HYPER STRONG

EMPOWERING
A SUSTAINABLE FUTURE

CONTENTS

Mission

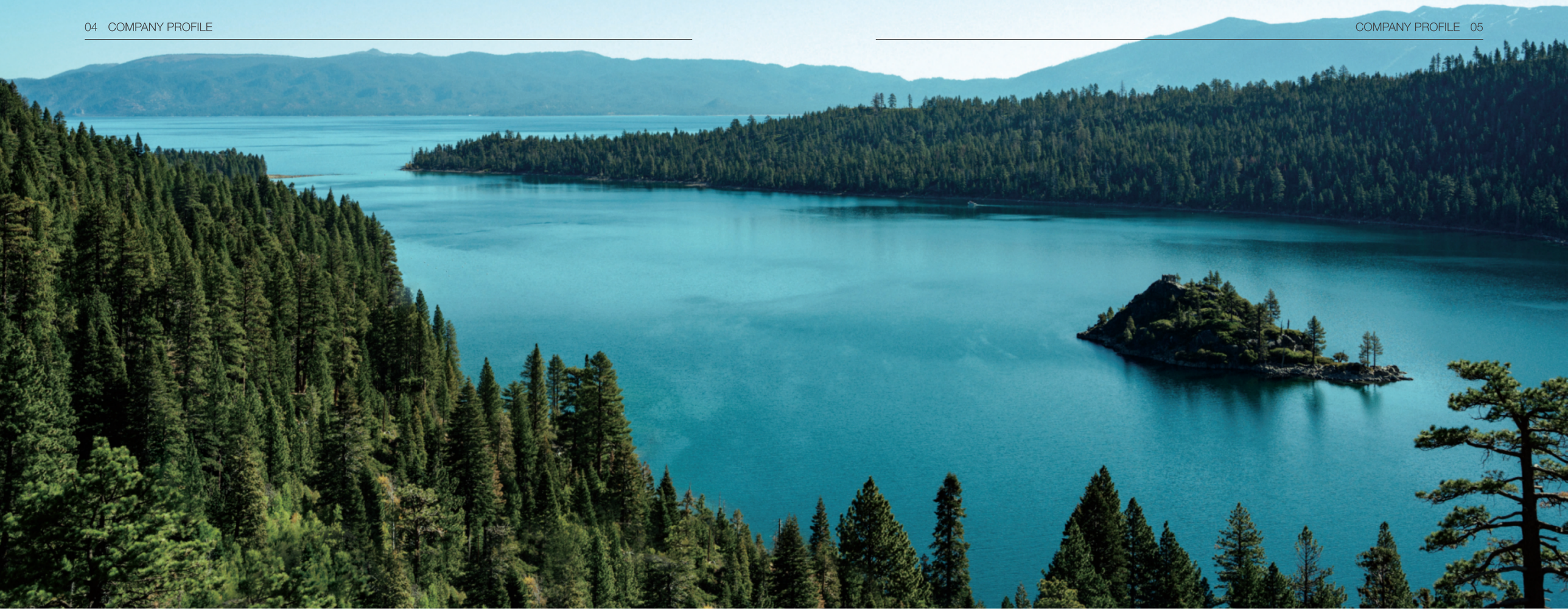
Empowering a
Sustainable Future

Vision

Becoming a Global Leader in
Energy Technology Innovation

Values

Integrity / Innovation
Action / Harmony



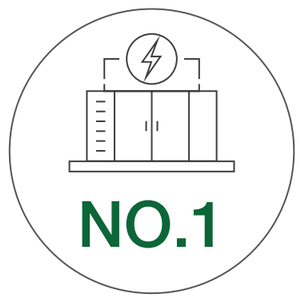
LEADING ENERGY STORAGE TECHNOLOGY

Our goal is to empower green transition and carbon neutrality with our expertise and technologies, based on over a decade of experience.

We have already served clients in the industrial chain ranging from thermal power, renewable energy power generation, smart grid, end user, etc., with a proven track record of more than 300 projects in the industry.

Global BESS Integrator in terms of installed projects/total pipeline (installed+contracted projects)

Source: S&P Global Commodity Insights



BESS Integrator in China for three consecutive years (2020, 2021, and 2022)

Source: China Energy Storage Association (CNESA)

ABOUT US

Founded in 2011, Beijing HyperStrong Technology Co., Ltd. (“HyperStrong”) is a global leading energy storage system integrator and system service provider, offering one-stop solutions and services, including energy storage power station development, design, integration, and operation.

With more than a decade of R&D experience in battery energy storage systems (BESS), HyperStrong has amassed a range of patents for core technologies such as battery modeling, battery management, system integration, system verification, and intelligent operation and maintenance. These advanced technologies allow us to enhance system security, prolong battery life, reduce system operation and maintenance costs, and improve energy efficiency.

