

REPT
BATTERO

REPT BATTERO

COMPANY INTRODUCTION

2025 | An Expert in New Energy Power
and Energy Storage Batteries

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GROUP INTRODUCTION

01

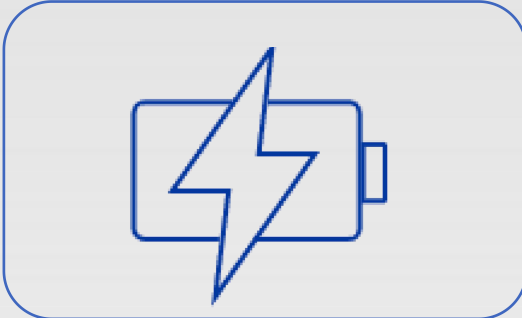
Refining Stainless Steel for a Century,
Building a Green Future

Tsingshan Holding Group - A Fortune Global 500 Company

TSINGSHAN INDUSTRY INTRODUCTION

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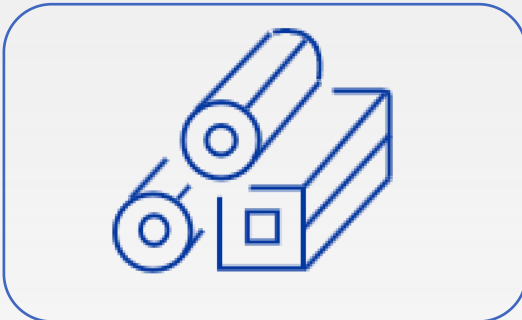
Main Business Areas



New Energy Battery
Research and
Manufacturing



Nickel and Lithium
Mines R&D and
Production



Stainless Steel
Manufacturing
and Trade

Ranked 11th

China's Top 500 Private
Enterprises in the
Manufacturing Industry

Ranked 265th

on the 2024 Fortune
Global 500 List

No.1

2023 Stainless Steel
Production Volume

No.1

2024 Nickel
Production Volume

Group Structure



Development History

1988年

Company
founded

1992年

Entered the
stainless steel
industry

2003年

Formed
Tsingshan
Holding Group

2009年

Invested in mining
operations in
Indonesia

2018年

Became the world's largest nickel producer
and fully integrated the upstream and
downstream sectors of new energy lithium
batteries

NEW ENERGY INDUSTRY CHAIN

Rapid Expansion of the Industry Chain

Tsingshan Group plans to expand across multiple segments of the lithium battery value chain through direct holdings or equity investments.

Resource Integration and Synergy

- Long-term stable supply
- Favorable business environment provided by market rules
- Integrated industry chain
- Backward integration of the industry chain to enhance bargaining power

China

- LFP and NCM
- Cells/Modules/Battery Packs

Indonesia

- Vertical integration from mining to cell production, including lithium, manganese, nickel, and cobalt
- Graphite
- Separator
- Lithium hydroxide



> 9 million tons of nickel metal reserves

25% global market share

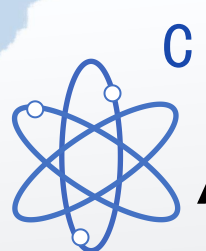
Annual production of 880,000 tons of nickel metal products

Including 60,000 tons of battery-grade nickel sulfate



Annual production of 30,000 tons of battery-grade cobalt sulfate

Indonesia hydrometallurgical refining projects



Annual production of 20,000 tons of AG Artificial Graphite

Collaborate with Chinese graphite manufacturers and apply Indonesian coke materials

