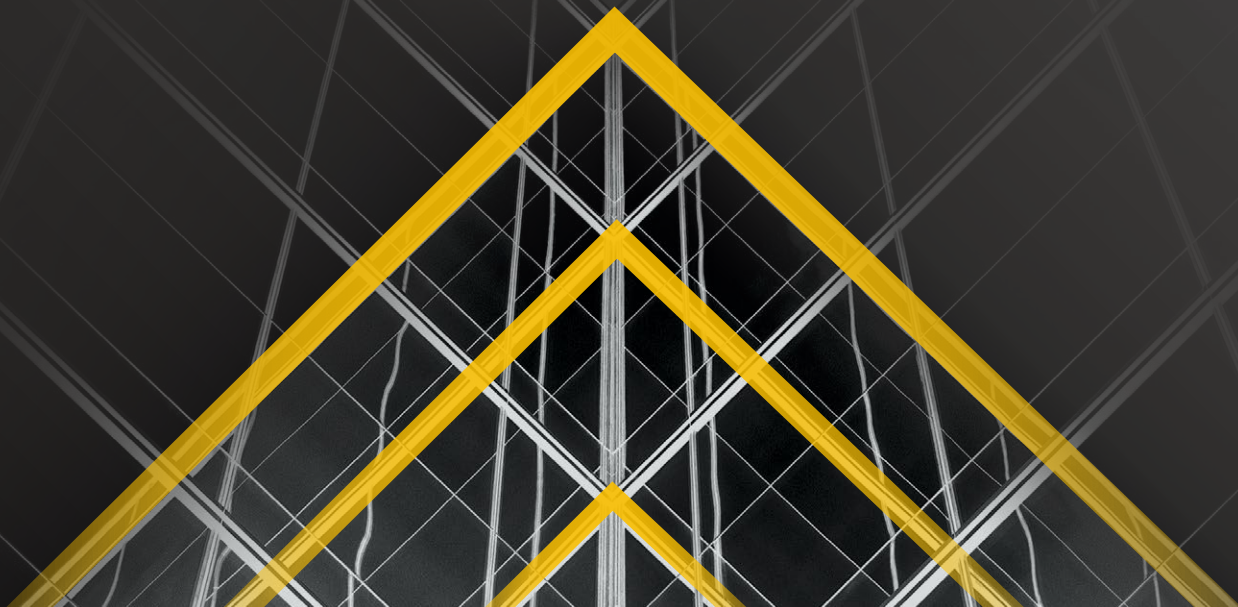




WE DO MORE THAN  
**STORE** POWER  
WE MAKE IT **SMART**



# 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 200,000 systems operating in more than 130 countries, AlphaESS has established a significant international presence.

 **130 +**  
Countries & Regions

 **200,000 +**  
Systems Installed Globally

 **9,525 +**  
Systems Installed in the UK

 **15 +**  
Years of Industry Experience

 **250 +**  
Patents in the ESS field

 **102 MWh +**  
Capacity in the UK

## TOP 1

2022-2023 TOP 1  
Australia Market Share  
*from SunWiz*

## TOP 5

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

## TOP 6

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

## TOP 10

AlphaESS was listed among  
the top 10 home energy  
storage manufacturers  
globally (2024), recognized  
for its integrated systems  
with advanced features,  
including emergency  
backup power.  
*from life-younger.com*