10+ years
R&D and application

300+
projects completed

12+ GWh
deployed

OUR JOURNEY

2011

HyperStrong established

Won the first microgrid energy storage project

2012

Awarded the first mobile ESS project

2013

Awarded as China "National High-tech Enterprise"

2015

Supplied more than 5,000 units of EV battery systems

2016

HyperStrong Testing Center established

First factory in production

2017

Awarded the first 200MWh BTM ESS project

2018

Testing Center obtained CNAS certification

2019

Awarded multiple frequency regulation projects

Korea project delivered

2020

ESS project installation exceeded 1GWh

Japan project delivered

Shareholding reform completed

Testing Center obtained TUV witness certification

2021

ESS project installation exceeded 2GWh

2022

ESS project installation exceeded 5GWh

Mexico project delivered

Testing Center obtained CMA certification

2023

ESS project installation exceeded 12GWh

Testing Center obtained CSA certification

CORE BUSINESS

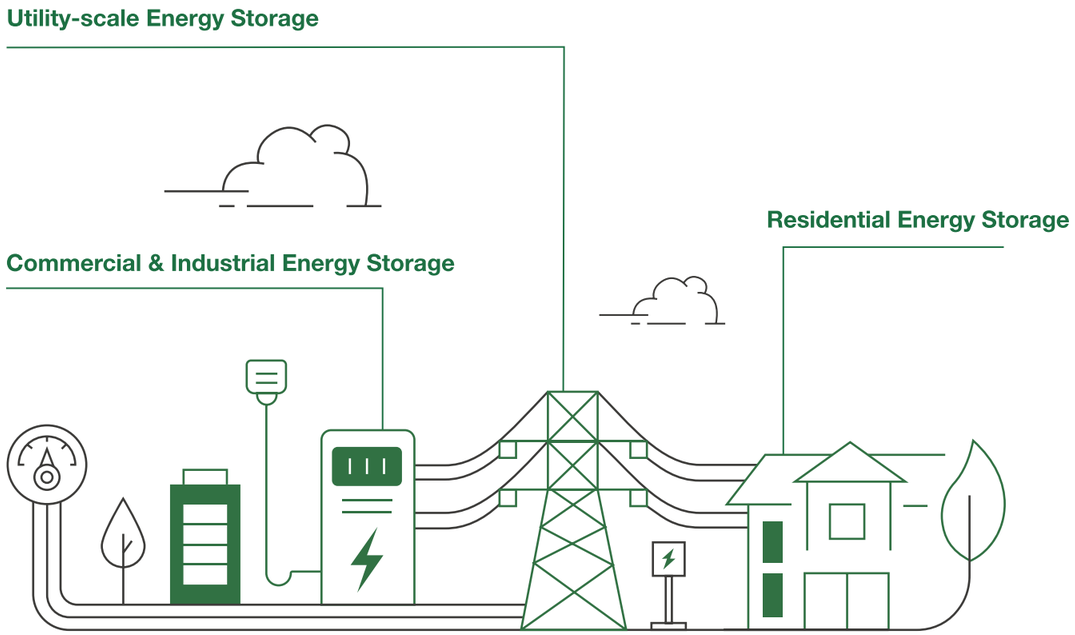
HyperStrong Offers One-stop BESS Solutions and Services Creating Value Together with Partners across the Ecosystem

Project Development and Power Station Design

R&D and Technology Application

Equipment Manufacturing and System Integration

Operation of Energy Storage Station



We are committed to using advanced digital and intelligent technologies to improve system safety, extend battery pack lifecycles, reduce system maintenance costs, boost energy utilization efficiency, and create higher value for battery applications.

Leading Technology

HyperStrong has more than 10 years of experience in the R&D and production of battery management systems, and owns more than 200 technical patent applications as well as over 80 software patents covering full lifecycle of battery management.

Experience in Engineering

HyperStrong has rich experience in ESS design and application, with a portfolio of over 300 projects. With excellent project delivery capabilities recognized by both industry peers and our customers, our market share has increased rapidly year by year.

Intelligent Manufacturing

HyperStrong has several intelligent manufacturing bases with full-process quality control, automated production testing and flexible manufacturing, to meet the high quality demanded by all customers.

24/7 Service

HyperStrong offers tailored product development and technical solutions as well as comprehensive pre-sale, in-sale, and post-sale support. We provide customers with the safest operation support through fast response, effective trouble-shooting, and a 24/7 technical service.

HYPERBLOCK III

Liquid-cooling Energy Storage System

Utility-scale Energy Storage

Our liquid-cooling ESS solutions streamline the introduction of clean energy, increasing the utilization rate of renewable resources, while minimizing power fluctuations and the overall impact on the power grid.