Partner

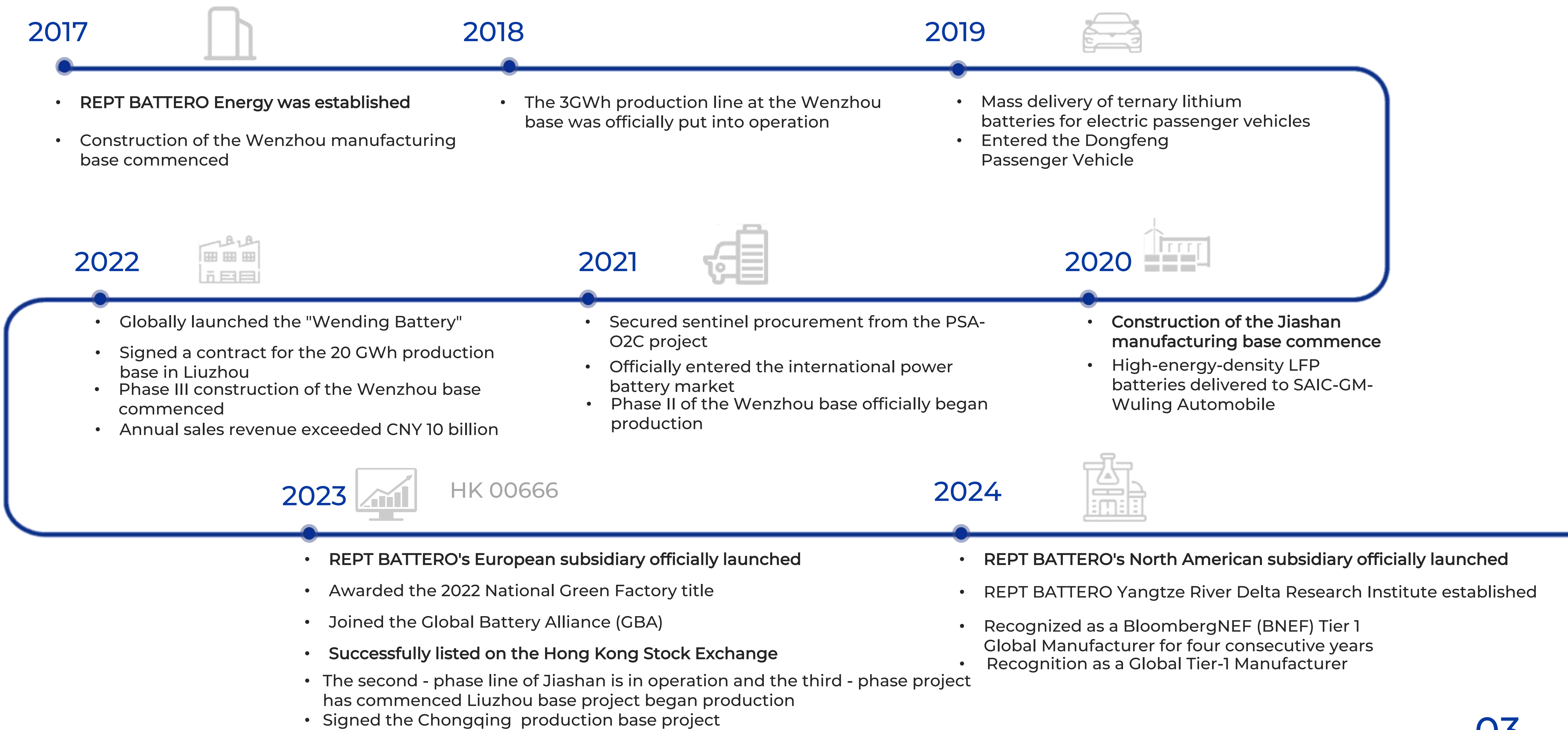


COMPANY INTRODUCTION

02

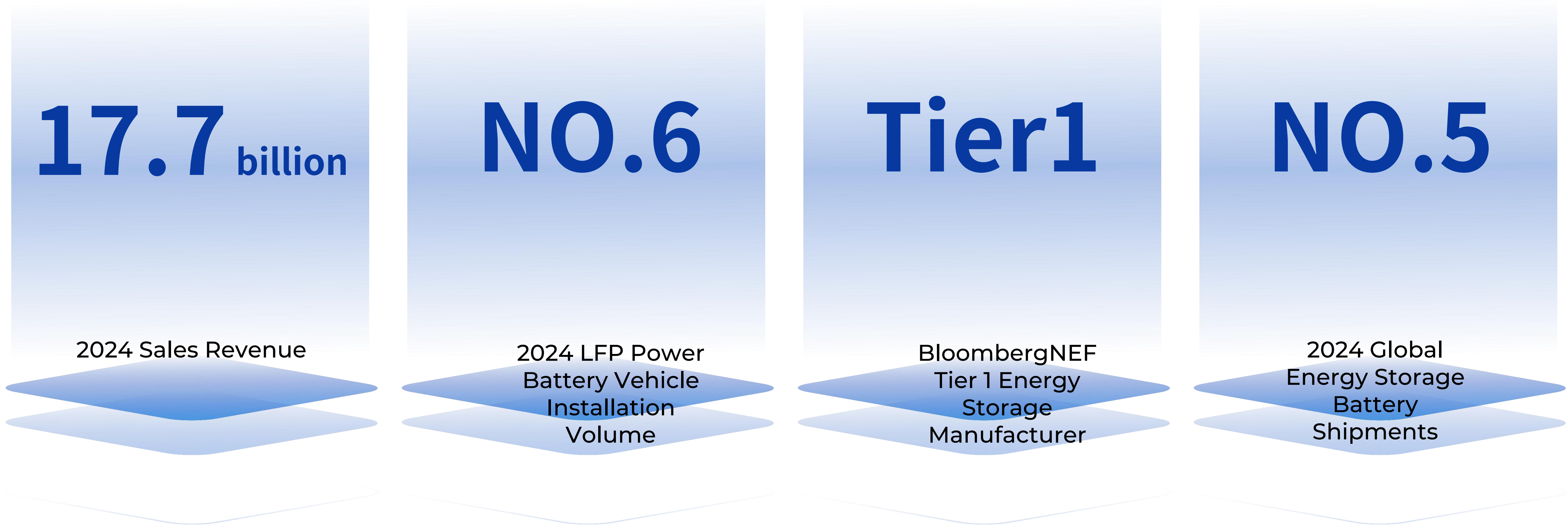
Leading the Future, Anchored in Safety

REPT BATTERO Energy Co., Ltd. – A company listed in Hong Kong



Experts in New Energy Power and Energy Storage Battery

REPT BATTERO Energy Co., Ltd., established in 2017, is the first enterprise in the new energy sector under Tsingshan Industry's strategic expansion. We are primarily engaged in the research, development, production, and sales of lithium-ion batteries, providing solutions for new energy vehicle power and smart energy storage, working alongside our customers to accelerate the global transition to green energy.



R&D CAPABILITY

Through continuous innovation in materials, processes, structures, manufacturing techniques, and business models, we provide customers with unique and differentiated solutions, jointly advancing the industry and creating a better future.

03

We integrate standard development/product certification, functionality, performance, safety, and reliability testing and predictive analysis to offer customers the ultimate quality and safety solutions

Testing and Validation Center

We possess comprehensive testing and validation capabilities across all levels, from raw materials, key components, modules, and battery packs, to end-use systems. We are certified with CNAS/ISO17025 and IATF16949 qualifications.

Reliability Analysis and Design

Reliability analysis of battery systems is conducted across subsystems (electrochemical, electronic, electrical, and mechanical) and key components' reliability. Through in-depth analysis of the failure mechanisms of key components, combined with accelerated testing methods and life prediction algorithms, we predict the reliability of battery systems.

Safety Analysis and Design

Safety is the core competitive edge of REPT BATTERO products, with a commitment to achieving zero safety incidents. By accurately identifying and assessing safety risks, and incorporating advanced safety technologies, we ensure that products are always reliable and secure.

