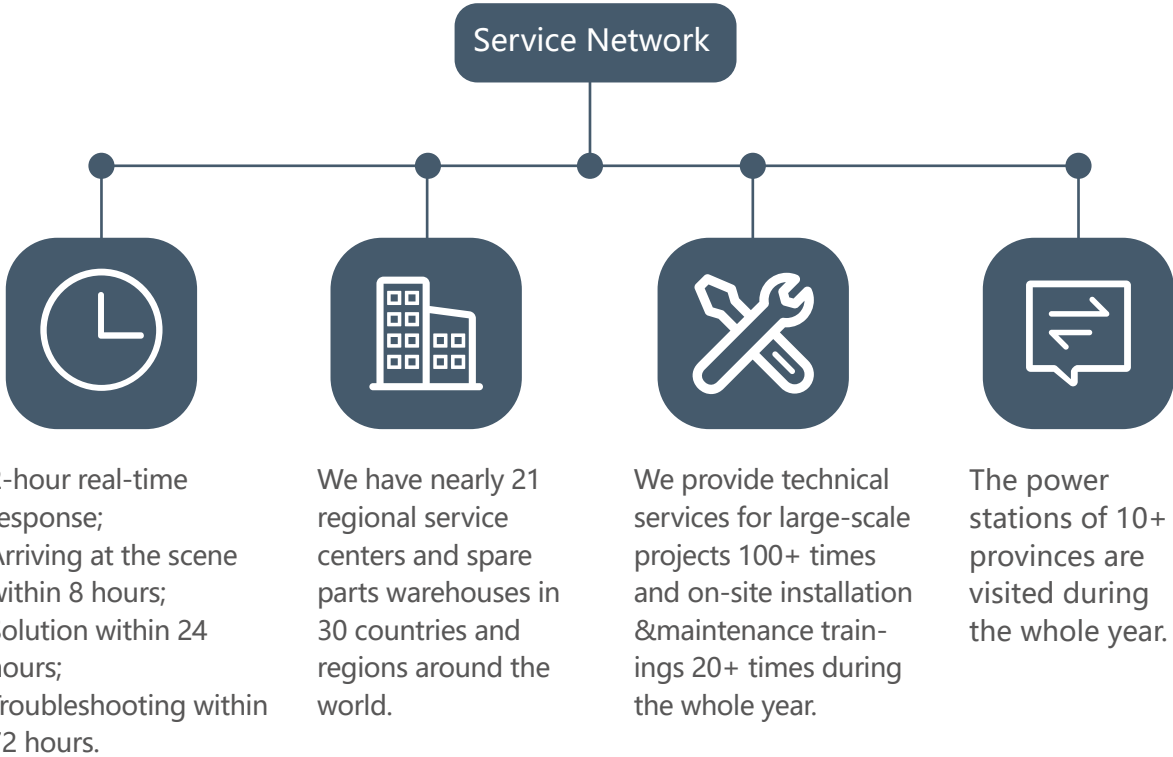
Project Time: 2013

Project Location: India

After-Sales Service



The guidance of Cospower is to improve customer satisfaction, to provide high quality, efficient and professional technical services for customers.



Cooperative Customers

