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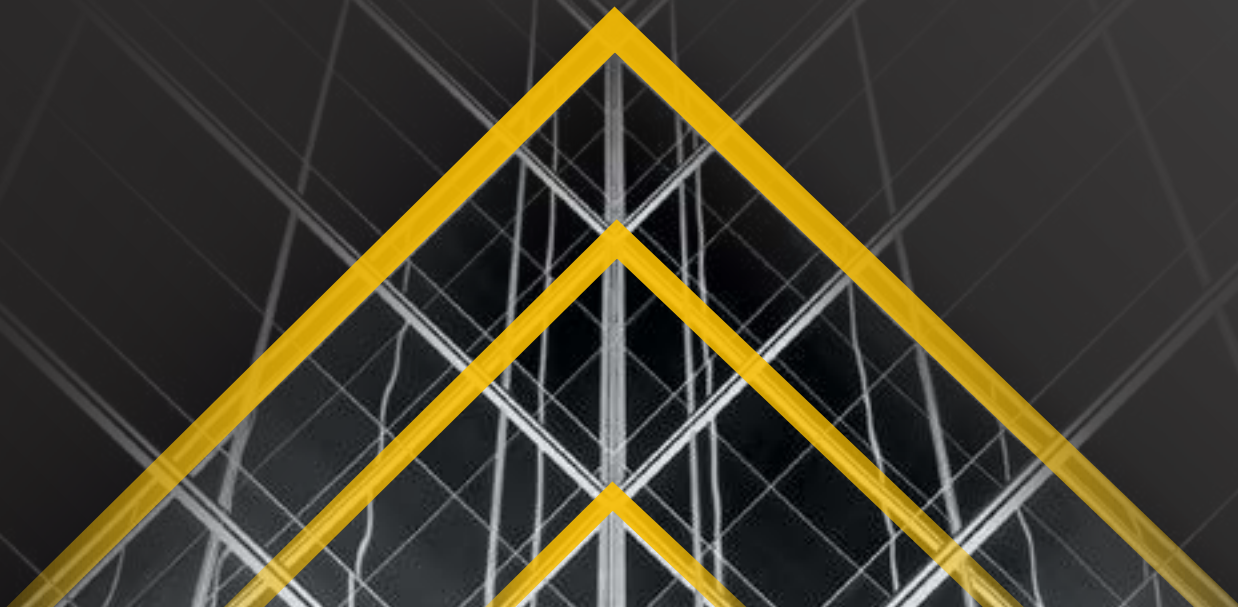
@alphaessuk



www.alpha-ess.co.uk



WE DO MORE THAN
STORE POWER
WE MAKE IT **SMART**



OUR VISION

- Become a world-leading green energy storage solution and service provider.
- Make clean energy accessible to 100 million people in 10 years.

01 OUR STORY

02 CORE STRATEGY

03 ALPHA HOME

04 ALPHA C & I

01

OUR

STORY

“Make clean energy
accessible to everyone
in the world.”



Who We Are

AlphaESS is a leading global green energy storage solution and service provider. With expertise in BMS, EMS, system integration, and cloud monitoring, we excel in providing tailored solutions for a wide range of applications, including residential, commercial & industrial, and utility-scale projects.

AlphaESS has 30+ subsidiaries and branches worldwide, including China, Germany, Australia, Italy, the United Kingdom, South Africa, Singapore, Malaysia, and more. With over 150,000 systems actively running across 100+ countries, we have built a comprehensive global supply chain and logistics network.



100 +

Countries & Regions



150,000 +

Systems Installed Globally



8,000 +

Systems Installed in the UK



12 +

Years of Industry Experience



200 +

Patents in the ESS field



82 MWh +

Capacity in the UK



TOP 1

2022-2023 TOP 1
Australia Market Share
from SunWiz



ESG Transparency
Award

TOP 5

2023 H1 TOP 5
Residential ESS Provider in Germany
from EUPD Research



iF & Reddot & G-mark
Design Award

TOP 6

2021 TOP 6 supplier of
global residential storage systems
from IHS Markit



TOP BRAND PV
(STORAGE & INVERTERS)