Renewable Smoothing | Frequency Regulation | Energy Arbitrage

Technical Specifications

Model	HSL3C700-05015	HSL3C721-05015
Battery Type	LFP-314Ah	
Rated Energy (kWh)	5015.96	
Rated Voltage (V_{dc})	1331.2	
Rated Power (kW)	2500	1250
Rated AC power (kVA)	215*12	215*6
Rated Frequency	50Hz / 60Hz	
Dimensions (W*D*H) (mm)	6058*2438*2896	
IP Rating	Pack-IP65 / PDU-IP55 / Container-IP55 / PCS-IP66	
Operating Temperature	-30~55°C	
Communication Interface	Ethernet, RS485	
Cooling Method	Smart Liquid Cooling	
Fire Suppression System	Temperature sensing, smoke sensing, combustible gas detection, cabin-level aerosols (electric starting), ventilation system, water fire protection	
Certifications	UN38.3, IEC61000, IEC62933-5-2, IEC62619, IEC60730, IEC63056, IEC62477, UL9540A, UL9540, UL1973, NFPA855	

Product Features

Low LCOS

- Save footprint and on-site workload
- Smart liquid cooling system assists the optimal performance of cell and PCS throughout the lifecycle, expanding the longevity of battery system
- Thermal control strategies adapting to various operating conditions reduce auxiliary power consumption and save costs

Safe and Reliable

- Digital modeling technologies ensure AI analysis throughout cell's lifecycle, achieving early warning of cell safety
- Multi-dimensional intelligent sensing system monitors cell, electrical and structural safety status, safeguarding active safety management of system
- Multi-level electrical protection and fire suppression design

Highly Integrated

- Up to 5MWh capacity, 34.5% increase in energy density
- Integrated design of battery pack, PDU, and string PCS, reducing the commissioning time by over 4h
- Single-side opening design enables flexible installation to optimize space utilization and save O&M workload

Efficient and Flexible

- Precise battery state algorithm guides battery rack operation for power scheduling, improving power station's RTE by 2%
- Intelligent regulation of each battery rack's charge and discharge, enhancing the system's discharge capacity

HYPERBLOCK II

Liquid-cooling Energy Storage System

Technical Specifications

Model	CG/HSL10AD-20H3727A
Battery Type	LFP-280Ah
Rated Energy (kWh)	3727.36
Rated Voltage (V_{dc})	1331.2
Rated Power (kW)	1863.68@25°C
Dimensions (W*D*H) (mm)	6058 *2438*2896
IP Rating	Pack-IP67, PDU-IP55, Container-IP55
Operating Temperature	-20~60°C
Communication Interface	Ethernet, RS485
Cooling Method	Smart Liquid Cooling
Fire Suppression System	Temperature sensing, smoke sensing, combustible gas detection, cabin-level aerosols (electric starting), ventilation system, water fire protection
Certifications	UN38.3, IEC61000, IEC62619, IEC60730, IEC63056, IEC62477, UL9540A, UL1973

Product Features

Low LCOS

Reduce footprint and save on-site workload

Smart liquid cooling system assists the optimal performance of cell throughout lifecycle, expanding the longevity of battery system

Thermal control strategies adapting to various operating conditions reduce auxiliary power consumption and save costs

Safe and Reliable

Digital modeling technology ensures AI analysis throughout cell's lifecycle, achieving early warning of cell safety

Multi-dimensional intelligent sensing system monitors cell, electrical and structural safety status, safeguarding active safety management of system

Multi-level electrical protection and fire suppression design

Highly Integrated

Energy density 30% higher and less area occupied compared with air-cooling system

Modular design facilitates easy transportation and installation

Compatible with multiple PCS and EMS

Smart and Efficient

Local data AI analysis, assits engineering, commissioning and equipment diagnosis

Fault response suggestions support on-site O&M

Utility-scale Energy Storage

Our liquid-cooling ESS solutions streamline the introduction of clean energy, increasing the utilization rate of renewable resources, while minimizing power fluctuations and the overall impact on the power grid.

Smooth power fluctuations and coordinate operation with renewables

Increase yield through auxiliary services

Improve power generation quality

HYPERCUBE-MAX

Air-cooling Energy Storage System

Commercial & Industrial Energy Storage

We reduce electricity costs through peak-valley time shifting, enabling power utilization during offpeak times to balance peak load and decrease the demand for power supply capacity.
This process also helps delay expansion and renovation of power distribution systems, enhancing grid reliability.

