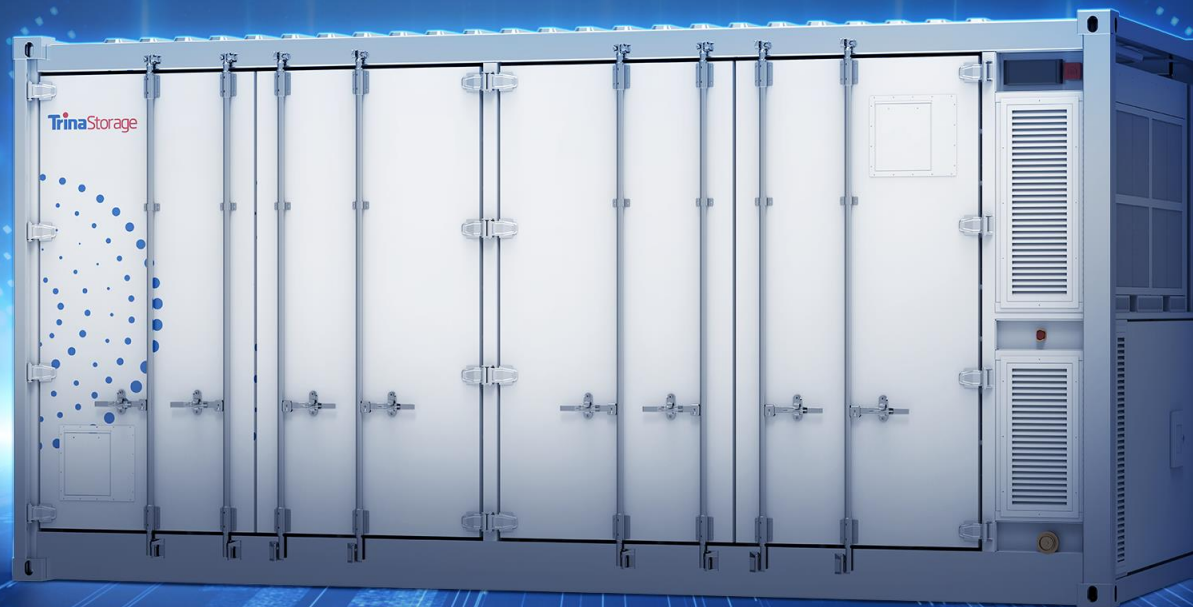


# From Sand to Storage

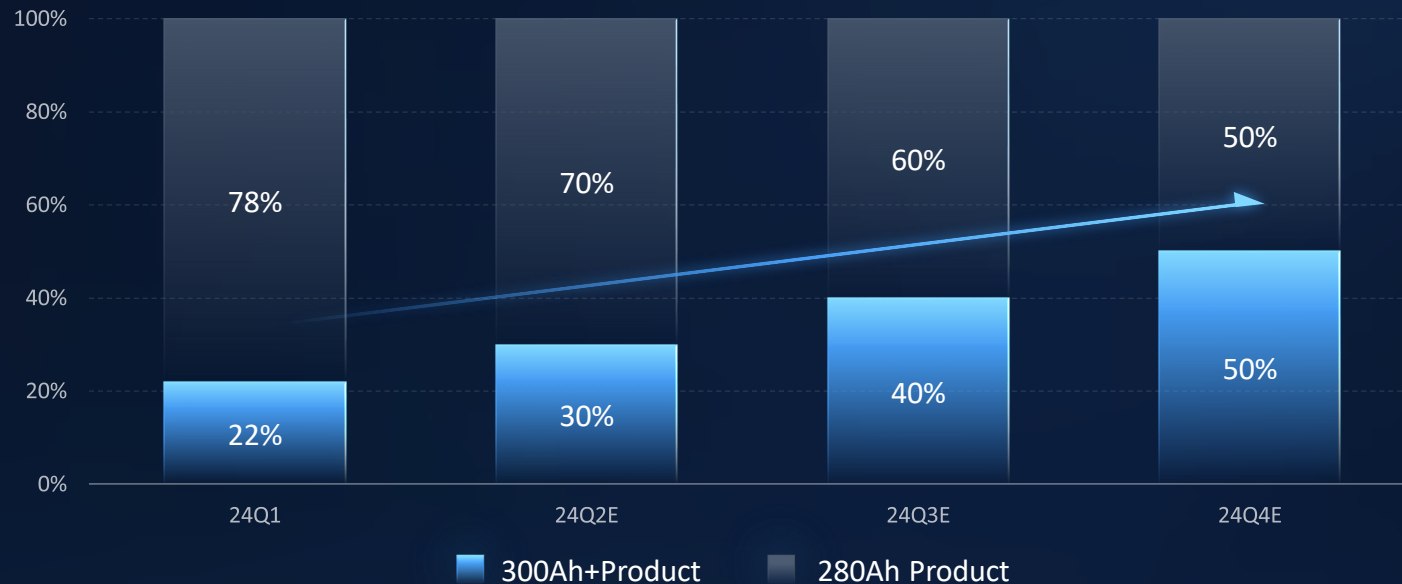
Mastering BESS project in desert Climates



# The 300+Ah Cell Market Outlook

The 314Ah cell is set to become the most mature and stable solution in the energy storage sector

Forecast of Cell Shipment Structure by Model in the Global Large-Scale Storage Market



By 2025, the market is expected to fully transition to 300+Ah cells

Source: Infolink

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With over 60 GWh of orders secured outside China, global deployments of 5 MWh container systems are projected to surge significantly by 2025.