Energy Storage Manufacturer  
by BloombergNEF 2025



ESG Transparency  
Award



iF & Reddot & G-mark  
Design Award

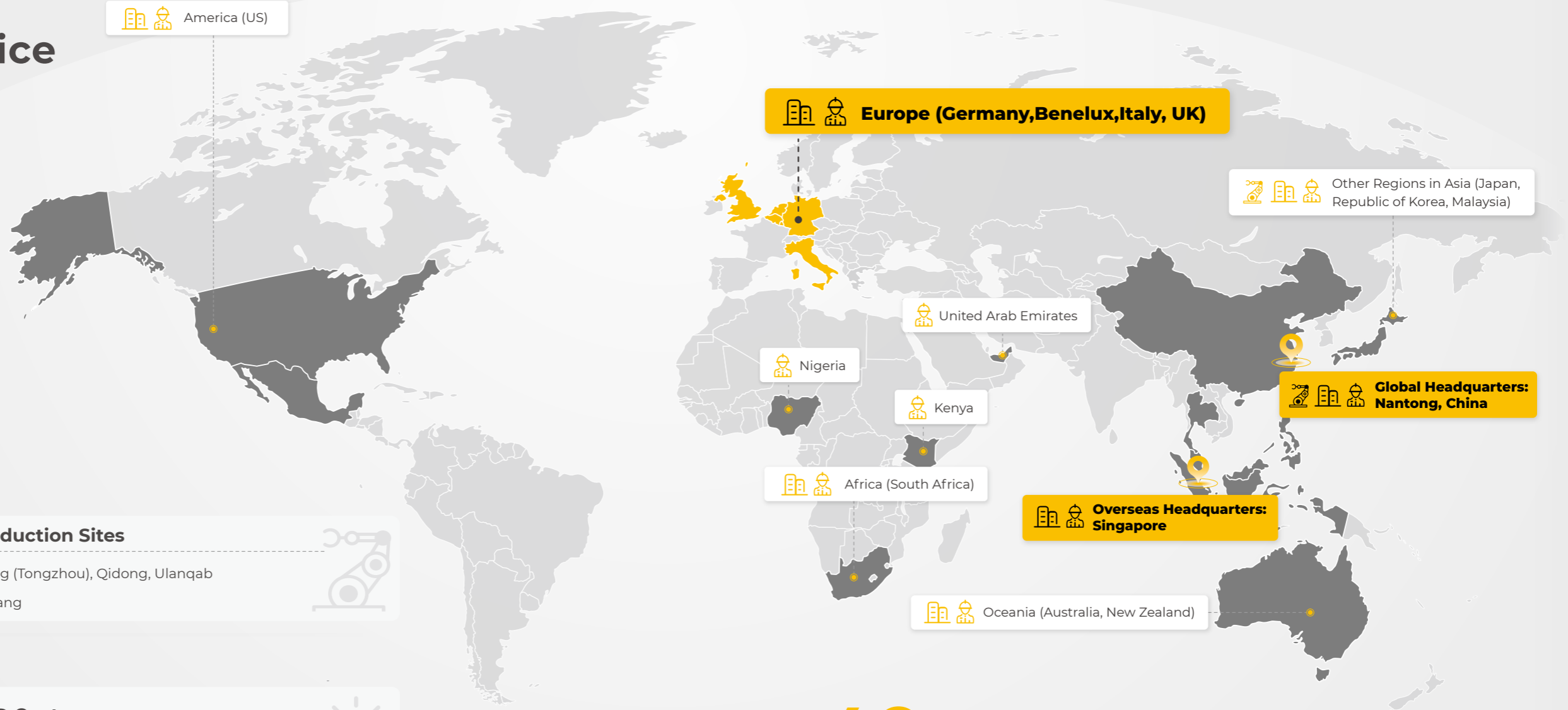


TOP BRAND PV  
(STORAGE & INVERTERS)

# Our History



# Global Service Network



## 4 Production Sites

China: Nantong (Tongzhou), Qidong, Ulanqab  
Malaysia: Penang

## 4 R&D Centers

Nantong (Tongzhou), Suzhou, Nanjing, Tianjin

## 40 Subsidiaries

**China:** Suzhou, Beijing, Tianjin, Shenzhen, Chengdu, and Nanjing.  
**Global:** European countries, including Germany, Benelux, Italy, and the UK; Oceanian countries like Australia and New Zealand; the United States; Asian countries like Japan, Republic of Korea and Malaysia.

Note: The data shows the company's global presence as of the end of 2024.