Our History

2012

Established in Nantong, China

2013

1st Generation BMS, EMS, and AlphaCloud Platform

2014

1st All-in-One Residential ESS



2015

European & Australian Subsidiaries Established

2016

Commercial Energy Storage Project Launched

2017

- Large Air-cooled Energy Storage Container System
- Italian Subsidiaries Established
- 3rd Generation Residential ESS



2018

Myanmar Rural Electrification Project *

* Named as a Finalist for the SmarterE Award in 2020



2019

Top 1 Residential ESS Provider in Australia
(by SunWiz Research)

2020

Overseas Headquarters
Established in Singapore
UK Subsidiary Established

2021

- 4th Generation Residential ESS
- Top 5 Residential ESS Provider in Germany (by EUPD Research)

2022

5th Generation Residential ESS



2023

Overseas Production Center Put into Operation



2024

20ft 5MWh Liquid-cooling Energy Storage

Global Presence



300+

Global Service Network

Key Networks

- Asia: China, Singapore, Malaysia, The Philippines, Myanmar, Indonesia, Uzbekistan, Japan
- Europe: Germany, United Kingdom, Italy, Belgium, Netherlands, France, Czech Republic, Spain
- Oceania: Australia, New Zealand, Fiji, New Caledonia
- Americas: United States, Guam, Hawaii, Colombia
- Africa: South Africa, Kenya, Nigeria



30+

Subsidiaries

4

Production Centers

China: Nantong (Tongzhou & Qidong), Guangde

Malaysia: Kulim



4

R&D Centers

Nantong, Suzhou, Nanjing, Tianjin

 Headquarters
  Subsidiary
  Production Center

*China: Nantong (Tongzhou & Qidong), Suzhou, Nanjing, Guangde, Beijing, Tianjin, Shenzhen, Guangzhou, etc.

Localization

Local Service Experience through a Global Network

We strive to provide our customers with seamless end-to-end services through our comprehensive localized service network, which offers convenient services including demand analysis, customized solutions, spare parts supply, professional training, warehouse management, fault analysis, and efficient maintenance. Our dedication lies in maximizing the utilization of our customers' systems and ensuring an exceptional service experience.



Remote
Maintenance



Troubleshooting



Installation
Training



Technical
Support



Automatic
Updates



Warranty Service

Core Technologies

AlphaESS masters core technologies including BMS, EMS, system integration and the AlphaCloud platform. Its product lines cover micro, residential, commercial and industrial, and utility-scale energy storage, offering ESS solutions ranging from 1 kilowatt to hundreds of megawatts for the global market.

4 Major Technical Areas



Battery Management System (BMS)



Energy Management System (EMS)



