

Sungrow ESS All-In-One Solution

AC BLOCK WITH FULL-SCENARIO APPLICATIONS

BOOMING MARKET

CAGR 17%

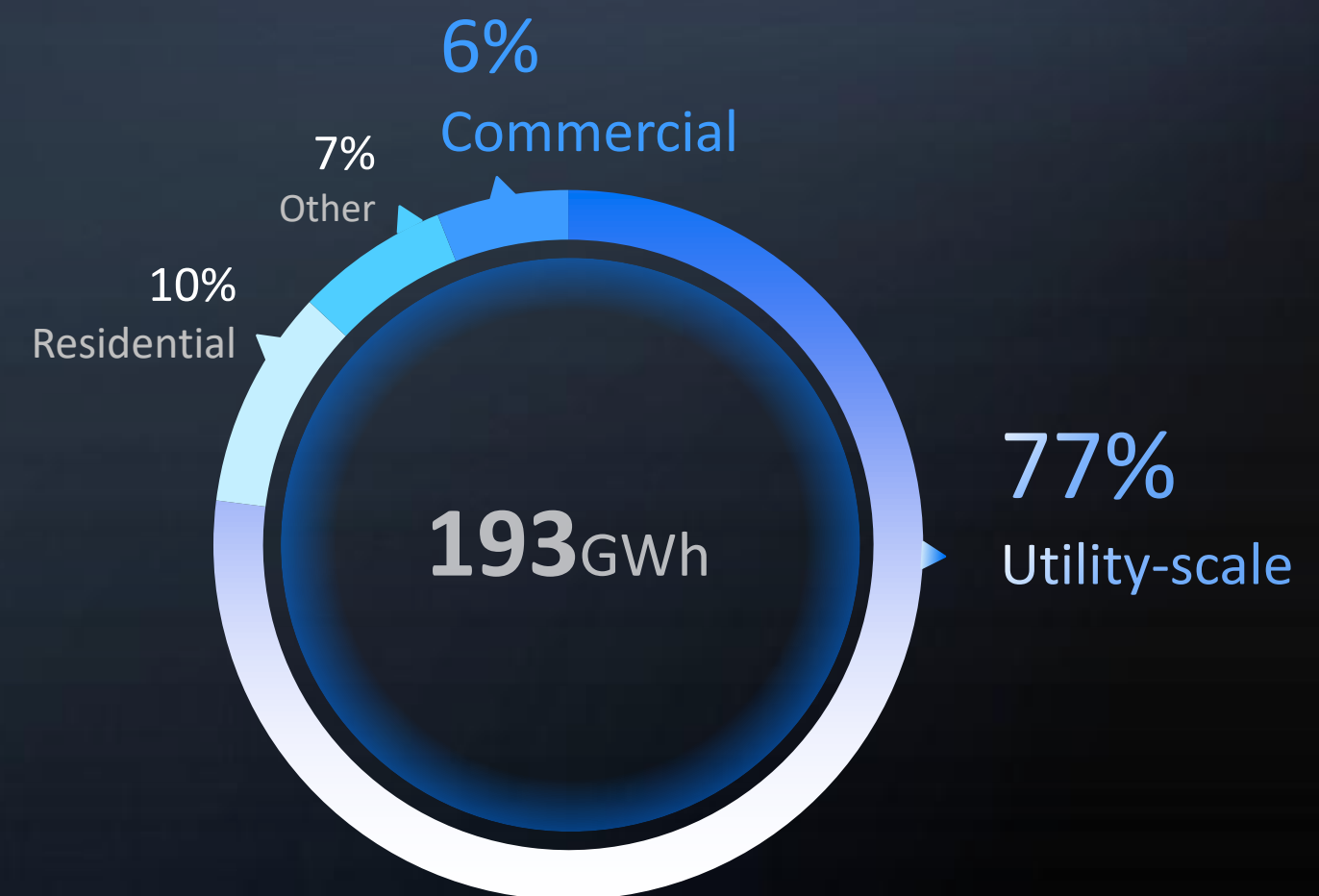
2024-2030 Global energy storage



Annual global energy storage installations based on energy capacity 2024-2030

83%

Total market share of Utility-scale and Commercial storage in 2025



Application of energy storage projects deployed annually based on capacity 2025e

*Data source: BloombergNEF 2024

CHALLENGES IN THE BOOM



Profitability

Poor performance