## Localisation

Local Service Experience through a Global Network

We strive to provide our customers with seamless end-to-end services through our comprehensive localised service network, which offers convenient services including demand analysis, customised solutions, spare parts supply, professional training, warehouse management, fault analysis, and efficient maintenance. Our dedication lies in maximizing the utilisation 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

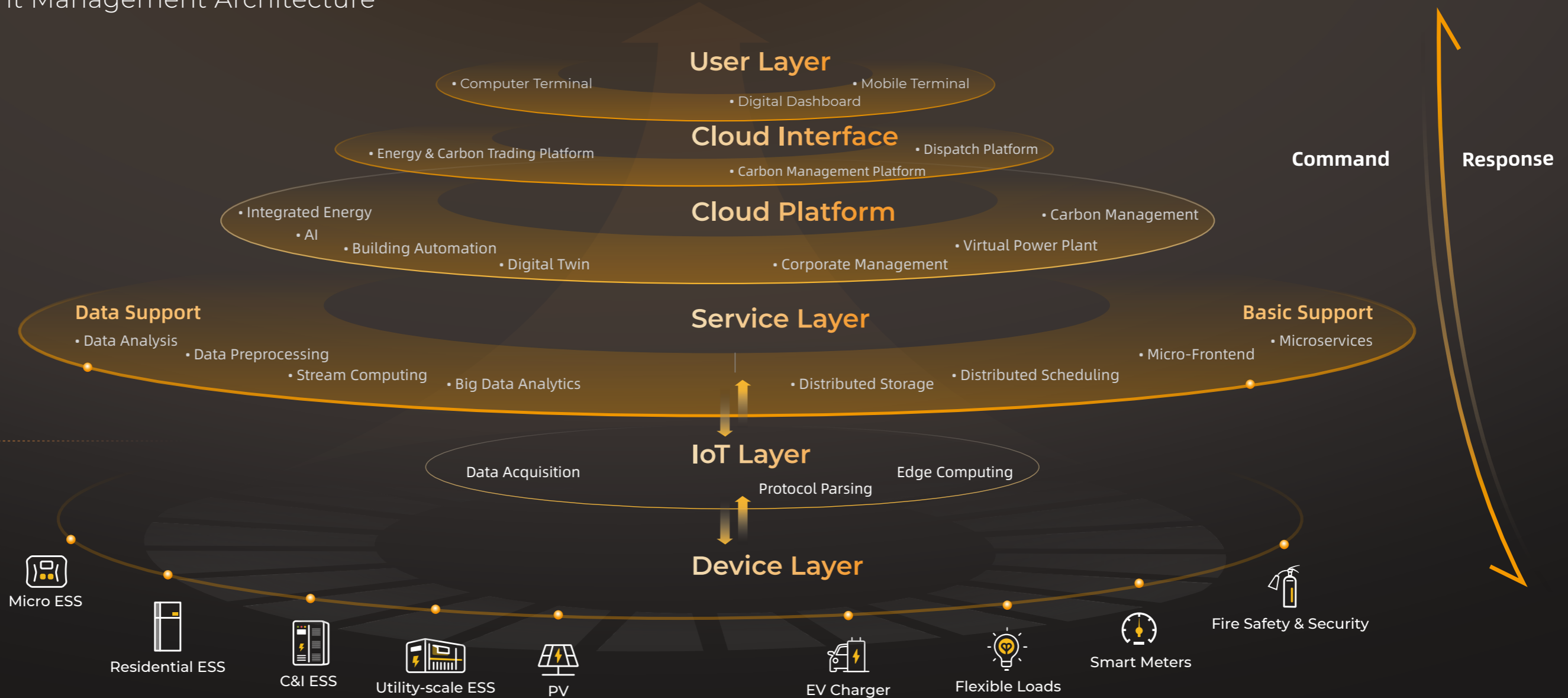
# Smart Energy

Digital Intelligent Management Architecture

Cloud

EMS

Device



# Safe and Reliable

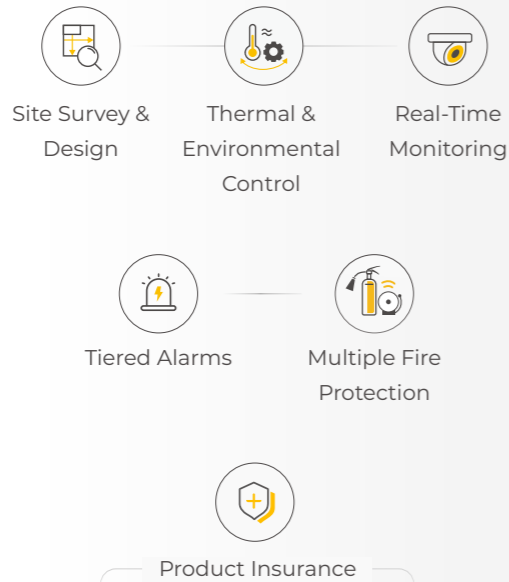
## 01 Material Safety

Secure the energy storage

Only first class, reliable **LiFePO<sub>4</sub>** cell will be used

## 02 System Safety

Secure the quality and performance



## 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 internationalisation, we provide personalised and comprehensive one-stop service to ensure customers have an excellent experience throughout the purchase, use, and maintenance of our energy storage systems.



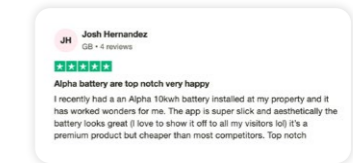