AlphaCloud Platform



System Integration

4 Major Product Lines



Utility-scale Energy Storage Systems



Commercial and Industrial Energy Storage Systems



Residential Energy Storage Systems



Micro Energy Storage Systems

02

CORE STRATEGY

01

Smart Energy

CORE

02

Safe and Reliable

03

Service Leading



Smart Energy

Digital Intelligent Management Architecture

Cloud

• Computer Terminal

• Energy & Carbon Trading Platform

• Integrated Energy

• AI

• Building Automation

• Digital Twin

Data Support

• Data Analysis

• Data Preprocessing

• Stream Computing

• Big Data Analytics

EMS

Data Acquisition

Device



Micro ESS



Residential ESS



C&I ESS



Utility-scale ESS



PV

User Layer

- Mobile Terminal
- Digital Dashboard

Cloud Interface

- Dispatch Platform
- Carbon Management Platform

Cloud Platform

- Carbon Management
- Virtual Power Plant
- Corporate Management

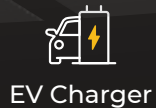
Service Layer

- Distributed Storage
- Distributed Scheduling
- Micro-Frontend
- Microservices

IoT Layer

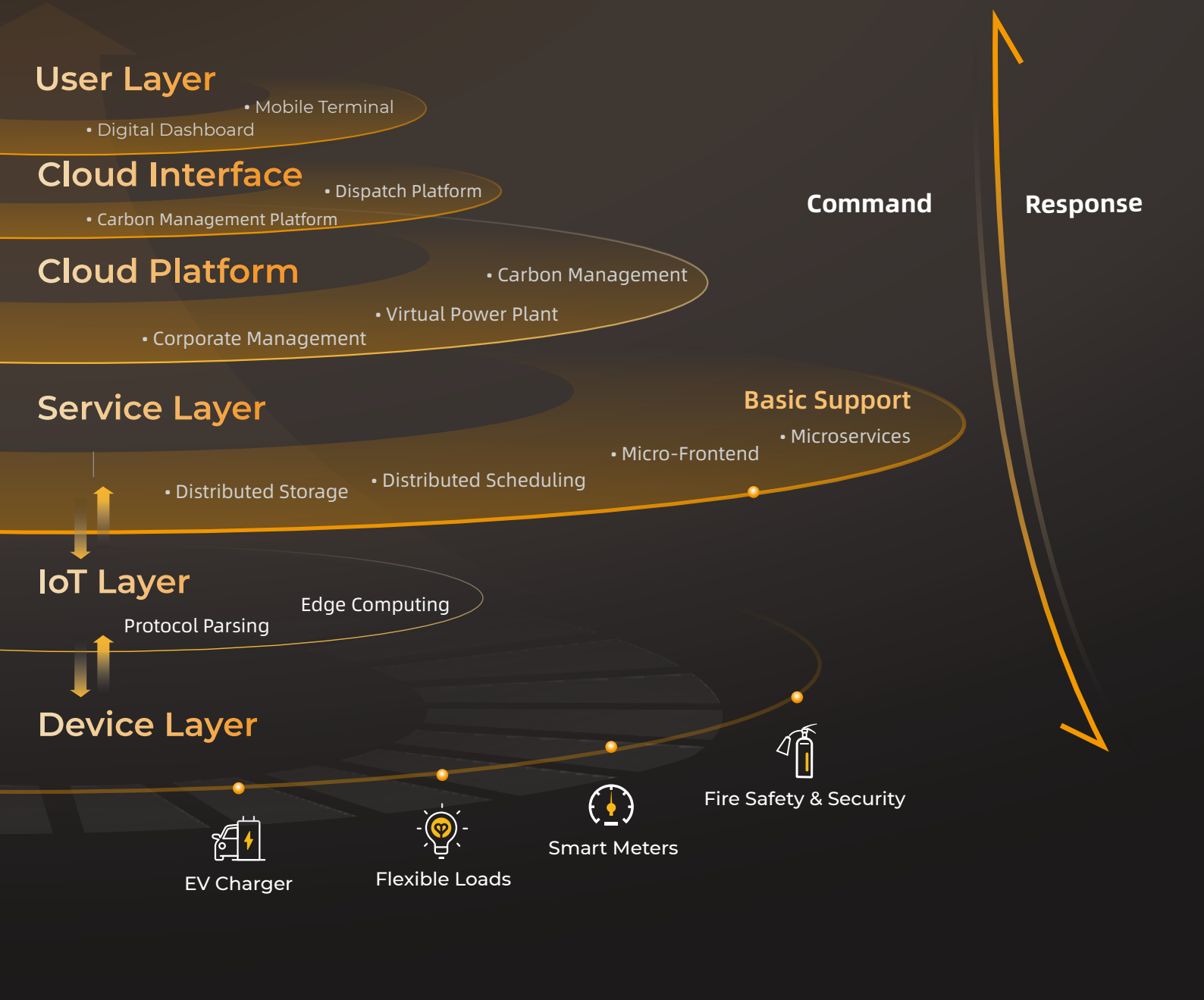
- Protocol Parsing
- Edge Computing

Device Layer



Command

Response



Safe and Reliable

01 Material Safety

Secure the energy storage

Only first class, reliable **LiFePO₄** cell will be used

02 System Safety

Secure the quality and performance



Site Survey &
Design



Thermal &
Environmental
Control



Real-Time
Monitoring



Tiered Alarms



Multiple Fire
Protection



Product Insurance



03 Workplace Safety

Secure the green, smart, and sustainable future

- Safer warehouse with more digital and less human operation
- EHS in practice with everyone involved: trainings, accountability, and occupational health
- Less emission with clean and efficient production