Product Features

Highly Integrated

All-in-One integration deisgn, including battery system, PCS, transformer, switchgear and fire suppression system

MV ready for direct connecting to 20kV distribution grid

DC interface offers flexible connection for the charger

Safe and Reliable

Multi-level electrical protection and fire suppression design, integrated with MV relay protection system

Multi-dimensional intelligent sensing system monitors cell, electrical and structural safety status, safeguarding active safety management of system

Efficient and Flexible

Pre-assembled in factory, plug and play, streamlining on-site installation and commissioning

Applicable to charging station, VPP and other business models

Environmental Adaptation

Environment and community friendly, with noise management and material selection

Intelligent temperature control system meets the revolutionary low-temperature operation condition as low as -45℃

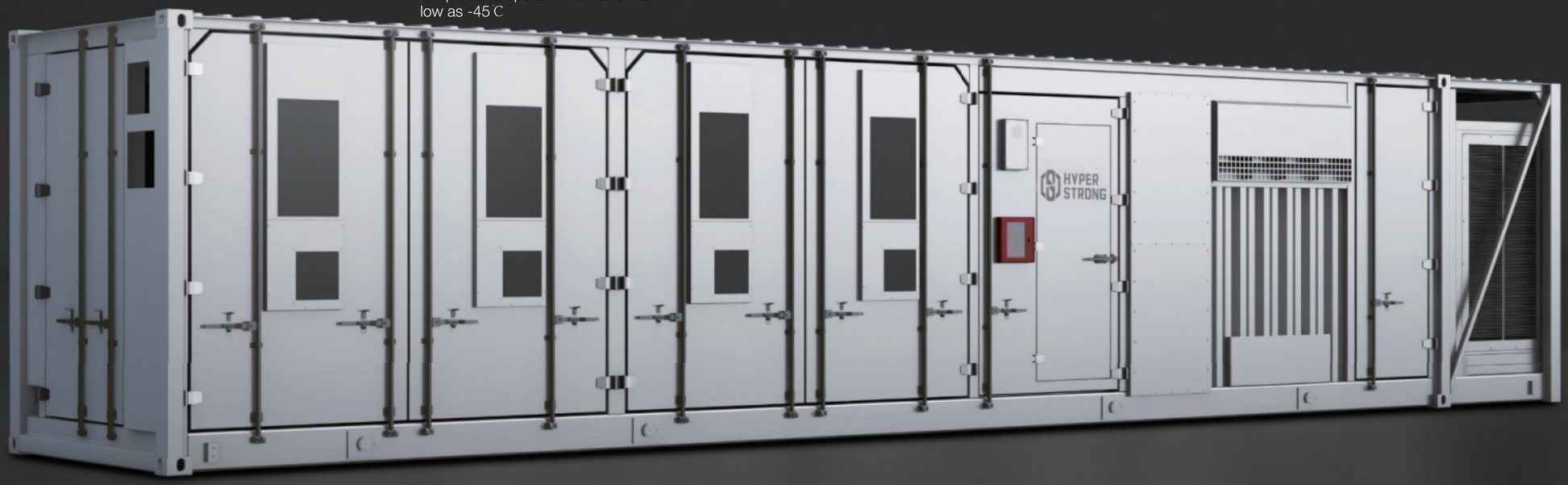
Commercial & industrial, micro-gird

Data center and emergency safe house

Frequency regulation and peak shaving

Technical Specifications

Model	HSG283310-EU
Battery Type	NCM-72.5Ah
Rated Energy (kWh)	2860.83
Rated Voltage (V_{dc})	1233.12
Rated Power (kW)	1430@25°C
Rated AC Power (kVA)	1250@25°C
Rated Frequency	50Hz
Dimensions (W*D*H) (mm)	13716*2438*2896
IP Rating	Pack-IP20, Container-IP55
Operating Temperature	-45 ~30°C (ambient temperature) 5~40°C (container internal temperature)
Communication Interface	Ethernet
Cooling Method	Smart Air Cooling
Fire Suppression System	Temperature sensing, smoke sensing, combustible gas detection, cabin-level aerosols (electric starting), ventilation system, water fire protection
Certifications	Container: UN3536, Rack: IEC61000, IEC62619, UL9540A, UL1973



HYPERCUBE

Liquid-cooling Outdoor Cabinet

Technical Specifications

Model	HSL2C211-0233-EU	HSL2C200-0373-GU
Battery Type	LFP-280Ah	
Rated Energy (kWh)	232.9	372.7
Rated AC Power (kVA)	115	186
Recommended Grid Parameters	380 V (±15%), 50/60 Hz	-
Rated Voltage (V_{dc})	832	1331.2
Operating Voltage Range (V_{dc})	754-923 (adjustable by DOD range)	1040~1500
Max. Efficiency	90% (AC)	95% (DC)
Dimensions (W*D*H) (mm)	1300*1343*2200	1300*1343*2340
Weight (kg)	≤2600	≤3600
IP rating	Pack-IP67, Container-IP55	
Operating Temperature	-30~55°C (> 45°C derating)	-30~55°C
Cooling Method	Smart Liquid Cooling	
Fire Suppression System	Temperature sensing, smoke sensing, combustible gas detection, cabin- level aerosols (electric starting), ventilation system, water fire protection	
Certifications	IEC62109, IEC 61000, IEC62619, IEC63056, IEC60730, IEC62040, UN38.3, UL1973, UL9540, UL9540A	UN38.3, UL1973, UL9540, UL9540A, IEC62477, IEC62619, IEC61000, IEC63056