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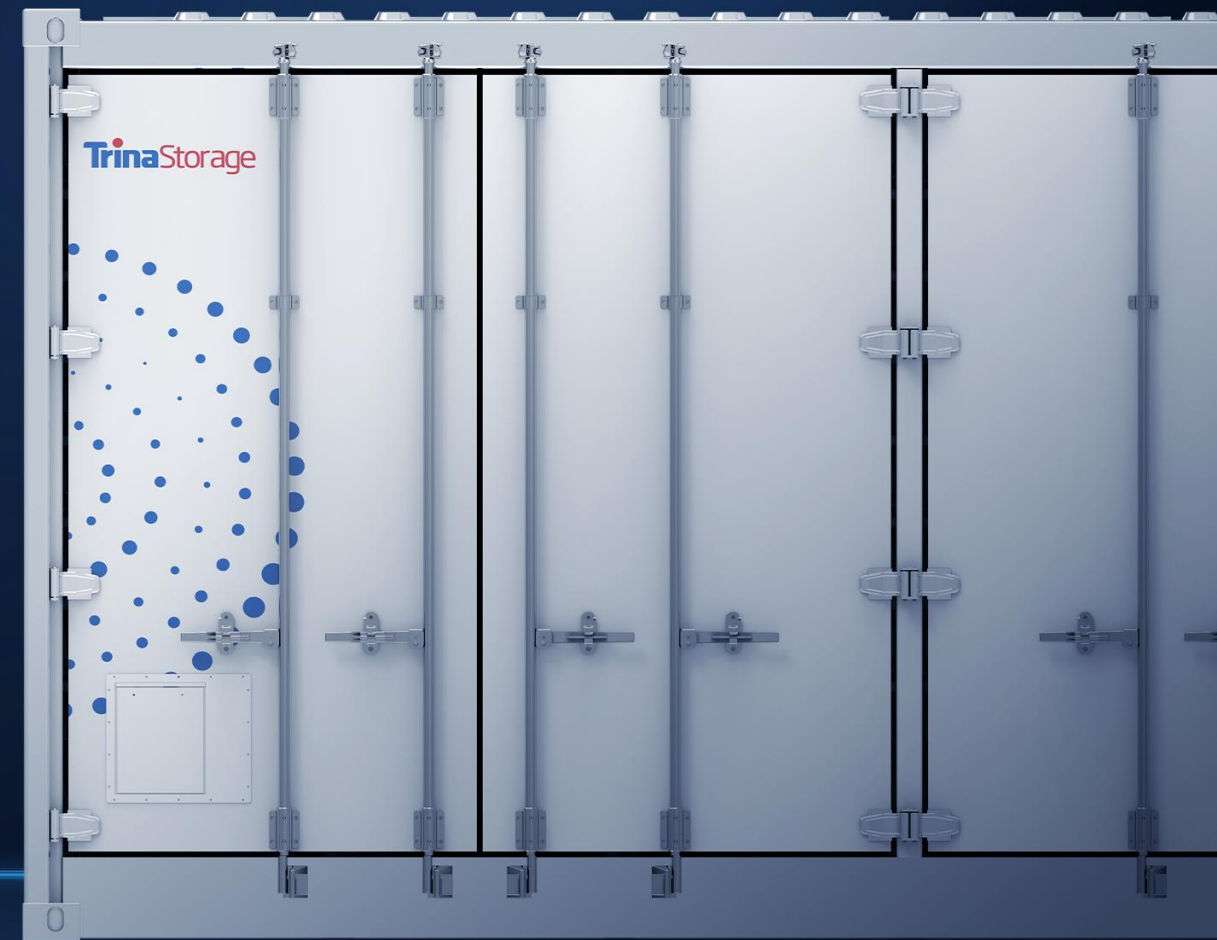
Source: Wood Mackenzie

# TrinaStorage Elementa 2 Pro 5.015MWh

TrinaStorage

## Elementa 2 Pro

Cell Type	3.2V,314Ah
Battery Configuration	416S12P
Nominal Capacity	5015kWh
Typical Operational Duration	2~8hours
Nominal Voltage Range	1123.2V~1497.6V
Dimensions (W*H*D)	6058*2896*2438mm
Weight	42.5T
Degree of Protection	IP55
Operating Ambient Temperature	-30°C~55°C (> 50°C Derating)
Altitude	≤2000m (2000~4000m Derating)
Anti-corrosion Degree	C4 (C5 Optional)
Noise	≤70db (25°C)