04

Testing Safety

Leave no stone unturned

Battery Safety

- Compression Crash Tests
- Overcharge and Overdischarge Tests
- Short-Circuit Tests

EMS Safety

- EMC Tests
- Fault Waveform Recording Tests
- Hardware-in-loop Simulation Tests

Structural Safety

- Structural Strength Verification
- System Structural Simulation
- Structural Design Short/Long-term Testing Verification

Electrical Safety

- Short-Circuit Tests
- Overload Temperature Rise Tests
- Insulation Withstand Voltage Tests

Fire Safety

- Thermal Runaway and Propagation Tests
- Multi-dimensional Perception Detection Tests
- UL9540A Certification Tests

Environmental Reliability

- Low Pressure Tests
- Salt Spray Tests
- Temperature Shock & Humidity Cycling Tests

Service Leading

One-Stop Customer Service

Focusing on products, technology, customer relations, sustainability, and internationalization, we provide personalized and comprehensive one-stop service to ensure customers have an excellent experience throughout the purchase, use, and maintenance of our energy storage systems.



Customer Service Package — AlphaCare

The AlphaCare package is tailored for our end customers and partners, providing comprehensive services in technical support, financing plan, marketing etc..

- **Technical Support:**

Dedicated customer service from start to finish with our OSC (Online Service Center).

- **Marketing Support:**

Impactful co-branded initiatives to maximize brand exposure and early product upgrade info to stay competitive.

- **AlphaCloud:**

A lifetime-free energy management and monitoring platform for All AlphaESS systems.

- **Partner APP:**

Exclusive service platform for AlphaESS' partners including distributors and installers.



Individual Account



Instant Messaging



Work Order Management



Online Store



Active User Community

- **Low-Carbon Smart Park Platform**



Online Service Center

Partner APP

AlphaCloud

*Service items may vary by country/region, please contact your local AlphaESS business manager for further details.

03

ALPHA HOME

- All-in-One Energy Storage System
- PV-Storage-Charging Solution

Residential Series

AlphaESS provides energy storage solutions ranging from 1 to 20 kW for households. With the AlphaCloud monitoring platform, users can fully enjoy the economic benefits and convenience of smart energy management.



S
M
I
L
E

SMILE Product Series

- S**tronger Output
- M**odular Configuration
- I**ntelligent Management
- L**ong Lifespan
- E**fficient Operation

All-in-One Energy Storage System



Easy Installation

- All-in-One Design
- Plug & Play Wiring System
- Built-in SPD



Flexible Expansion

- Modular System
- Bypass for Faulty Battery
- No Need for SOC Calibration



Cutting-Edge VPP

- Tailored API for Dynamic VPP Scheduling
- Fast FCAS
- Global Compatibility*

*Leading the Australian VPP market; compliant with European Commission Regulations (EU) 2017/1485, 2016/631, 2016/1388, 2017/1485 for Frequency Containment Reserves

YOUR ALMIGHTY KNIGHT

SMILE-G3 Series

SMILE-G3-S3.6 / S5 / S8

SMILE-G3-T6 / 10 / 15

SMILE-G3 series offers single-phase solutions ranging from 3.68kW to 8kW and three-phase solutions from 6 to 15 kW for home energy storage, catering to both AC and DC coupled scenarios. It covers a comprehensive range of needs including self-consumption for residential homes, peak-valley arbitrage, dual power supply with diesel generators, VPP (Virtual Power Plant) scheduling, solar storage charging, and solar storage heating.