Product Features

Flexible Deployment

Modular design facilitates multi-machine parallel connection and capacity expansion

Pre-assembled in factory, FAT testing, streamlining on-site installation and commissioning

Standard interface enables plug and play

Smart and Efficient

All-in-One design, quick power response, applicable to multiple modes including VPP and transformer uprating

Pre-assembled in factory, FAT testing, streamlining on-site installation and commissioning

Standard interface enables plug and play

Safe and Reliable

Compatible with HyperSafe semi-solid state battery

Multi-level electrical protection and fire suppression design

Multi-dimensional intelligent sensing system monitors cell, electrical and structural safety status, safeguarding active safety management of system

Easy O&M

Remote monitoring and smart diagnosis support efficient O&M

Real-time leakage monitoring and intelligent replenishment reduce on-site O&M

Commercial & Industrial, and Micro-grid

We reduce electricity costs through peak-valley time shifting, enabling power utilization during off-peak times to balance peak load and decrease the demand for power supply capacity. This process also helps delay expansion and renovation of power distribution systems, enhancing grid reliability.

All-in-One design, swift power response

Intelligent balancing strategy and AI warning

Standardized interfaces, highly efficient production and testing

HYPERBOX

Residential Energy Storage

We help lower homeowners' electricity costs while offering backup power in case of outages. In addition, an ESS can manage load demand to assist in balancing the grid's power generation capacity.

PV Hybrid Storage System

Battery System

Technical Specifications

PV Hybrid Storage System

Model	Hyper-1P-5/10-H0-EU	Hyper-3P-10/20-H0-EU	Hyper-SP-7.6/15-H0-US
Rated Energy (kWh)	10.24	20.48	15.36
Rated AC Power (kVA)	5	10	7.6
Rated AC Voltage	220/230Vac, L/N/PE	380/400Vac, 3L/N/PE	120Vac, L1/L2-N or 240Vac, L1-L2
Rated Frequency		50/60 Hz	
Back-up Switch Time		<10 ms	
Max. Efficiency	> 97.1%	> 98.2%	> 97.6%
Operating Temperature		-25 ~ +60°C	
IP Rating		IP65	

Battery System

Model	Hyper-LV-10-B0-EU/US	Hyper-HV-20-B0-EU/US
Rated Energy (kWh)	10.24	20.48
Rated Voltage (V_{dc})	51.2	204.8
Max. Charge/Discharge Current	100 A	50 A
Storage Environment Temperature	-30°C ~60°C	
IP Rating	IP65	

Product Features

Easy Installation

Modular design, standardized links and streamlined structure enable easy installation

Building blocks easily configured into fully-integrated system to expand battery energy and flatten household energy load

Safe and Reliable

Five layers of safety protection measures built in the system to effectively prevent battery abnormalities during charge or use