Delivery delays



Safety

Fire hazard
Data breach risks



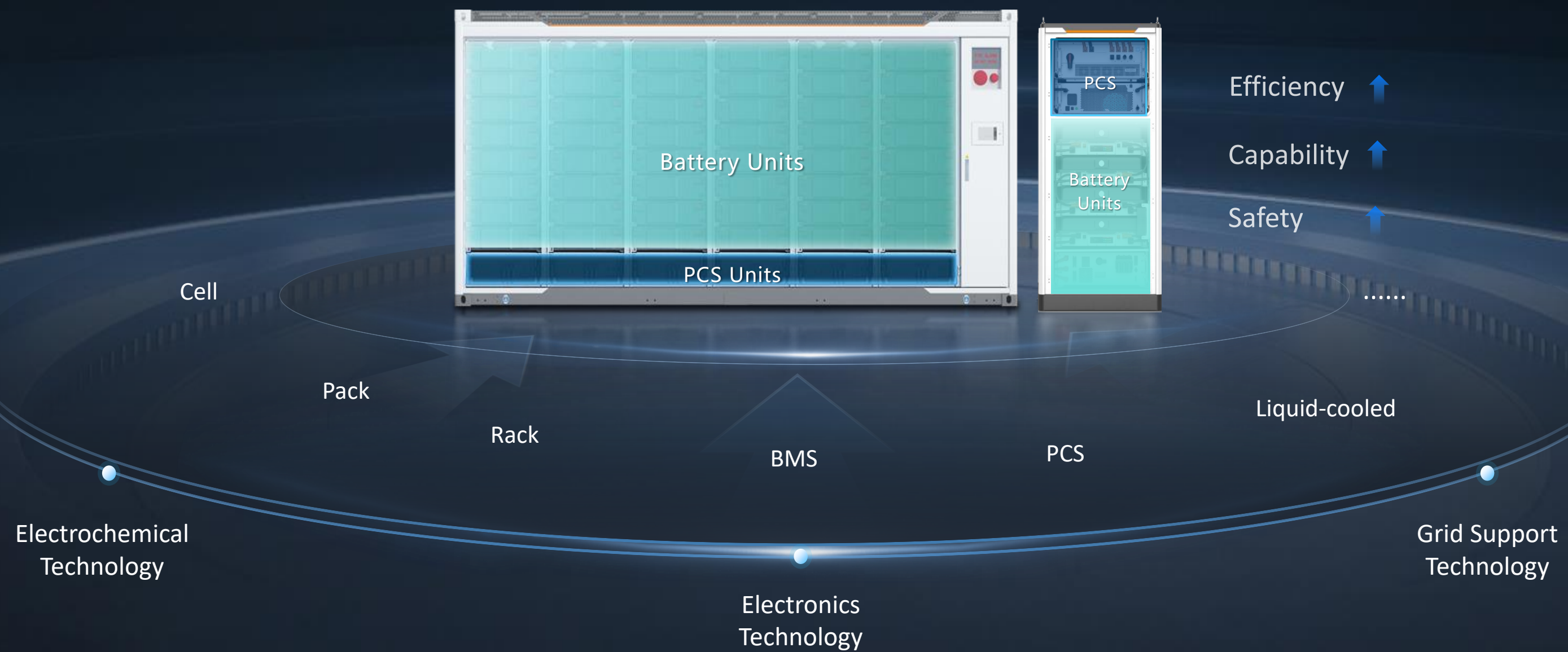
Friendly

Environmental pollution
Unsuitable for harsh environment

AC BLOCK: EMPOWERING HIGHER INTEGRATION

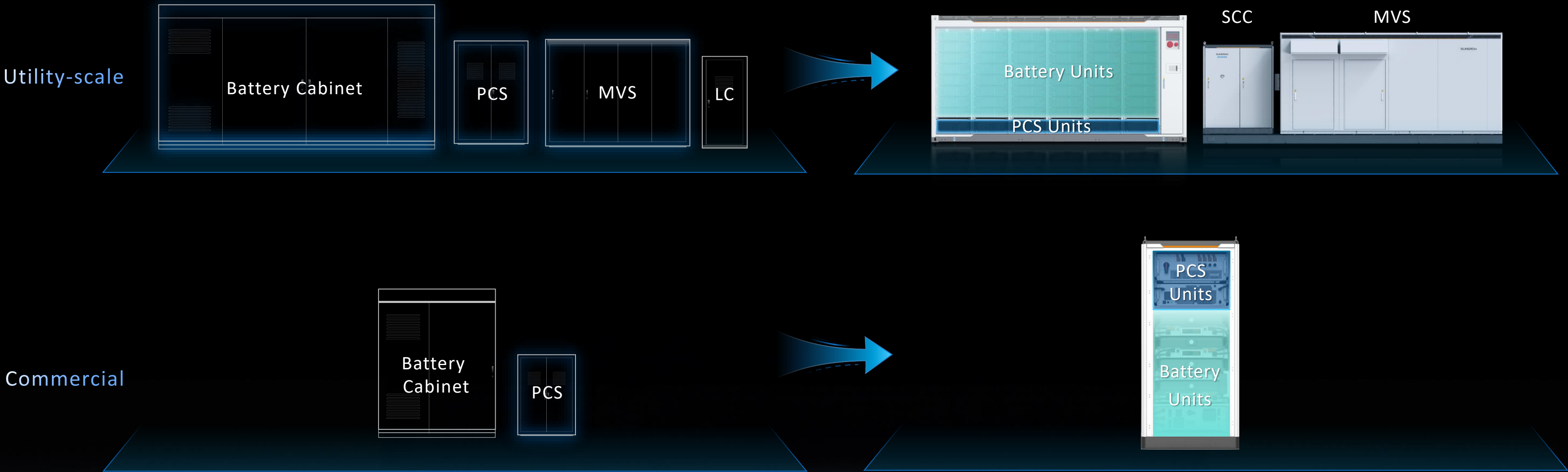
AC Block

String PCS inside the cabinet



AC BLOCK : DRIVING THE ENERGY STORAGE REVOLUTION

Profitability ↑ Safety ↑ Friendly ↑



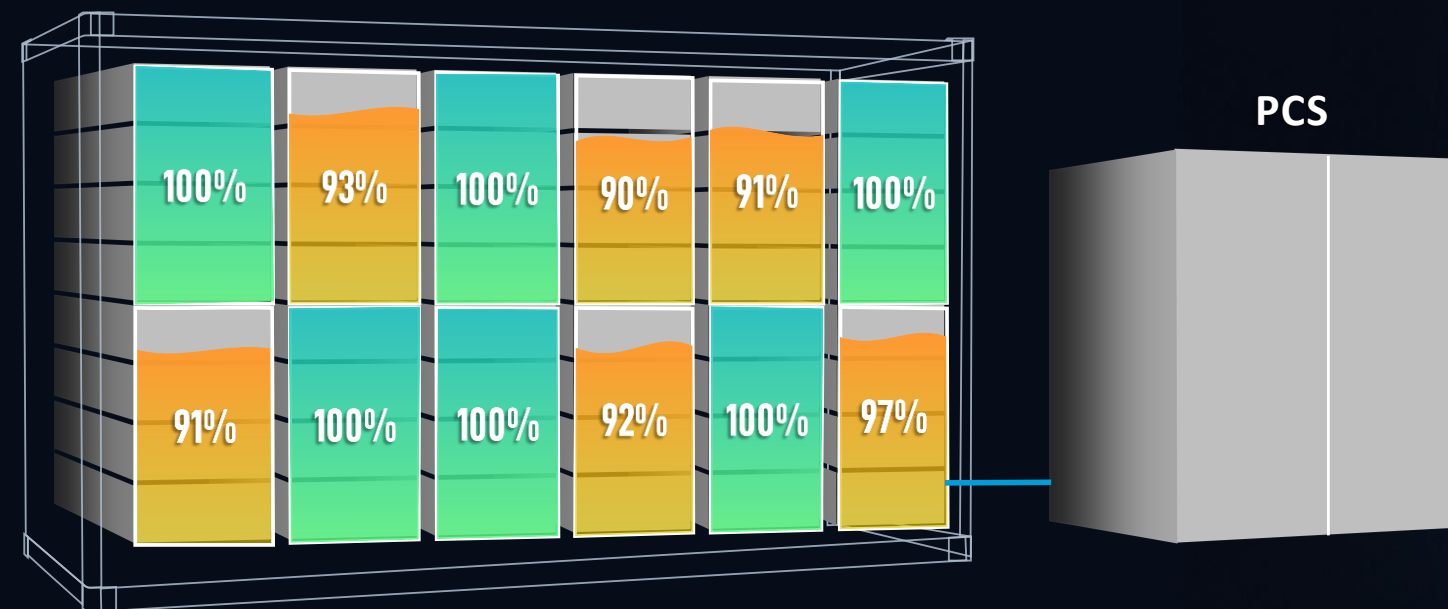
Profitability

IMPROVE CONSISTENCY AND INCREASE DISCHARGE BY 8%