GOOD DESIGN AWARD



red dot design award

SMILE



AlphaESS



- G3

HIGHER EFFICIENCY BRINGING MORE PROFITS



SMILE-G3-S3.6 / S5

Single Phase : 3.6 / 5 kW

Capacity : 3.8 - 60.6 kWh

Datasheet



SMILE-G3-S8

8 kW

8.2 - 49.2 kWh



SMILE-G3-T6 / 10 / 15

Three Phase 6 / 10 / 15 kW

Capacity 4kW - 49.2kWh

Datasheet



More Profits

- 200% PV Input
- MPPT Shadow Scanning
- High Voltage Battery with Higher RTE (Round-Trip-Efficiency)



On/Off-Grid Switching

- Dual Power Supply (Grid & Generator)
- 200% UPS Peak Overloading
- Grid-Forming: Sustained Off-Grid PV Operation



Smart IoT

- VPP-Ready with Very Fast FCAS
- PV-Storage-Charging Solution
- SG Ready for Heat Pumps

Available in: Australia, Germany, UK, Italy, Belgium, Czech, The Philippines, Thailand, China, Middle East, Africa, Latin America, etc.





HIGH VOLTAGE, HIGH EFFICIENCY



SMILE-S6-HV

Single Phase : 6 kW
Capacity : 5 - 49.2 kWh

Datasheet



SMILE-T10-HV

Three Phase : 10 kW
Capacity : 8.2 - 49.2 kWh

Datasheet



- High Voltage Battery System (153.6V/256V)
- PV Shadow Scanning for More Solar Energy Yield

- Fast Charging and Discharging (1C)
- Modular Design for Quick Installation

Available in: Germany, UK, Belgium, Poland, Australia, China, Thailand, etc.



YOUR BEST SOLUTION FOR RETROFITTING PV SYSTEM



SMILE-B3-Plus

Single Phase : 3 kW

Capacity : 5.04 - 30.24 kWh

Datasheet



Built-in Battery & Inverter



Space-saving & Lightweight



AC-Coupled: Compatible
with Any Solar Inverter Brand
Available on the Market



VPP Ready

EV CHARGER PV-Storage-Charging Solution

SMILE-G3-EVCS7

Single Phase / 7 kW

Datasheet



User-Friendly

- Easy installation
- High compatibility
- Keycard or AlphaCloud launching for proprietary identification
- 7m-long charging cable



Higher Profits

- 100% green energy consumption
- Subsidy available
- Lifetime-free upgrading online



Multiple Charging Modes

- Green mode: EV charged only by solar energy or battery
- Fast mode: First priority for EV charging
- ECO mode: Customized timers and fixed power



ALPHA CLOUD MONITORING PLATFORM

AlphaCloud is a lifetime-free platform (for App and Web) where you can easily manage every device connected to AlphaESS systems. As soon as a device is plugged in, AlphaCloud reads its information and prepares all the possible configurations for you, so that you can learn about or change your energy plan anytime, anywhere.



Maximize your profit

- Exploit the full potential of your PV system
- Intelligent 24/7 monitoring to increase self-consumption
- Set parameters and join VPP



Remote troubleshooting and upgrades



Enjoy a smart home with IoT compatibility



Data Security







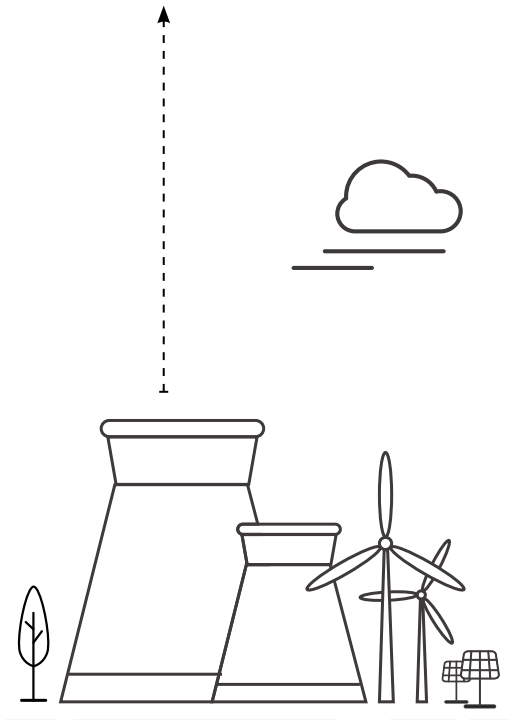
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ALPHA C&I