# How Trina Storage Achieves Ultra-High Efficiency in desert climate

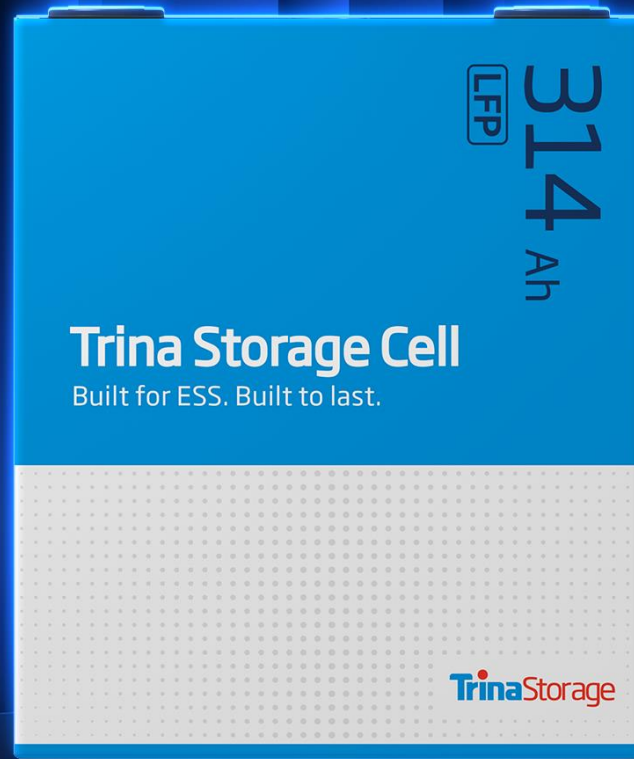




# Long Lifecycle & Ultra-Performance

Lifecycle  
15,000cls+

Cell RTE  
95%



First-Year Degradation  
0%

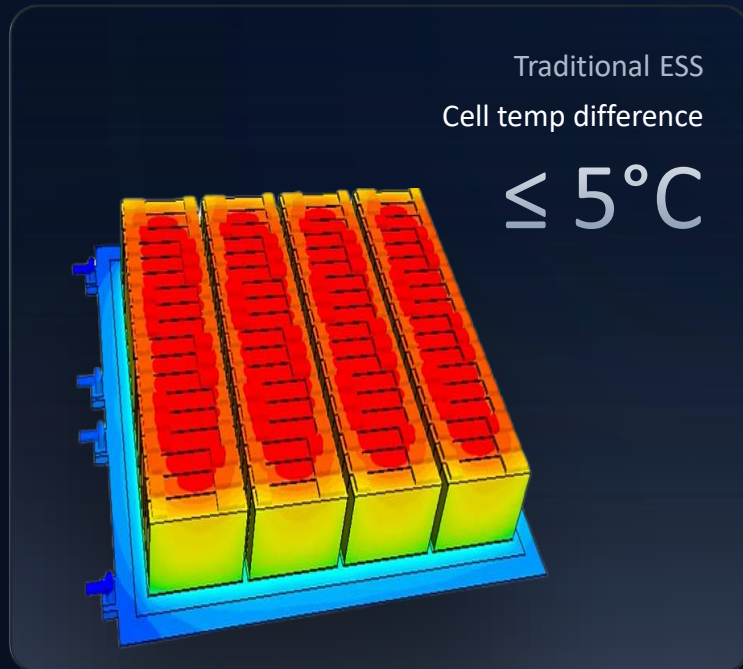
Higher energy @314Ah BOL  
12%

# Intelligent Temperature Control

## Matrix Temperature Control System

Maintains temperature variance within