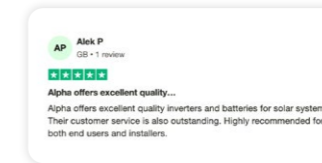
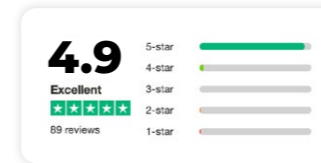
## Customer Service Package — AlphaCare

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).

- i. UK Helpdesk in Leeds
- ii. UK Field based Engineers based near Bristol
- iii. Rated 4.8 in Trustpilot



### • 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.



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

Online Service Center

Partner APP

AlphaCloud

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-T10 / 20

SMILE-G3 series offers single-phase solutions ranging from 3.68kW to 8kW and three-phase solutions from 10kW to 20kW 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-G3



## HIGHER EFFICIENCY BRINGING MORE PROFITS



SMILE-G3-S3.6 / S5

Single Phase : 3.6 / 5 kW

Capacity : 4 - 60.6kWh

Datasheet



SMILE-G3-S8

8 kW

Capacity : 4 - 38.4kWh



SMILE-G3-T-10 / 20

Three Phase 10 / 20 kW

Capacity 4 - 57.6kWh

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

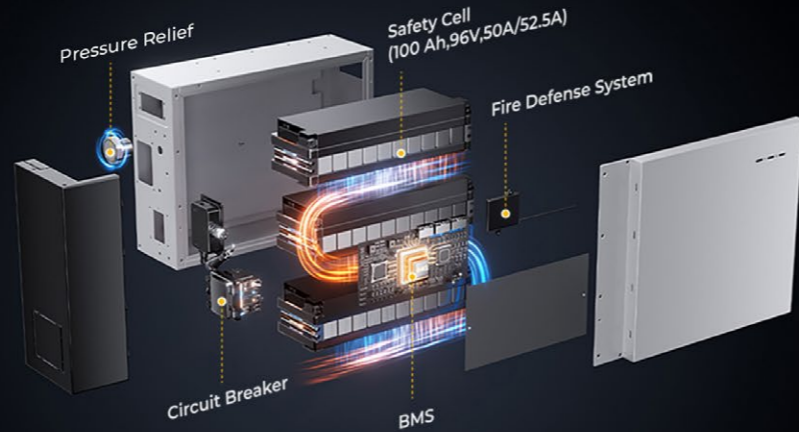
- VPP-Ready with Very Fast FCAS
- PV-Storage-Charging Solution
- SG Ready for Heat Pumps