EXPERT FOR ALL APPLICATION SCENARIOS

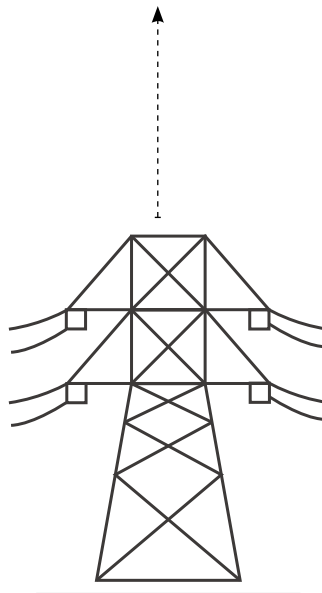
Generation Side

- Smooth Wind & PV Power Output
- Maximizing Wind & PV Utilization
- Thermal Power Storage Frequency Modulation
- Active Power Control and Reactive Power Compensation



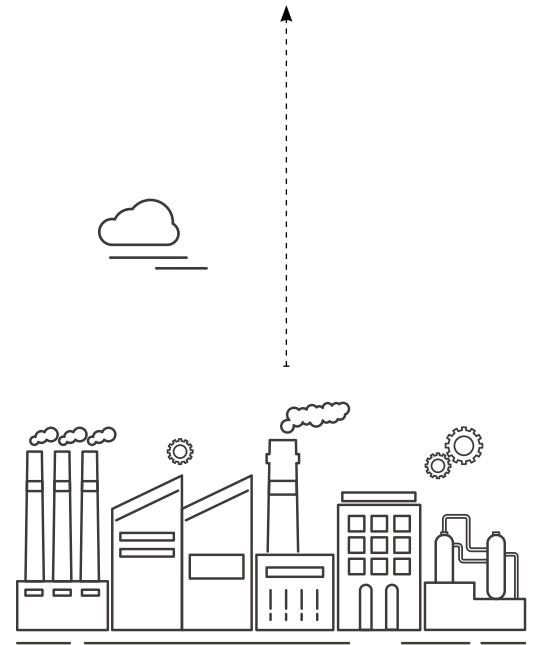
Network Side

- Peak Shaving and Frequency Modulation
- Improving Power Quality and System Reliability
- Maintaining Voltage Stability of the Transmission Network
- Extending the Lifespan of Transmission Equipment
- Alleviating Peak Load Demand



Behind-the-Meter

- Peak-Valley Arbitrage
- Backup Power
- Dynamic Expansion
- Virtual Power Plant (VPP)
- Microgrid
- Ancillary Services



MASTER OF ADAPTATION



Applicable Terrains



Desert



Gobi Desert



Plain



Mountain



Plateau



Coastline



Applicable Climates



Hot & Dry



Cold & Humid



Thunderstorms



Heavy Snowfall



Salt Fog



Sandstorms

LARGE C&I PROJECT INVESTMENT MODEL

Client Self-Investment

AlphaESS is responsible for project construction and technical support; the ownership of the project and all profits belongs to the client.



Third-party Investment / EMC (Energy Management Contract)

The ownership of the project belongs to the third-party investor, while the user client, with zero investment and operating costs, share peak-valley arbitrage profits with the investor, thereby reducing energy loss and saving electricity costs.



AlphaESS Investment

AlphaESS invests and provides EPC contract, energy storage systems, and professional intelligent operation and maintenance services.





CREATING VALUE FOR OUR CLIENTS

- Comprehensive Energy Solutions for the Full Lifecycle
- One-Stop Customized Service
- Integrated Management



Full Lifecycle Service



Technical Analysis

- Preliminary Data Collection
- On-Site Survey
- Equipment Selection
- Initial Project Design
- Technical Proposal Preparation



Investment Analysis

- Expert Proposal Analysis
- Economic Assessment
- Establish Development Intentions
- Signing of Relevant Agreements



Supporting Products

- Core R&D Team
- AlphaESS Core C&I Products
- System Commissioning and Testing
- Product Shipment and Delivery



Professional Construction

- Lean Construction
- Professional Debugging
- On-Grid Operation
- Compliant with Industry Standards and Specifications
- Low-Carbon Smart Park Platform Management



Intelligent Operation & Maintenance

- Software R&D Team
- Operation Data Statistics and Optimization
- Local Offices for Rapid Maintenance
- Intelligent Monitoring of System Operation
- Electricity Cost and Revenue Calculation

AI

Digitalized & Visualized Smart Energy Management

Low-Carbon Smart Park Platform

The software platform functions as a digital hub and control panel for everything within an industrial park. Its AI algorithms ensure neat data analysis and informed decision-making, which increases the revenue of energy projects, reduces energy consumption, and facilitates the maintenance of equipment.