High Yields

Enables residential energy independence

Optimizes energy distribution automatically to reduce costs

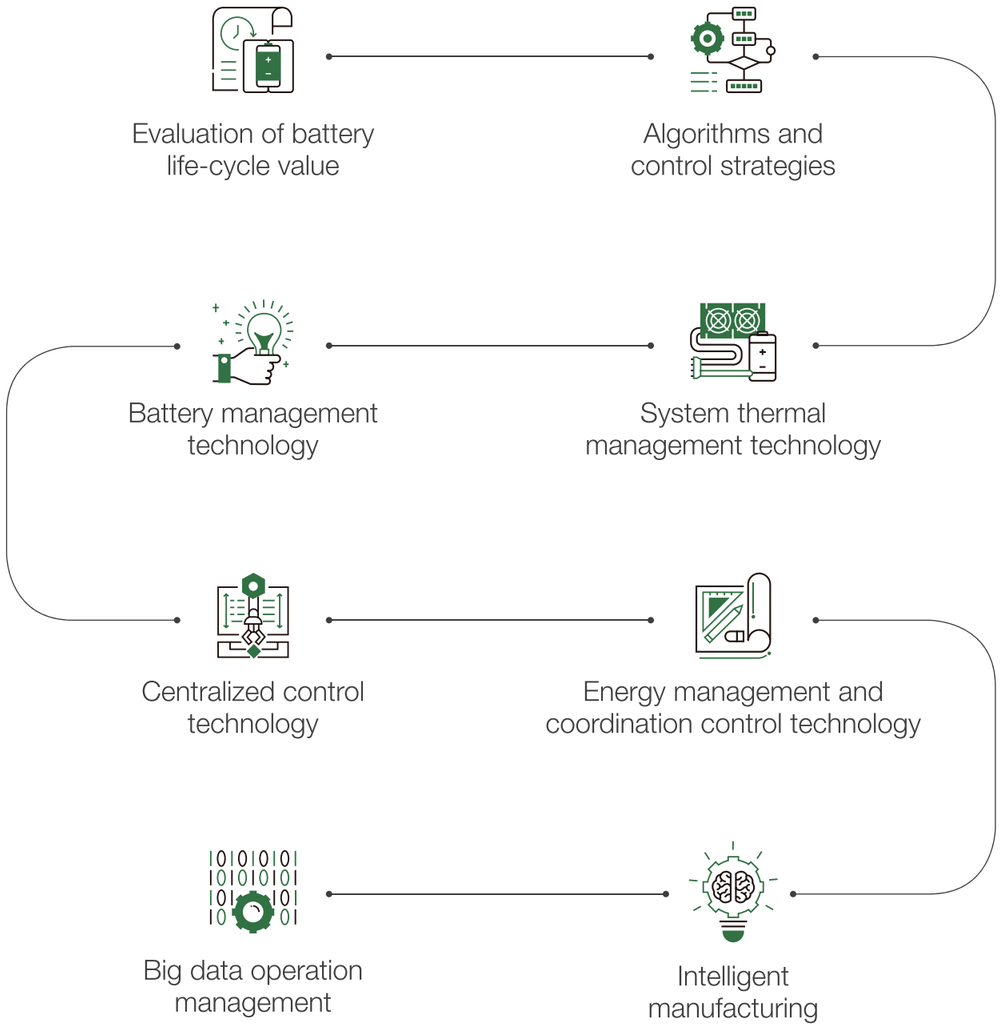
Smart O&M

Smart energy housekeeper settings and one-click smart energy system create seamless user experience

With remote monitoring and diagnosis, users can check system status and conduct maintenance at their convenience

CORE TECHNOLOGIES

Our innovation continues to expand after more than a decade of dedicated growth.



8

major scientific research projects

12

national and industrial standards participated

300+

technical patent applications

100+

national and industrial certifications and awards

70%

out of nearly 200 R&D staff, 70% holds a master's or doctoral degree

EXPERIMENTAL TESTING PLATFORM

The experimental testing platform of HyperStrong provides multiple testing and technical services covering battery power, heat, mechanics and safety, BMS, PCS, ESS and other products.

The platform develops battery-related technical systems for digital modeling, battery management algorithms and smart validation. It enables us to conduct digital analysis of batteries and components from the domestic and global market as well as self-owned energy storage products, and has compiled an extensive database and information tracking platform with applications in our extensive energy storage products and projects.

We innovate by integrating the best ideas from industry, academia, research, and field applications. Integrating knowledge across the value chain allows HyperStrong to achieve superior product design, development, production, and field application. From our business model to our success attracting the brightest minds in the industry, we harness a unique collaboration between the industry, academia, and research labs to expand the frontiers of technology.

INTERNATIONAL CERTIFICATION

TUV Rheinland CTF Stage 2 Testing Laboratory

CSA Witnessed Manufacturer's Testing

Safety is our top priority.

We implement comprehensive safety tests and early warning measures in six areas to maintain the highest standards of quality.

Battery Safety

- Acupuncture test
- Short-circuit test
- Overcharge test

Electrical Safety

- Short-circuit test
- Insulation test
- Overload temperature rise

Structural Safety

- Structural strength
- Structural design short/long-term test verification
- Vibration test
- System structure simulation

Management Safety

- EMC test
- Fault recording test
- Hardware-in-loop simulation test

Fire Protection

- Thermal runaway spread
- Multi-dimensional perception detection test
- UL9540A certification test

Environment Adaptation

- Temperature shock & humidity cycle
- High humidity condensation
- Salt spray test
- Strong wind and sand

HYPERCLOUD

Our HyperCloud system allows efficient automated data analysis. The result is improved product design, manufacturing, project delivery, operations and maintenance, and R&D. Analyzing operational data creates insights into ESS status, revealing risks and performance bottlenecks while enhancing the value to customers.

Big Data Analysis

Features real-time status dashboard for energy storage power stations driven by laboratory test data and historic event data.

Cloud and Terminal Computing Power

Combining cloud machine learning and terminal computing, we keep energy storage assets in optimal condition through firmware over-the-air (FOTA).

Battery Strategy Optimization Algorithm

Optimization algorithms ensure asset safety and enhance value through powering control and protection, heat management, safety alerts, and other areas.

INTELLIGENT MANUFACTURING

HyperStrong constantly upgrades its intelligent manufacturing capabilities, and has built manufacturing bases to meet the increasing demand from the industry and clients, with smart production lines, smart warehousing and smart logistics fully integrated.