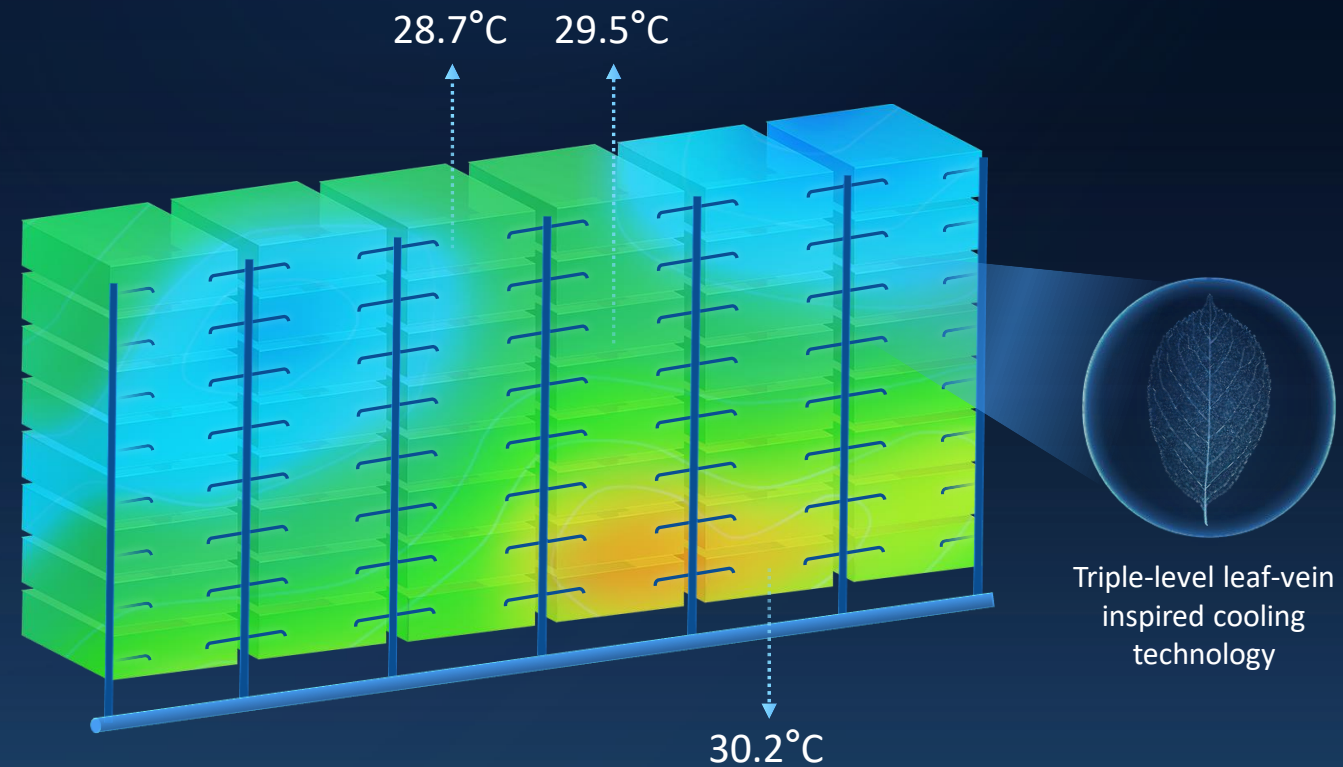
$2.5^{\circ}\text{C}$



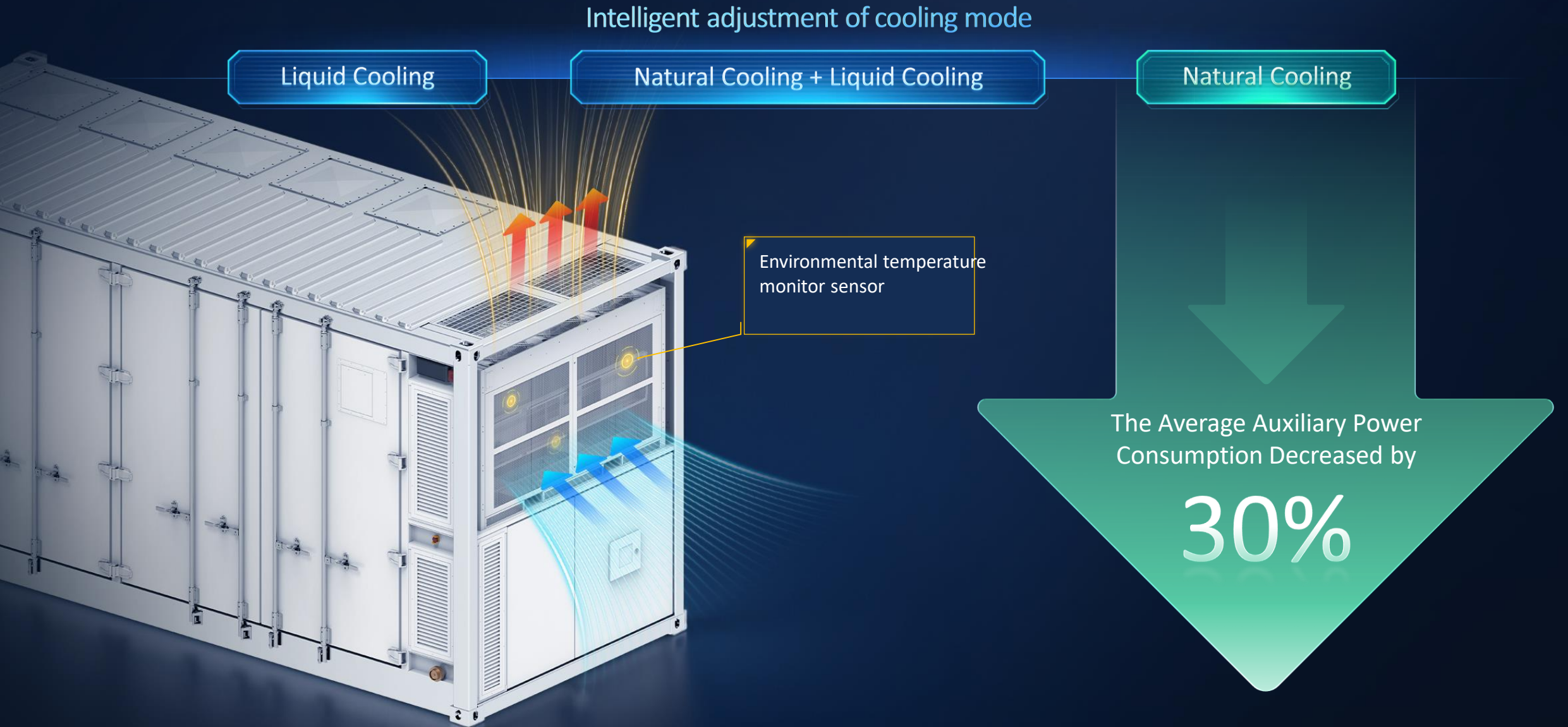
Elementa 2 Pro  
Cell temp difference

$\leq 2.5^{\circ}\text{C}$

\*UL Vmark



# Intelligent Temperature Control



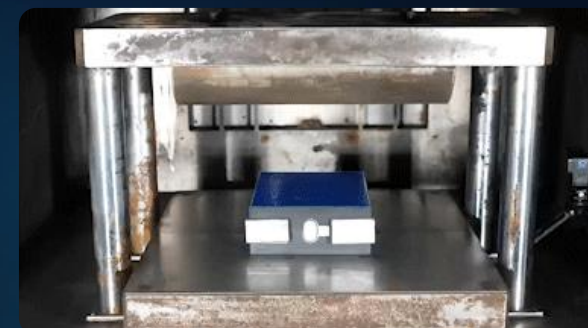
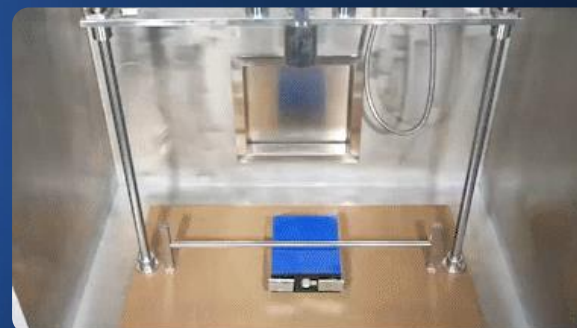
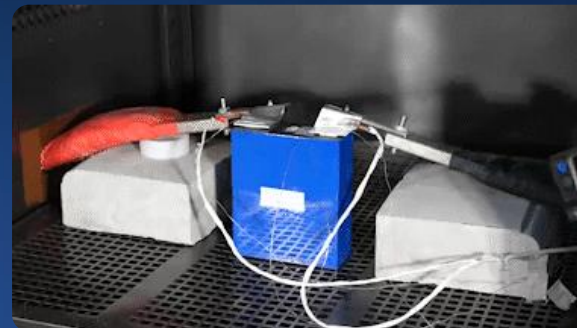
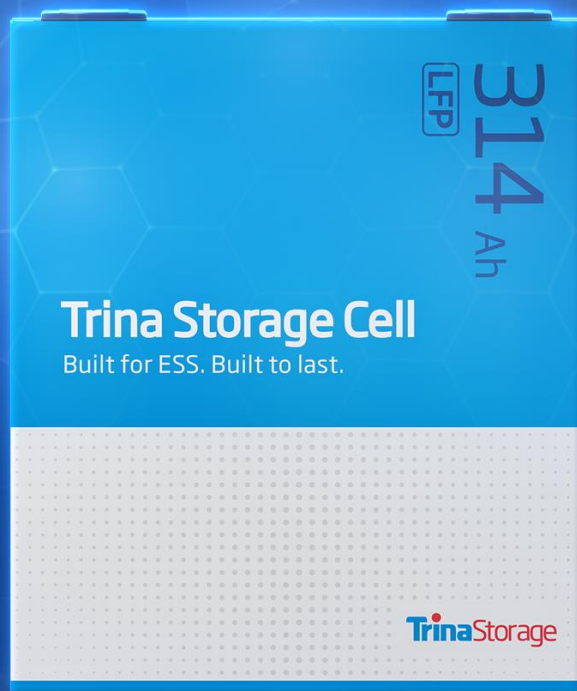