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





# Why **AlphaESS** Achieved This?



## **6** Level Battery Safety Protection

- 1 24/7 monitoring for every cell
- 2 Advanced Pressure Relief Design Enhances Protection Against Thermal Runaway
- 3 Aerosol suppression for fire containment
- 4 Advanced BMS prevents overcharge / over-discharge
- 5 Streamlined safety design with no external high-voltage box required
- 6 Integrated secondary protection, no external hardware



## **3** Level Shutdown Protection

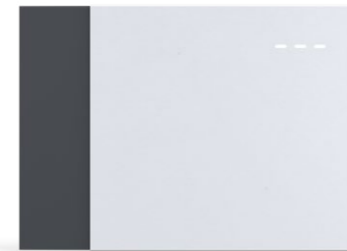
- 1 BMS step-threshold protection
- 2 MOS shut-off protection
- 3 Independent circuit breaker disconnection



Energy Storage Manufacturer by BloombergNEF 2025

# HEATED BATTERIES

# HEATED BATTERIES



**SMILE-G3-BAT-4.8S**

- Capacity : 4.8 kWh
- 53kg
- Single phase : 1~4 in series
- Three phase : 1~6 in series

Datasheet



**SMILE-G3-BAT-9.6S**

- Capacity : 9.6 kWh
- 81kg
- Single phase : 1~4 in series
- Three phase : 1~6 in series

Datasheet



- PV Shadow Scanning for More Solar Energy Yield
- Modular Design for Quick Installation
- Fast Charging and Discharging
- Built in Fire Suppression System with Decompression Valve

## EV CHARGER PV-Storage-Charging Solution



### User-Friendly

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



### 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



### Higher Profits

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

### SMILE-G3-EVCS7 Single Phase / 7 kW



Datasheet

### SMILE-G3-EVCT11 Three Phase / 11 kW

Datasheet



## 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



# 04

ALPHA C&I

## EXPERT FOR ALL APPLICATION SCENARIOS

### Generation Side

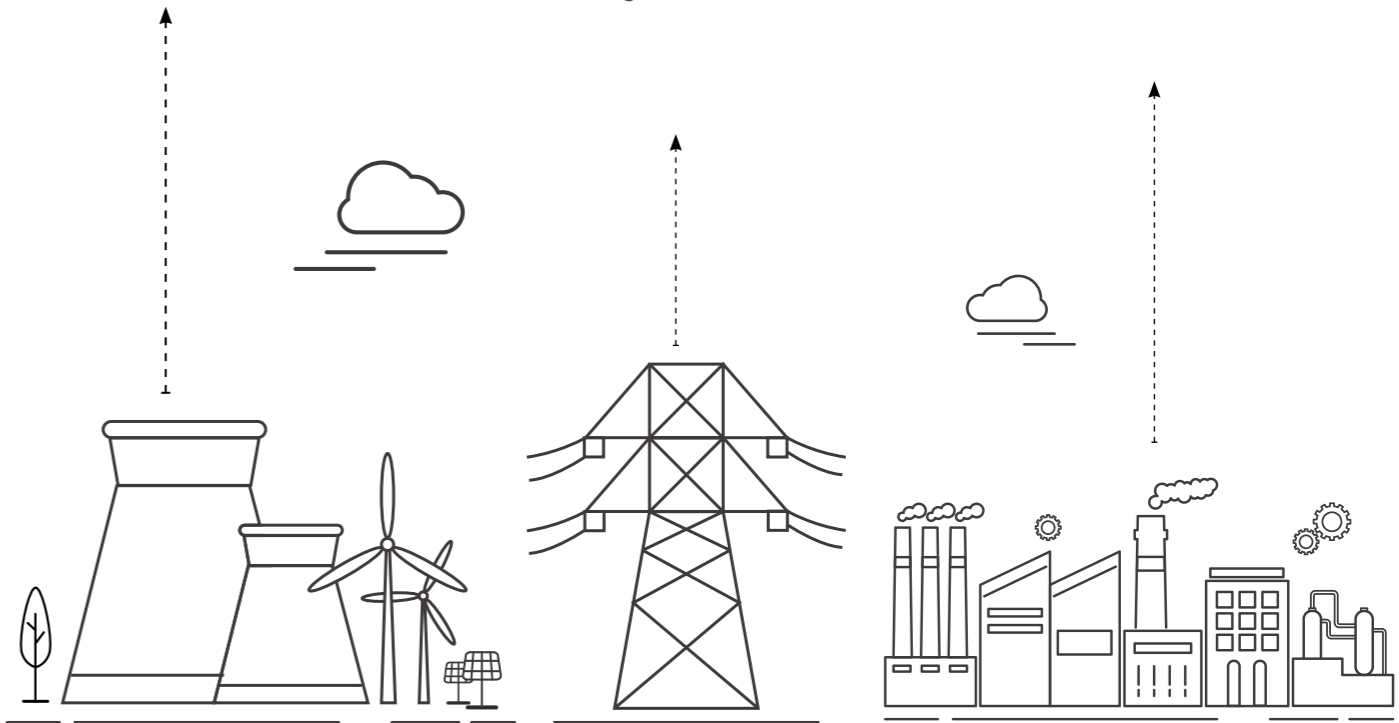
- Smooth Wind & PV Power Output
- Maximizing Wind & PV Utilization
- Thermal Power Storage Frequency Modulation
- Active Power Control and Reactive Power Compensation