1 PCS for 1 Rack | Rack-level current balance control | SOC automatic calibration

Traditional ESS - 1 PCS for 1 cabinet

Not fully charged/discharged



VS

Sungrow ESS - 1 PCS for 1 Rack

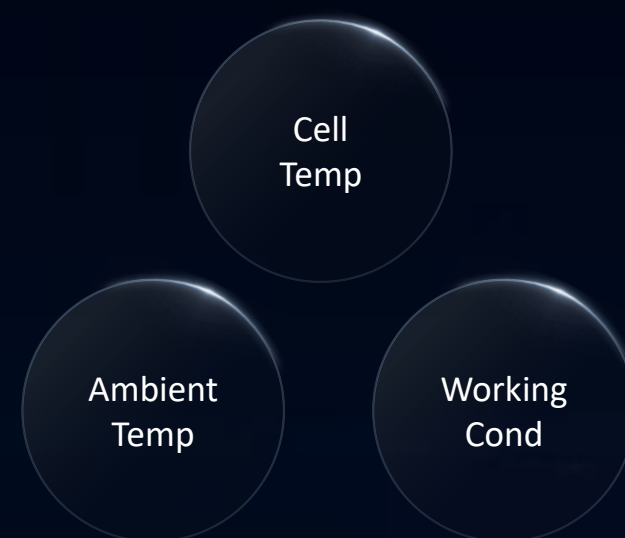
Fully charged/discharged



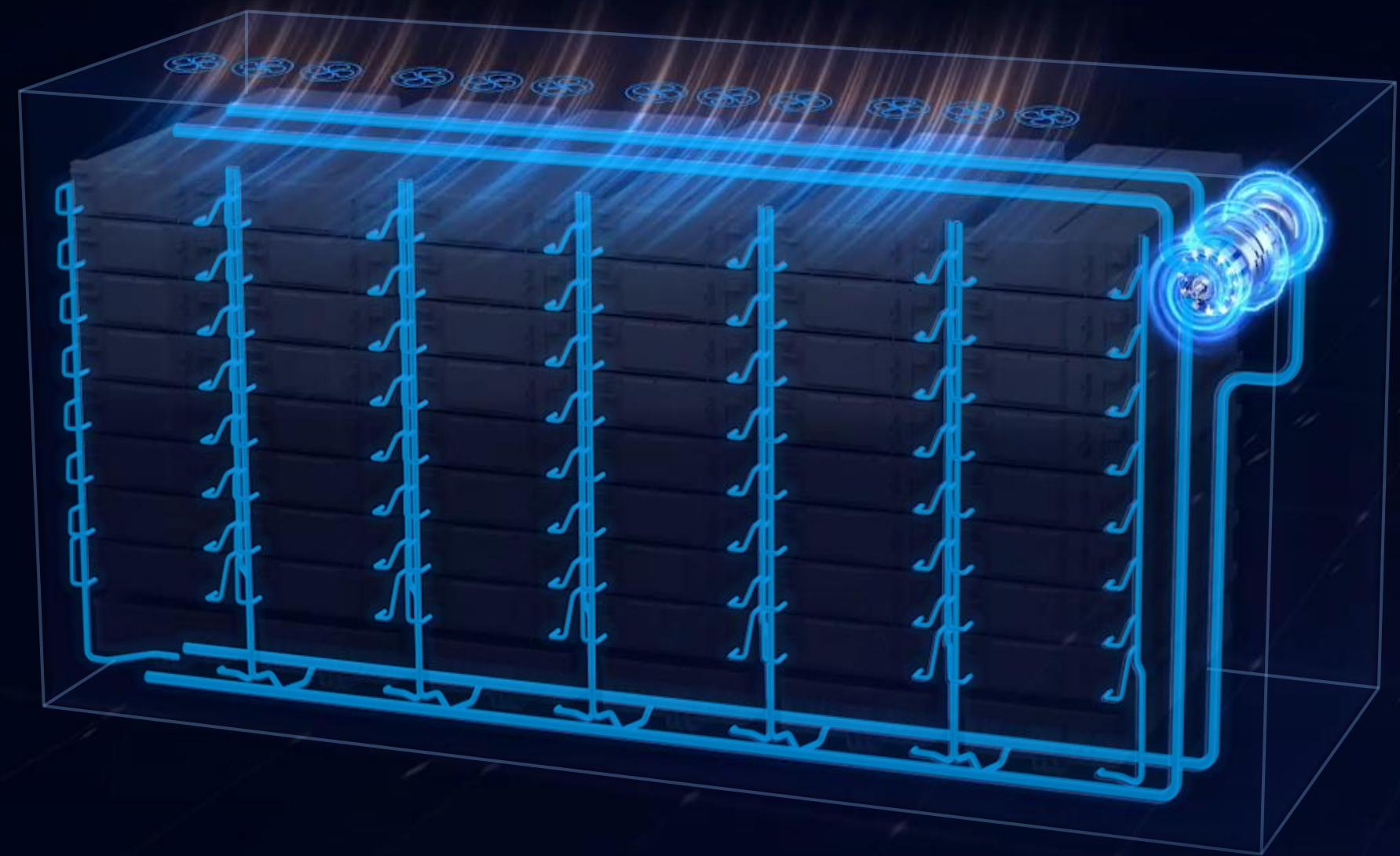
Profitability

REDUCE AUXILIARY POWER CONSUMPTION BY 45%

AI-controlled thermal balance



Heat Cooling



Profitability

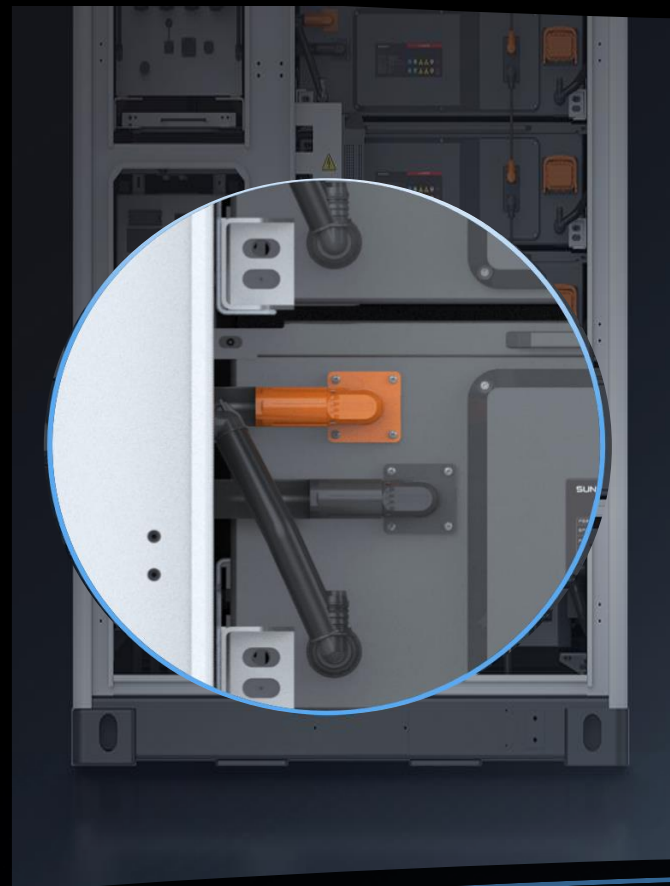
QUICK CONNECTION & EARLY PROFIT

80% of onsite work completed

PCS installation
Finished inhouse



DC wiring
Finished inhouse



Communication test
Finished inhouse



Charge/discharge test
Finished inhouse



System-level test
Finished inhouse



Profitability

ENHANCING GRID SERVICE REVENUE

Leading grid-forming technology



Stabilize grid voltage



Stabilize grid frequency



Enhanced HVRT & LVRT



Profitability

GRID-FORMING : ENSURE THE STABLE OPERATION OF THE GRID

Dalia, Israel



Challenge :

High cost and difficulty in restarting power plants after maintenance.

SG Solution :

Stabilize the black start and reduce THD below 10%.

Minety, United Kingdom



Challenge :

The UK grid frequency momentarily dropped to 49.3Hz.

SG Solution :

Ms-level inertia support helps restore grid frequency to normal range within 5 minutes.

NEOM, Saudi



Challenge :

Grid-connected/off-grid switching and transient stability

SG Solution :

PV-storage-grid coordinated control ensures stable operation of hydrogen production equipment.