# How Trina Storage Ensures BESS Safety under desert climate



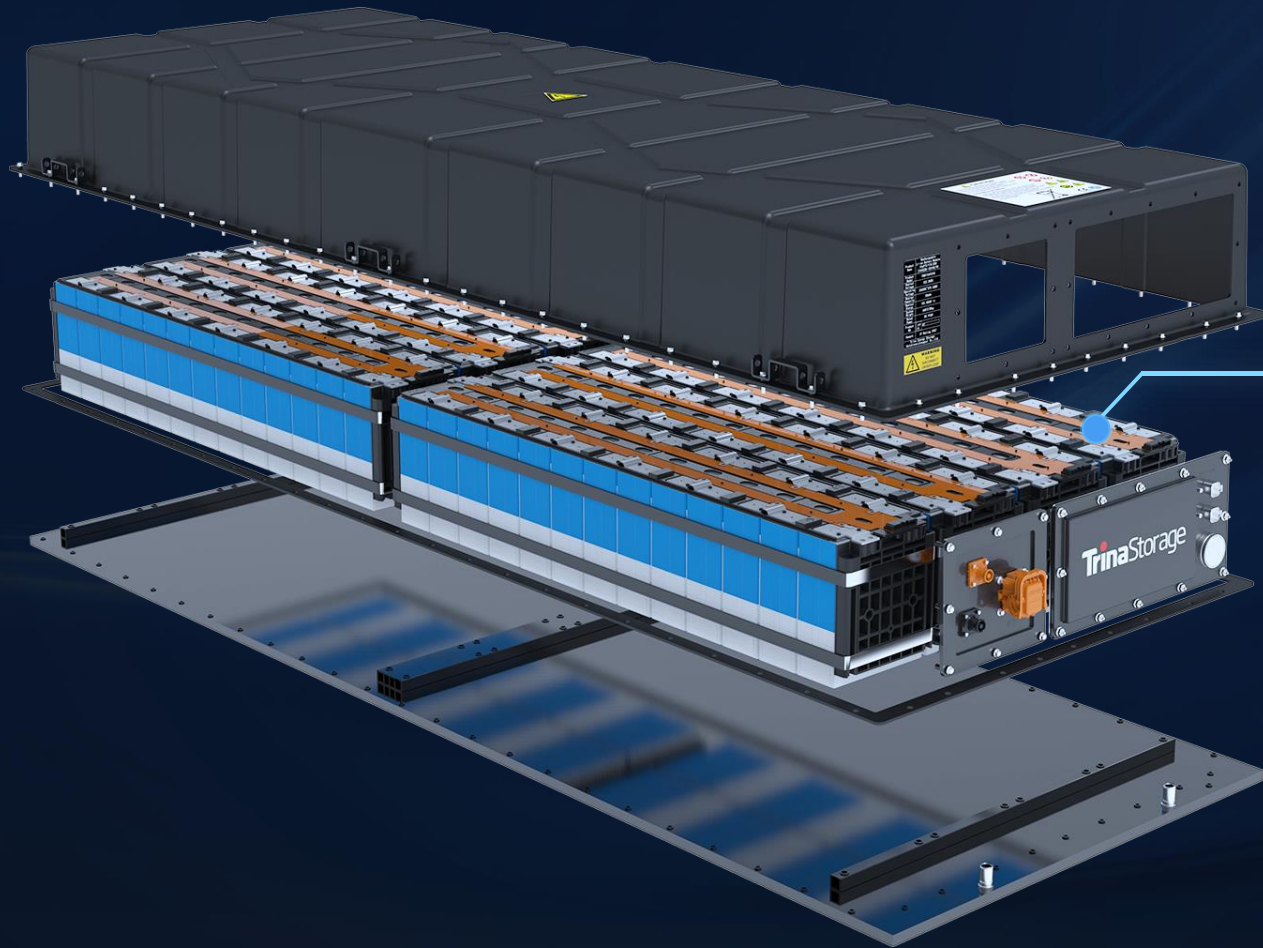
# EV level diversified abuse test



Successfully withstand diversified abuse tests  
at the EV level



# Cell Level Energy Management

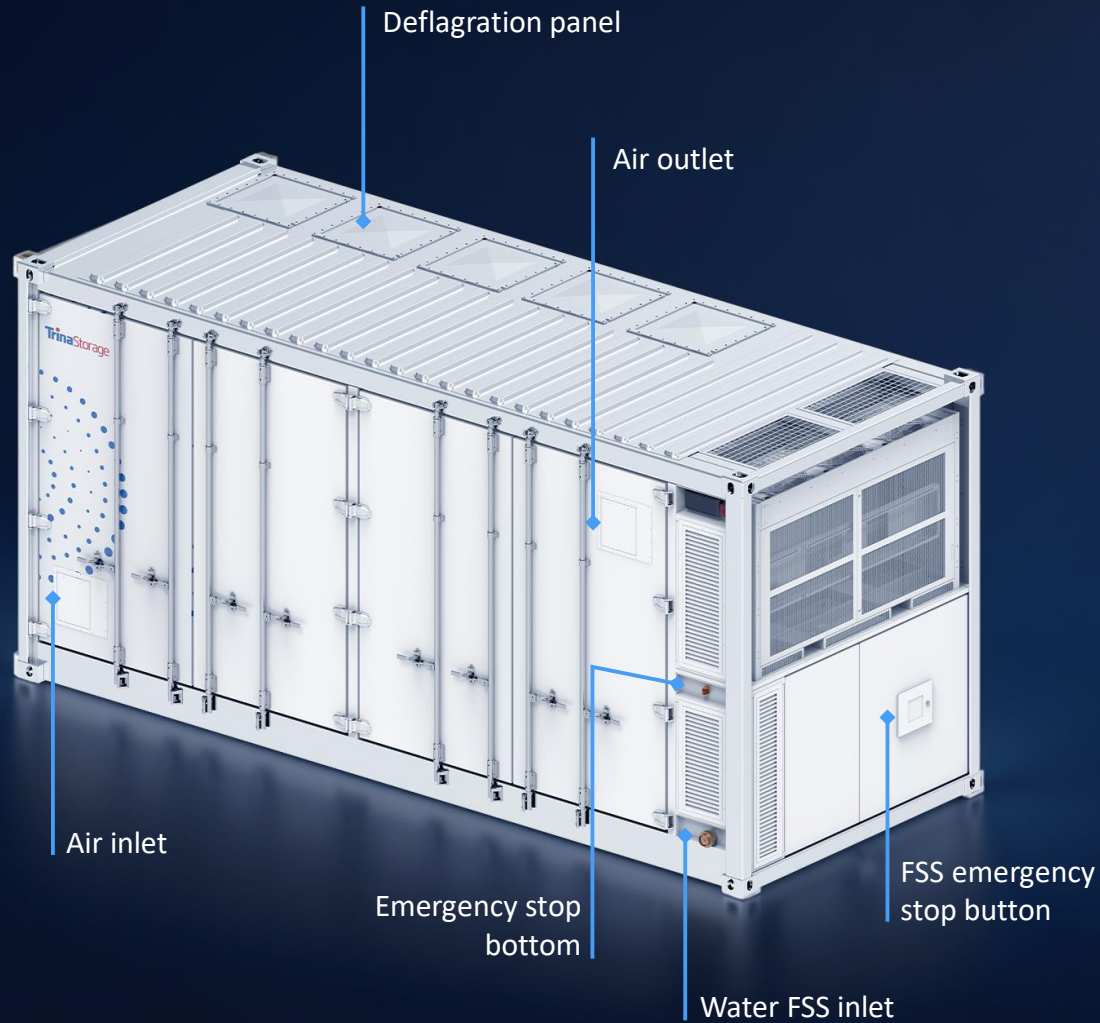


1:1 NTC Cell Temperature  
100% Detection

Achieve millisecond level positioning  
problem for cells



# High-Level FSS Design



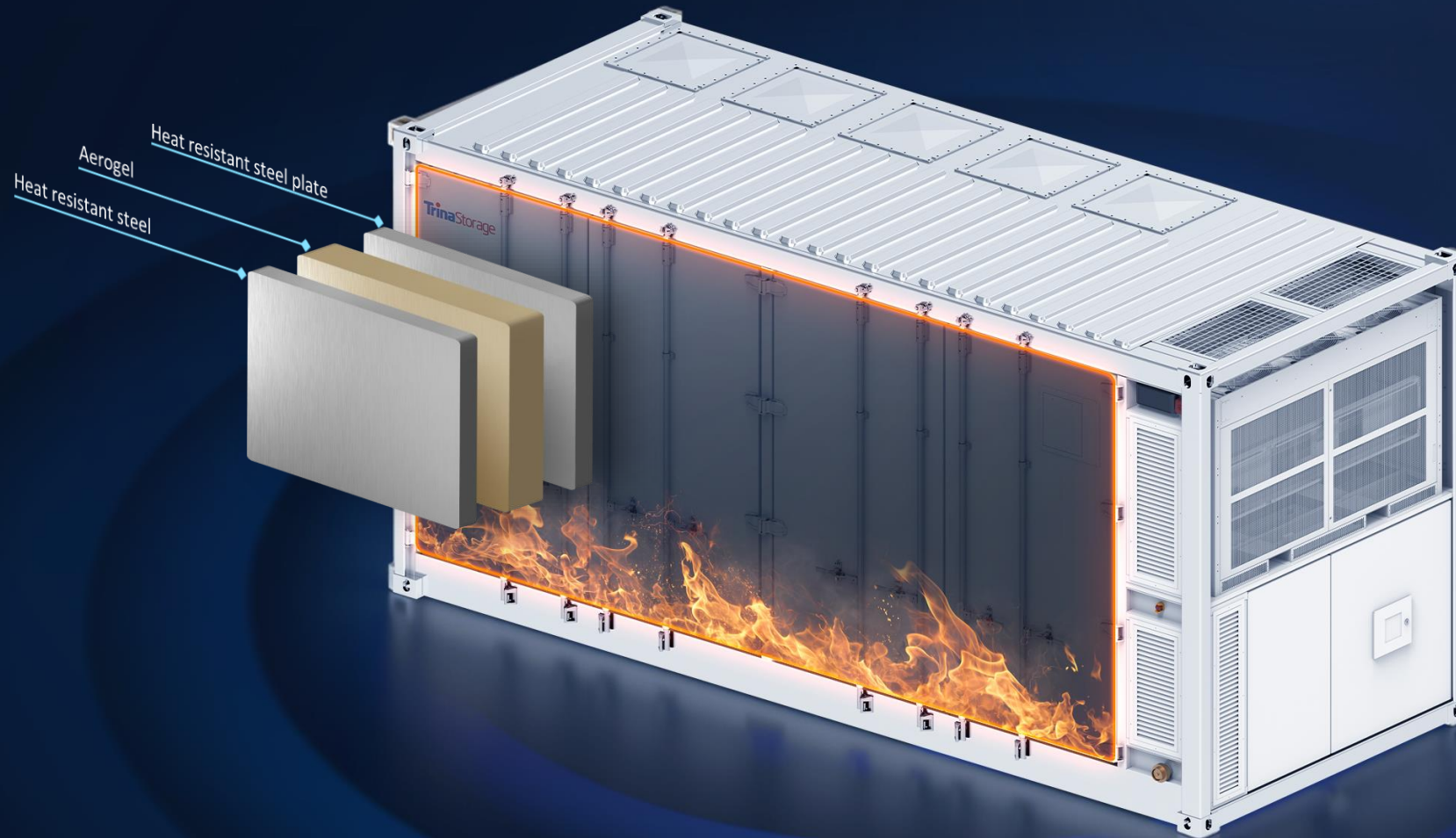