Intelligence

HyperStrong has a leading intelligent module production line embedded with CAPP and APS management systems. A variety of built-in scheduling strategies and intelligently optimized production plans adapt to complex and changeable process routes to deliver much better productivity.

Automation

HyperStrong's production lines are over 85%-automated, with over 10 automation processes including cell feeding, OCV testing, plasma cleaning, cell gluing, and module stacking. Robots and AGVs are widely used in transportation to significantly enhance product quality as well as productivity.

Digitalization

HyperStrong leverages an industrial Internet platform and IoT technology to bridge production and testing equipment, and uses modern digital technology to embed ERP, MES and other systems to better manage factory resources, process design, production, equipment, planning, energy consumption, and logistics.

ENVIRONMENTAL ADAPTATION

Our proven track record of over 300 projects

Inner Mongolia

Low temperature

-30°C

Hunan

Low temperature, humidity

Freezing rain

Xinjiang

Sandy & extreme temperature difference

-30°C ~ 40°C

Chongqing

High temperature & high humidity

40°C 90%RH

Hainan

Coast

Salty fog

Qinghai

High altitude

≈3000m

UTILITY-SCALE ENERGY STORAGE PROJECTS

300MW/600MWh Hybrid Wind, PV, and Energy Storage Project
Fuyang, Anhui

Challenge:

How to effectively integrate wind and solar energy resources under coal mining subsidence area management

HyperStrong's Solution:

Project features HyperStrong's advanced 1500V high-voltage liquid-cooling ESS, which offers a reduced footprint and improves both the power station’s charging & discharging efficiency and its battery cycle life.

Project combines 550MW wind farm, 650MW PV power station and ESS to smooth power grid volatility and enhance power supply reliability. Storing up to 600MWh of electricity, the ESS can meet the annual electricity demands of more than 90,000 households.

240MW/480MWh Standalone Energy Storage Station
Hechuan, Chongqing

Challenge:

How to ensure power supply when demand increases during peak load periods

HyperStrong's Solution:

Project features HyperStrong's liquid-cooling ESS,including 70 sets of 3.354MW/6.709MWh battery energy storage systems and 2 sets of 2.61MW/5.218MWh battery energy storage systems, totaling 480MWh.

The ESS ensures timely responses to grid load gaps and fluctuations, effectively improving the power grid's stability.

101MW/202MWh Standalone Energy Storage Station
Jining, Shandong

Overview:

An innovative energy storage power station utilizing HyperStrong's HyperSafe series solid-state battery, HyperStrong's air-cooling system and liquid-cooling ESS.

Business Value:

Presents opportunity to participate in the electricity spot market

Provides peak shaving and frequency regulation ancillary services

100MW/212MWh Standalone Energy Storage Station
Huangtai, Shandong

Overview:

The world’s first 100MW distributed control energy storage power station built directly on the premises of a thermal power plant utilizing HyperStrong's 1500V air-cooling ESS.

Business Value:

Enhances system safety and efficiency through distributed energy storage units and compartmental design

Provides peak shaving and frequency regulation ancillary services

15MW/35MWh Energy Storage Station
Beijing

Overview:

Grid-side energy storage project featuring HyperStrong's ESS, integrated with data center and 5G base station.

Business Value:

Provides peak shaving and frequency regulation ancillary services

30MW/30MWh Frequency Regulation Energy Storage Project
Changshu, Jiangsu

Overview:

Large-scale energy storage project featuring HyperStrong's ESS to offer frequency regulation service for a thermal plant up to over a million kW.

Business Value:

Provides AGC frequency regulation and frequency regulation ancillary services

Extends equipment's lifespan and strengthens the reliability of plant operation

COMMERCIAL & INDUSTRIAL ENERGY STORAGE PROJECTS

20MW/80MWh Industrial Energy Storage Project Suqian, Jiangsu

Overview:

Project features HyperStrong's EMS and HyperStrong's air-cooling ESS. The station offers quick responses to scheduling needs of the power grid.

Business Value:

Generates revenue by reducing electricity costs

Provides standby power, improves reliability and stability

500kW/1164.8kWh Distributed Energy Storage Project Zhongshan, Guangdong

Overview:

Project features 5 units of HyperStrong's liquid-cooling outdoor cabinets in a 500kW/1164.8kWh energy storage power station. The "all-in-one" design integrates batteries, BMS, liquid cooling system, heat management system, fire protection system, and modular PCS into a safe, efficient, and flexible energy storage system. Product can be used in any parallel connection to meet different power and energy requirements and can be flexibly deployed on-site.