### 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



# ALPHA C&I



## 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.



High Energy Density



Cell-Level Constant  
Temperature Control



Enhanced Electrical  
Protection



Intelligent Fire Protection



## ALPHA STAX M30/M50

Power : 30 / 50 kW

Capacity : 60.25 - 216.9 kWh

- Quick Installation and Easy Expansion: Plug & Play
- Remote System Monitoring
- Dynamic SOC balancing between battery modules to maximize the energy utilization
- 200% PV input oversizing
- IP66 for tough outdoor environments
- Unique Bypass technology ensures stable system operation
- Fire suppression and heating



Datasheet



## Air-Cooled All-in-One Cabinet Solution

Model	STORION-G3-H30 / H50
Rated Energy	30 kW / 50 kW Hybrid Inverter
Ingress Protection	IP55
Capacity	<ul style="list-style-type: none"> <li>• STORION-H50-G3 120.5 / 241 kWh</li> <li>• STORION-H30-G3 72.3 / 144.6 kWh</li> </ul>
Battery Type	LiFePO <sub>4</sub>
Fire Protection	Aerosol+Smoke/Temperature Detect
Battery Module	M77314-S 0.5C



- Easy parameter settings, cloud-based control
- PCS & battery all-in-one system
- Plug & play installation
- Seamless on/off-grid switching within 20ms
- Multiple working modes available
- Support parallel connection of 5 systems (on-grid) or 4 systems (off-grid)



Datasheet



## Liquid Cool Cabinet Solutions

Model	STORION-LC-TB125-EX
Rated Energy	261.2kWh
Ingress Protection	IP55
Battery Type	LiFePO <sub>4</sub>
Fire Protection	Aerosol (Pack & Rack)+ Sprinkler + Smoke / Temperature Detection
Battery Module	M166314-S



- All-in-one design for easy installation & transportation
- Three-level Intelligent Fire Suppression System, UL9540A certified
- Active cell balancing, maximizing life cycle and efficiency of system
- Backup Power Available with STS Cabinet ( $\leq 20$ ms Switch Time)
- System-wide Temperature Difference  $\leq 3^{\circ}\text{C}$
- Max 50 units in parallel (On-Grid Mode)



Datasheet



## Liquid Cool Containerised Solutions

Model	ASTER TB250/TB500
Rated Energy	250 - 500 kW   705 kWh - 1410 kWh
Ingress Protection	IP55
Battery Type	LiFePO <sub>4</sub>
Fire Protection	Aerosol
Battery Module	M166314-52S-EX