Safety Design

4 ESSENTIAL SAFETY FEATURES

Alarm 24h in advance

AI battery cell management

Temperature

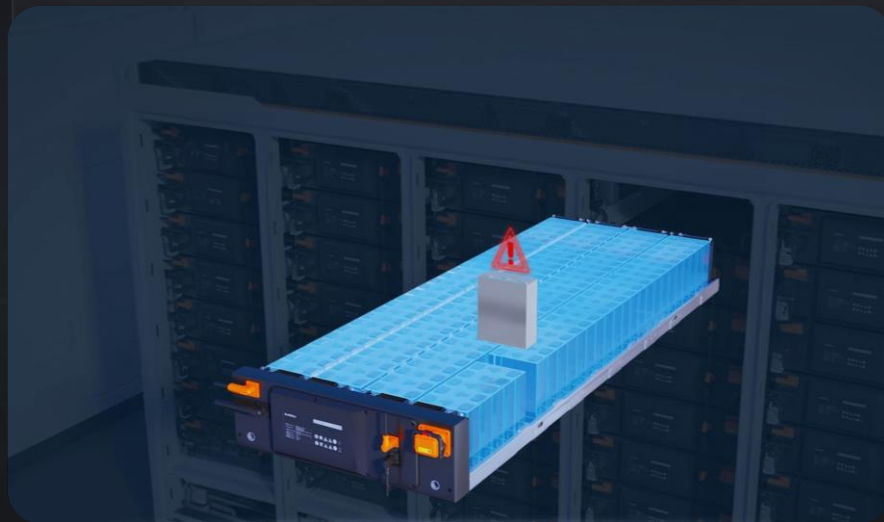
Voltage

Pressure

Particles

Gas

Current



100% Arc detection accuracy

ArcDefender™ technology

0

False
alarm times

< 0.2 s

Shutdown
time

< 1500 J

Arc energy

On/Off grid

All-scenarios



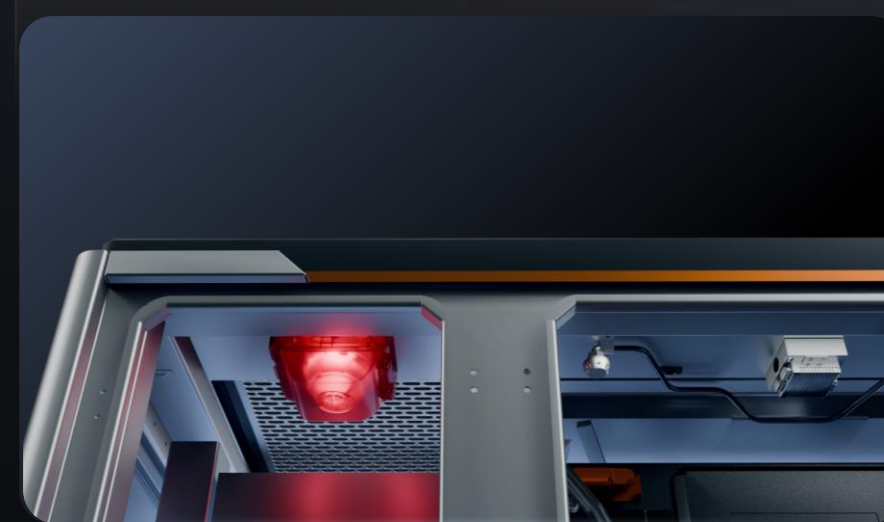
No thermal propagation

3 layer fire management

Flame retardant

Fire suppression

Deflagration venting



Nip cyber risk in the bud

Top-tier Cybersecurity System

Encrypted
communication

Wireless
Removal

Firewall

Log Audit