Main Customers:

- Industrial Enterprises
- Industrial Real Estate / O&M Investors
- District / County Government
- Energy Projects / O&M Investors





Innovative Technologies:

- Distributed Energy Storage Virtual Power Plant Technology
- Industrial Park / Plant Digital Twin
- Integrated Platform
- Integrated Alarm System for All Facilities
- Integrated Surveillance Cameras / Access Control / Fire Protection System
- Integrated System Management
- Collaborative System Update and Optimization



Targeted Pain Points:

- Construction without integrated planning.
- Multi-platform operation and maintenance in parks / factories.
- Efficient operation and maintenance management, revenue and cost saving of multi-projects.
- By providing an integrated platform covering all the issues above, AlphaESS provides the best smart park management solution for business owners.

ALPHA



Alpha C&I and Utility Solutions

For 30kW+ applications, AlphaESS C&I and utility-scale solutions can work in sync with wind and solar resources, significantly improving the self-consumption rate of clean energy, smoothing out power supply-demand fluctuations. They can also be integrated with advanced technologies such as smart energy management platforms and the Internet of Things (IoT), facilitating the transformation of energy structure and providing crucial support for achieving carbon neutrality goals.

C&I



High Energy Density



Cell-Level Constant
Temperature Control



Enhanced Electrical
Protection



Intelligent Fire Protection

5MWh

Liquid-Cooled Battery Container



Model	AlphaCS-H20-DC-LC 2.0
Rated Energy	5015.9 kWh
Ingress Protection	IP55
Charge/Discharge Rate	0.5 C
Battery Type	LiFePO ₄
Fire Protection	Perfluorohexanone + Water
Battery Module	M166314-S



- Multiple fire protection systems, battery pack-level suppression
- Enhanced electrical protection to mitigate short-circuit risks
- Liquid cooling for uniform temperature, 20% less energy loss
- Compatible with various PCS and EMS
- Cloud-based data management, remote troubleshooting
- 34% increase in energy density, reducing upfront investment

Available in: China

1500V

Liquid-Cooled Battery Container



Model	AlphaCS-H20-DC-LC
Rated Energy	3727.3 kWh
Ingress Protection	IP55
Charge/Discharge Rate	0.5 C
Battery Type	LiFePO ₄
Fire Protection	Aerosol + Water (Optional: Perfluorohexanone)
Battery Module	M166280-S



- High energy density
- Multiple intelligent fire protection systems
- Flexible layout, supporting parallel connection
- Intelligent thermal management strategy
- External maintenance design, efficient and convenient

Datasheet



Liquid-Cooled Battery Cabinet

Model	STORION-LC-372
Rated Energy	372.7 kWh
Ingress Protection	IP55
Battery Type	LiFePO ₄
Fire Protection	Aerosol + Water
Battery Module	M166280-S



All-in-one design for easy installation & transportation



Liquid cooling, system temperature difference $\leq 3^{\circ}\text{C}$



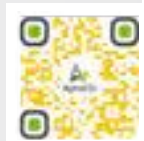
Support parallel connection of multiple systems on the DC side



Compartment-level & pack-level intelligent fire protection systems with explosion relief strategy



High IP rating and dehumidification solution



Datasheet

Air-Cooled All-in-One Cabinet

NEW!