Business Value:

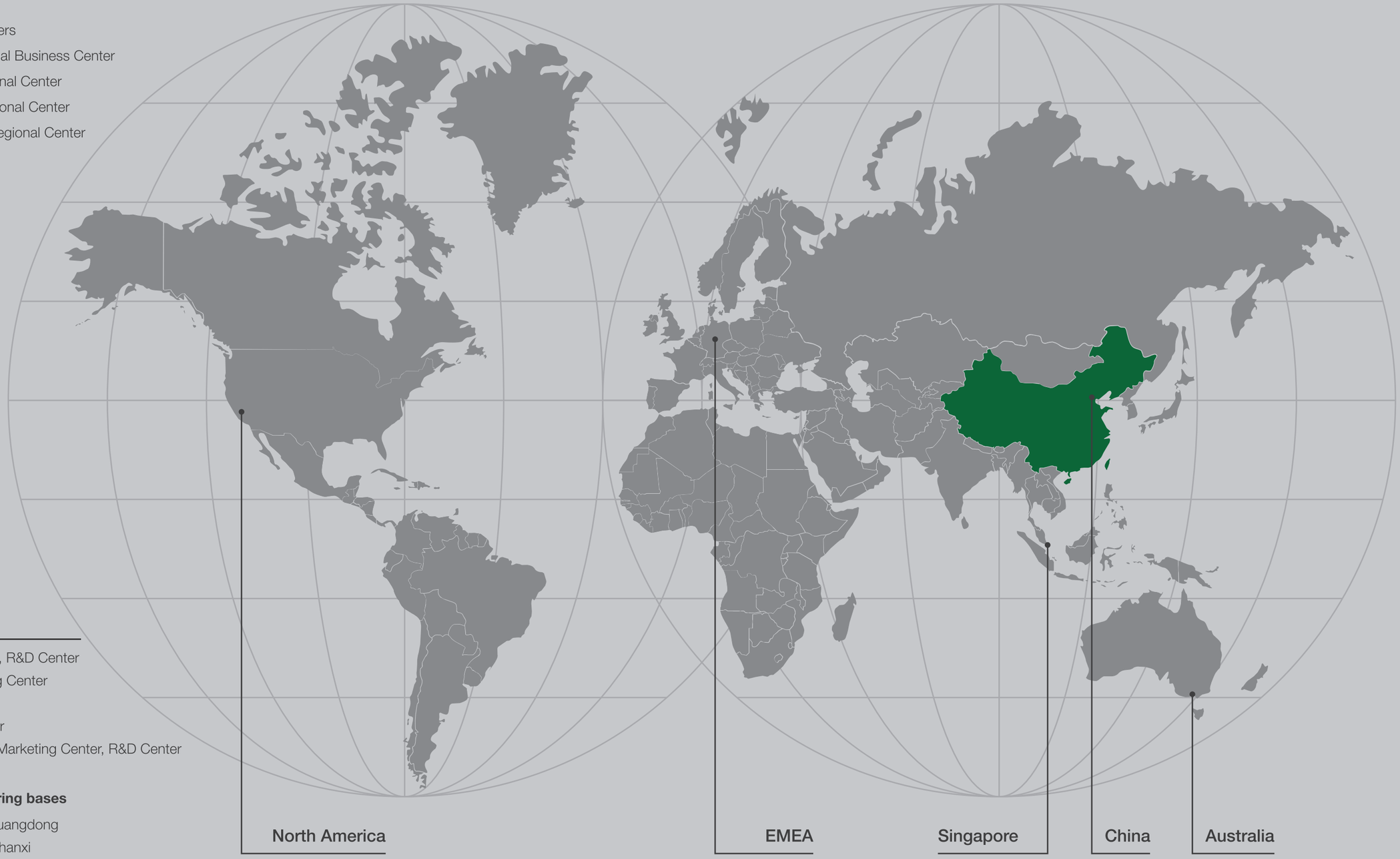
Maximizes revenue in adaptation to local policies

Reduces the cost of electricity consumption

Stablizes power supply to ensure smooth factory operation

GLOBAL PRESENCE

CHINA - Global Headquarters
SINGAPORE - International Business Center
GERMANY - EMEA Regional Center
U.S.A - North America Regional Center
AUSTRALIA - Australia Regional Center



CHINA

Beijing - Global Headquarters, R&D Center
Shanghai - Chinese Marketing Center
Wuhan, Hubei - R&D Center
Nanjing, Jiangsu- O&M Center
Zhuhai, Guangdong - Global Marketing Center, R&D Center

Four intelligent manufacturing bases

Beijing
Jiuquan, Gansu
Zhuhai, Guangdong
Datong, Shanxi

Version: January, 2024

Beijing HyperStrong Technology Co., LTD

Building 2C, No.9 Fenghao East Road, Haidian District, Beijing 100094, P.R.China

www.hyperstrong.com

For business request
global@hyperstrong.com

For media request
marcomm@hyperstrong.com