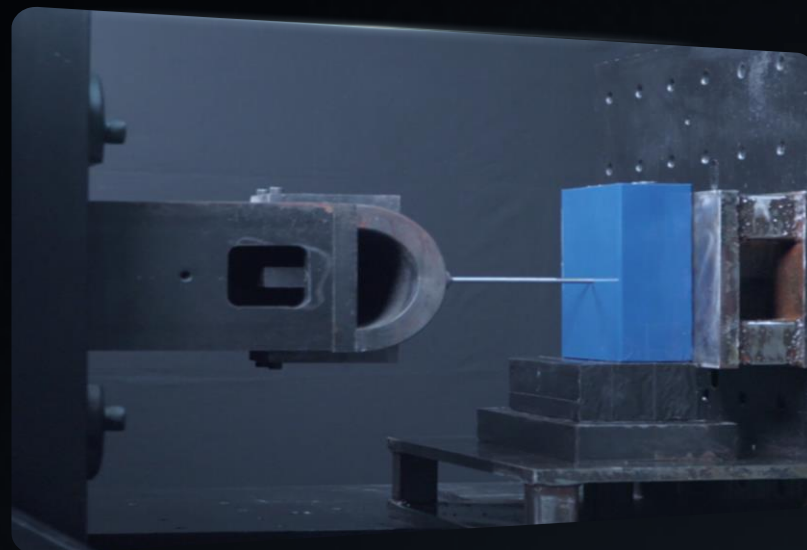


Safety Test

STRONGER FOUNDATION FOR 0 ACCIDENTS

500+ safety tests, from cell, pack, rack, PCS to system

118
Cell tests



Nail penetration test

126
Pack+Rack tests



Pack thermal runaway jetting test

143
PCS tests



Dust test

131
System tests



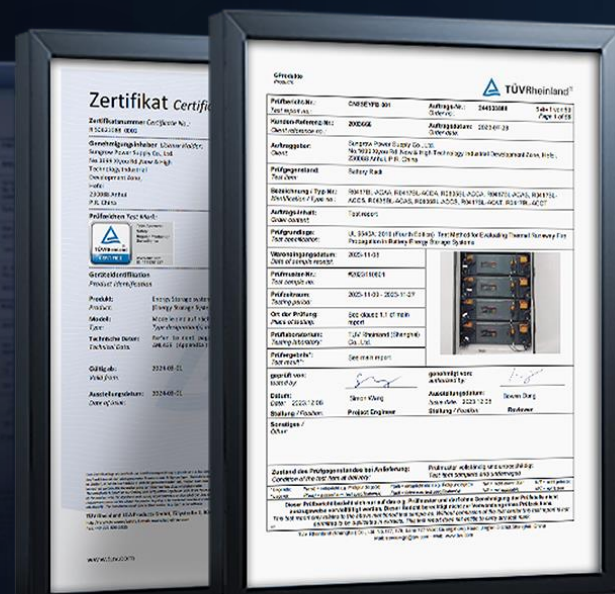
20MWh large-scale burning test

Safety Certification

INDUSTRY-LEADING SAFETY CERTIFICATIONS

Comply with 130+ global safety standards

Battery safety



IEC 62477

EN 50549

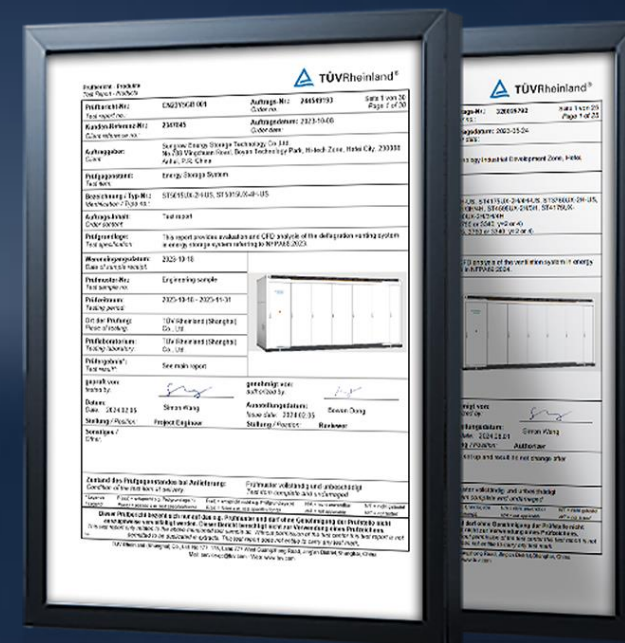
Electrical safety



IEC 62933

UL 9540A