Model	STORION-G2-H50	STORION-H30
Rated Energy	50 kW	30 kW
Ingress Protection	IP20	
Charge/Discharge Rate	55.2 ~ 104.8 kWh, Expandable up to 209.6 kWh	
Battery Type	LiFePO ₄	
Fire Protection	Cooling Method: Forced Air Cooling	
Battery Module	M7790-S or M38210-SC	
<ul style="list-style-type: none"> • PCS & battery all-in-one system • Plug & play installation • Seamless on/off-grid switching within 20ms • Easy parameter settings, cloud-based control 		
<ul style="list-style-type: none"> • Multiple working modes available • Support parallel connection of 5 systems (on-grid) or 3 systems (off-grid) 		



Datasheet



Model	STORION-H50-O	STORION-H30-O
Rated Energy	50 kW	30 kW
Ingress Protection	IP55	
Charge/Discharge Rate	96.7 kWh	
Battery Type	LiFePO ₄	
Fire Protection	Aerosol+Smoke/ Temperature Detect	
Battery Module	M7790-S or M38210-SC	
<ul style="list-style-type: none"> • PCS & battery all-in-one system • Plug & play installation • Space-saving design • Support parallel connection of 3 systems (off-grid) 		



Datasheet



Tailored Solutions



STORION-T50/ T100 Series

Rated Power	50 / 100 kW Available	
Rated Energy	62 ~ 968 kWh	62 ~ 387 kWh
Ingress Protection	IP20	IP55
Safety Protection	<ul style="list-style-type: none"> • Constant temperature control at 23±2°C • Self-diagnostic & EMS cell-level detection 	<ul style="list-style-type: none"> • Smoke & temperature detection • FM-200 fire suppression system
Battery Module	M38180-S or M38210-S	




- All-in-one design, space-saving
- Flexible configuration
- On/Off-grid switching time $\leq 20\text{ms}$
- Support 200% PV oversized
- High security & control: cell-level monitoring of batteries

Datasheet





TB187.5/375/500 Series

Model	Indoor	Outdoor (20/40ft)
Rated Power	187.5/375/500 kW Available	
Rated Energy	0.24 ~ 1.6 MWh	
Ingress Protection	IP20	IP55
Safety Protection	<ul style="list-style-type: none"> • Constant temperature control at 23±2°C • Self-diagnostic & EMS cell-level detection 	<ul style="list-style-type: none"> • Smoke & temperature detection • FM-200 fire suppression system
Battery Module	M38180-S or M38210-S	

- Easy installation: most devices are pre-assembled at the factory
- Flexible configuration
- On/Off-grid switching time $\leq 20\text{ms}$
- High security & control: cell-level monitoring of batteries
- Support parallel connection of containers: up to 2MW / 6.4MWh

Datasheet



Industrial Battery Packs

Liquid-Cooled Battery



Battery Module	M166280-S (0.5C)
Rated Voltage	166.4 V
Rated Power / Rated Energy	23.2 kW / 46.5 kWh
Cycle Life	≥ 6000 (@ 25°C)
Operating Temperature Range	-30°C ~ 50°C

Air-Cooled Battery



Battery Module	M38210-SC (0.5C)	M7790-S (1C)
Rated Voltage	38.4 V	76.8 V
Rated Power / Rated Energy	4.032 kW / 8.1 kWh	6.912 kW / 6.9 kWh
Cycle Life	≥ 6000 (@ 25°C)	
Operating Temperature Range	-30°C ~ 50°C	



Battery Module	M38180-S (1C)	M38210-S (0.5C)
Rated Voltage	38.4 V	38.4 V
Rated Power / Rated Energy	6.912 kW / 6.9 kWh	4.032 kW / 8.1 kWh
Cycle Life	≥ 6000 (@ 25°C)	
Operating Temperature Range	-10°C ~ 50°C	

140MW / 280MWh + 80MW / 160MWh

Peak Shaving and Frequency Regulation
Ulanqab, Inner Mongolia





80 MW / 160MWh + 40 MW / 80MWh

Peak Shaving and Frequency Regulation

Kubuqi, Inner Mongolia, China



100MW / 200MWh

Peak Shaving and Frequency Regulation

Anyang, Henan, China





1 50MW / 100MWh
PV + Storage
Anlu, Hubei, China



2 5MW / 10MWh
PV + Storage
Nanjing, Jiangsu, China



3 68.4 kWh
Energy Storage for
Hospitality Sector
Peak District



4 10kW / 41kWh
Energy self consumption
and reduction in carbon
footprint
Dursley

Scan the QR code
for more details