Compliant with NFPA 855 by offering NFPA 68 or 69 design option

Passing the fire reliability verification experiment , follow the NFPA69 standard



# Structure Enhancements

## Design of Two-Hour Fire-Resistant Sandwich Structure



Prevent heat propagation caused by arc accidents.  
Enhance safety, protect equipment and personnel, and reduce economic losses.





What makes Trina Storage flexible enough to  
be suitable for diverse applications?



# Environmental Adaptability

## Adapts to Windy & Sandy Areas

Module IP67 Design

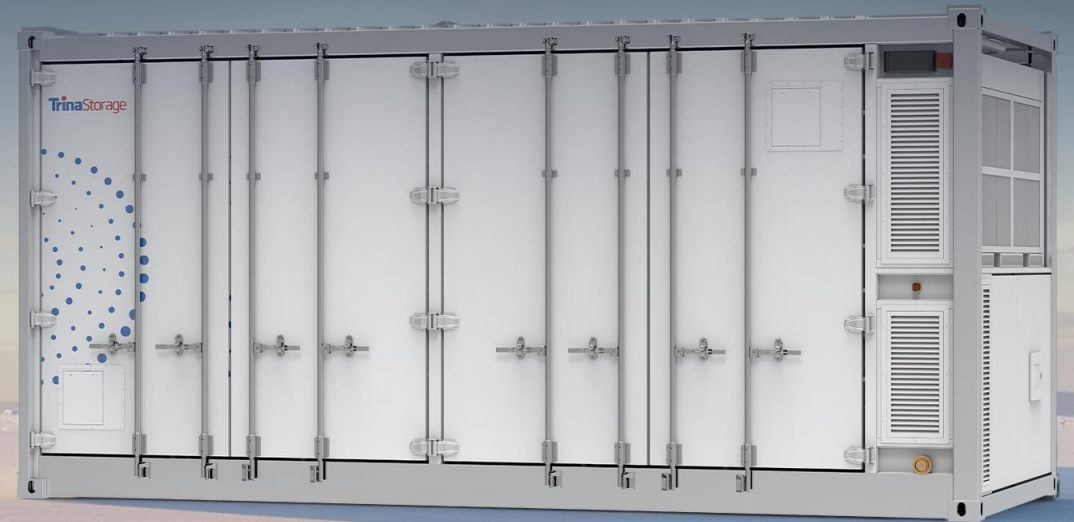
Eliminates the effects of sand & dust



## Tolerates High Salinity Environments

C5 Anti-corrosion Design

Eliminate the effects of water vapor & salt spray



# Environmental Adaptability

TrinaStorage

High Temperature Refrigerant Technology  
Adapts to Extreme -30~ +55°C Environments