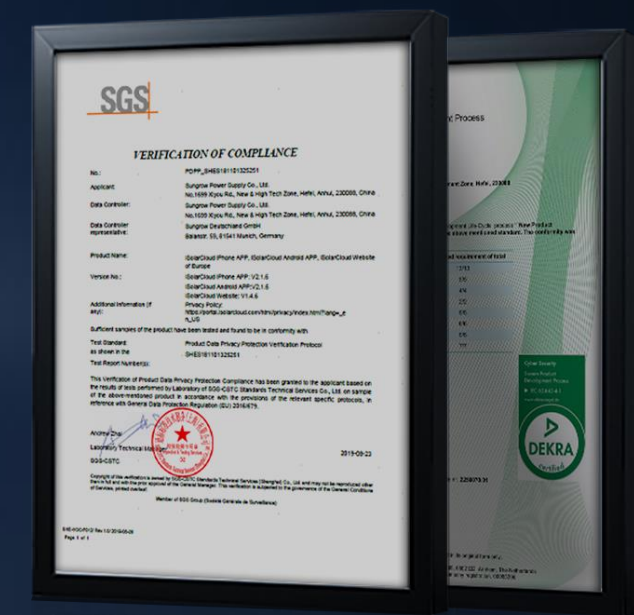
Fire safety



NFPA68

NFPA69

Data safety



GDPR

IEC 62443

Friendly

ALWAYS RELIABLE

Suitable for all environments



Cabinet: IP55 & C5



Pack & PCS: IP67

High humidity

Low temperature

High corrosion

Desert

Friendly

ALWAYS WORRY-FREE

Nature-friendly and pollution-free



Vegetable
transformer oil



Biodegradable
refrigerant



Engine noise
 $\leq 70\text{dB}$



Perfluor fire
extinguishing agent

ISO certification

PCF ISO14067

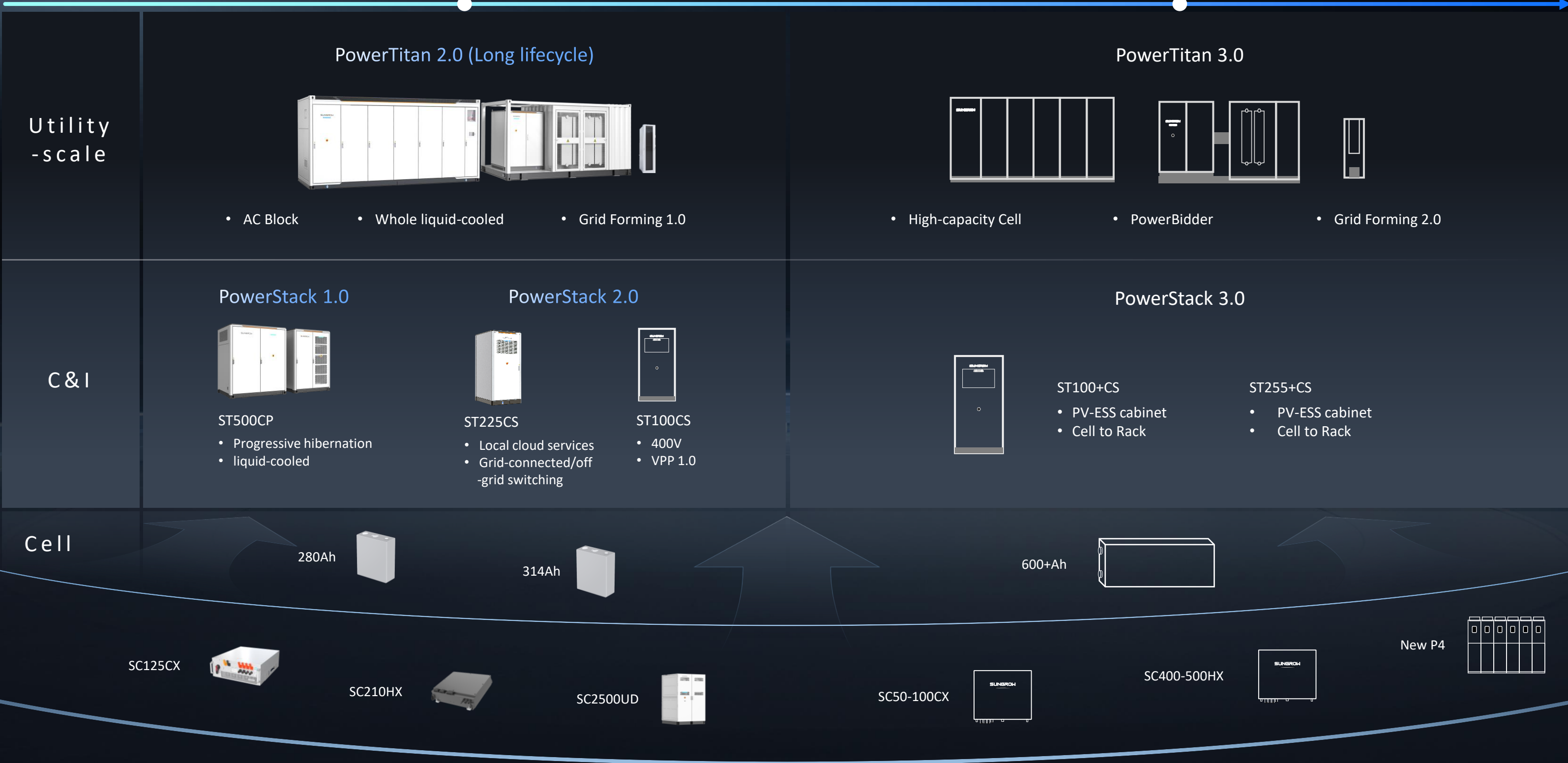
EPD ISO14025

SUNGROW

ESS Product Roadmap

2025

2026



**UNLEASH THE INFINITE
POTENTIAL OF ENERGY**