- Integrated AC/DC design with built-in PCS, transformer
- Supports AC 400V and AC 800V output for enhanced system compatibility
- No internal DC wiring is required, and the AC output connects directly to the load, PV system, and power grid
- All outgoing connections are routed through side outlets, simplifying on-site installation and reducing construction effort
- Noise reduction option available ( $< 75\text{dB}$ )

Datasheet



Model	STORION-LC-TB150
Rated Energy	313kWh
Ingress Protection	IP55
Battery Type	LiFePO <sub>4</sub>
Fire Protection	Aerosol + Sprinkler + Flammable Gas Detection
Battery Module	M166314-S



- Stable performance with low noise operation ( $\leq 60$  dB) using full liquid cooling
- Intelligent eight-layer fire protection system for enhanced safety
- Pre-assembled design enabling fast and easy deployment
- Cell-level monitoring with second-level fault detection and cloud-based alerts
- Seamless switching to backup power ( $\leq 20$  ms with STS cabinet)



Datasheet



Model	ASTER 5000
Rated Energy	5015.9 kWh / 4597.9 kWh / 4179.9 kWh / 3761.9 kWh
Ingress Protection	IP55
Battery Type	LiFePO <sub>4</sub>
Fire Protection	Aerosol + Sprinkler (Explosion relief panel is standard configuration)
Battery Module	M332314-104S-EX



- Integrated container design improves energy density and reduces footprint
- Active balancing BMS with cloud-based monitoring extends system lifespan
- Liquid cooling with auto-replenishment enables efficient, low-noise operation
- Multi-layer safety with fire suppression and explosion protection
- Scalable 20ft container design with up to  $\sim 5$  MWh capacity

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

**140MW / 280MWh + 80MW / 160MWh**

Peak Shaving and Frequency Regulation  
Ulanqab, Inner Mongolia



## 80MW / 160MWh + 40MW / 80MWh

Peak Shaving and Frequency Regulation

Kubuqi, Inner Mongolia, China



## 100MW / 200MWh

Peak Shaving and Frequency Regulation

Anyang, Henan, China



**1** 583.2 kWh  
Net-Zero  
Skegness

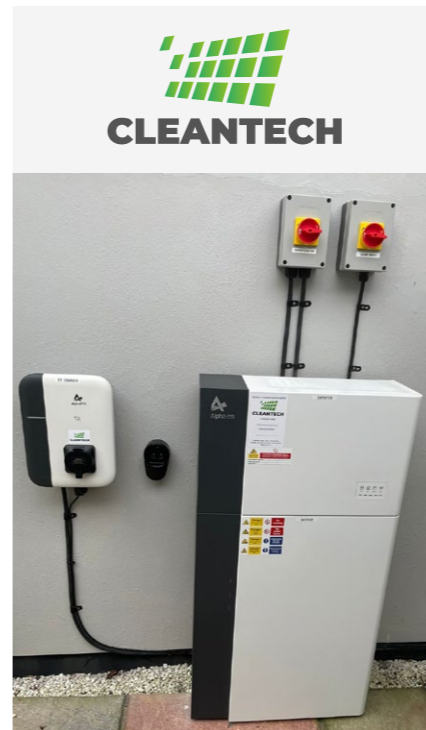
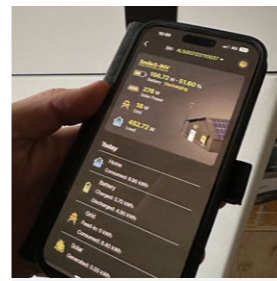
**2** 96 kWh  
Renewable Energy Solutions  
Walsall

**3** 68.4 kWh  
Energy Storage for  
Hospitality Sector  
Peak District

**4** 10kW / 41kWh  
Hybrid Solar and  
battery system  
UK

Scan the QR code  
for more details







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