-30°C



+55°C



## High efficiency On-site O&M

TrinaStorage

One-click Remote Upgrade ensures the O&M efficiency increase 90%

1-1.5h

An isometric 3D diagram of a storage array. It consists of a grid of 20 grey rectangular blocks representing storage units. Five small human figures in blue uniforms are positioned around the array, each standing next to a different block, representing manual on-site maintenance or upgrade work.

5-8mins

An isometric 3D diagram of a storage array, similar to the one on the left. It features a grid of 20 grey rectangular blocks. A central block is highlighted in green and surrounded by a glowing green circular ring. Dotted lines connect this central block to the surrounding blocks, representing a remote upgrade process that affects the entire array.



# Streamlined Transportation Solution

TrinaStorage



## Separate Transport

Cabinet and module



## Two-way Stop Valve

Cluster removal efficiency increased by 50%



## Comprehensive Service

Professional project management tracking



## On-site Installation & Commissioning

Module dispersible tooling



Improve the 50% of O&M efficiency



Qinghai Crook , China

## Key Project Reference

TrinaStorage



Delivered 2024

## 75MW/300 MWh

Trina Storage provide BESS for Haixi De Guangrun New Energy Co., Ltd.(Electrochemical shared energy storage power station)

First tier delivery of 314Ah cells for 300MWh project

### Overview

- The first cross-regional shared energy storage project.
- Geographical Location: Situated 30 kilometers outside of Delingha City, Qinghai, with an altitude exceeding 3000 meters.
- Environmental Characteristics: Extreme temperature differences exceed 50°C, presenting dual challenges related to terrain and climate

### Product Features

- Multi-protection design(IP55,C5,IP67(pack),UL Vmark ,AI liquid cooling)
- Anti-condensation, Dc short-circuit, Lightning protection system and arc-flash & coordination safety design
- Design life >25 year(cabinet adopt double steel plate structure, filled with Class A waterproof flame retardant cotton; front, middle and back three layers coating process)
- Optimize layout design(back to back, side by side)

### Results

- Total area kept under 3,000 sq meters, reducing initial investment and O&M costs
- Shipment, infrastructure, commissioning all completed within 45 days
- Continuous 4h output of 300,000 kWh at night to enhance grid stability
- Enhance new energy consumption capacity and helps prevent power shortages

Egypt, Middle East

## Key Project Reference

TrinaStorage



Start to Deliver 2025

**150MW/300 MWh**

Trina Storage provide BESS for Shaanxi Xinhua Hydraulic and Hydropower Investment Co., Ltd.

First delivery of BESS project in Egypt  
The largest single-site BESS project in Africa

### Overview

- Geographical Location: Situated komombo Egypt, Middle East
- Environmental Characteristics: Extreme temperature differences exceed 50°C, desert climate
- The first to incorporate a utility-scale BESS in Egypt

### Product Features

- A BESS solution tailored for grid-scale installations
- 314 Ah Elementa 2 (Liquid-cooled LFP batteries)
- Multi-level battery management systems
- Strong FSS to minimize thermal anomalies
- Quick installation with a simple plug-and-play design

### Results

- Provide a total storage capacity of 300 MWh
- 15-year LTSA (performance, availability, capacity, RTE warranty)
- AMEA Power marks Trinasolar's first energy storage project in the Middle East and Africa region



# Global Energy Storage Shipments - 10 GWh



📍 The UK  
Auchteraw  
Independent Energy Storage Power Station Project

75MW/300 MWh

Case of Electric Power Auxiliary Service Energy Storage Project

This project provides fixed frequency response services to support the stability of the UK power grid.



📍 Qinghai, China  
Geermu  
Shared Energy Storage Station Project

135MW / 540MWh

Grid-scale

The project, from delivery to grid connection, was completed in 80 days, showcasing Trina Solar's speed. It alleviated the issue of transmission constraints in the Haixi region, enhancing the power supply reliability during peak periods at the Qinghai load center and improving the efficiency of regional lines and main transformers. This met the demands for high-quality, safe, and reliable power supply and efficient electricity use for economic and social development.

# Global Energy Storage Shipments - 10 GWh



📍 Gansu, China

## Linze Shared Energy Storage Station Project

**80MW / 320MWh**

Grid-scale

The project adopts the Trina Storage Elementa liquid-cooled energy storage system equipped with the first generation of the in-house 280Ah TrinaCell. It is estimated that the average annual charge/discharge capacity of the project can reach up to 100,000 MWh, which is equivalent to the yearly electricity consumption of 40,000 households, accelerating the green transformation and development.



📍 Northwest China

## 800MWh Energy Storage System Project

**200MW / 800MWh**

Cases of new energy allocation and storage projects

It is applied to PV projects, which fully reflects the new idea of new energy construction of optical PV-energy storage integration and uses energy storage for peak and frequency modulation to help smooth photovoltaic grid connection.





TrinaStorage