Standards and Certifications

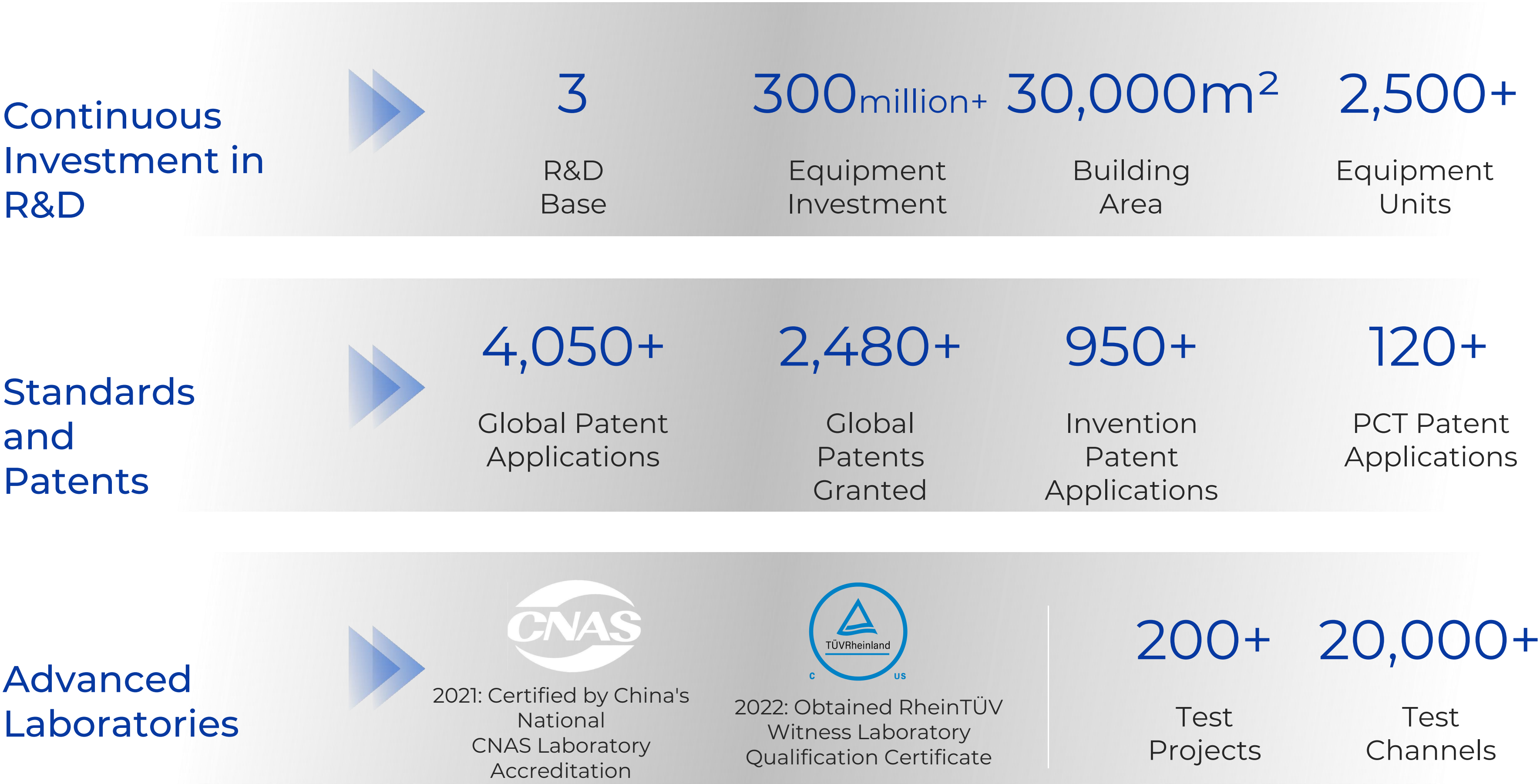
We ensure our product solutions comply with regional standards and certification requirements, while actively contributing to and leading the development of industry standards.

Over 100 overseas product certifications



Core Competence - Top-tier Technology Center

The hardware configuration and capabilities of our technology center fully meet standard requirements and address the needs of customers in sectors such as automotive and energy storage.



Innovation in Design and Intelligent Manufacturing



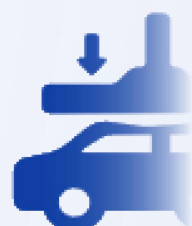
Extreme Chip Design

- Multi-dimensional Solid-Liquid Interface Design Technology
Enhanced the Activity of Dual High Electrode Foil
- Production management
Utilize the intelligent control system to adjust the equipment parameters according to the production data.
- Quality control and management
Intelligent manufacturing, quality control and management throughout the whole life cycle, and cross-departmental collaboration mechanism



Extreme Manufacturing

- Powerful Single-Line Manufacturing Capacity
> 10 GWh Annual Production Capacity
- Ultra-high-speed Automated Production Line
50PPM Square Aluminum Shell Production Line
- Lean Quality Control
> 6,000 Control Points & > 1,000 AI Monitoring



Digitalized Intelligent Factory

- Next-generation Zero-Carbon Factory
Smart Energy Management + Green Power Applications
- AI-driven
Digital Twin + Advanced Manufacturing Models
- 30 GWh Single Super Factory
30% Improvement in Space Utilization

Self-developed Core Technologies for Outstanding Performance

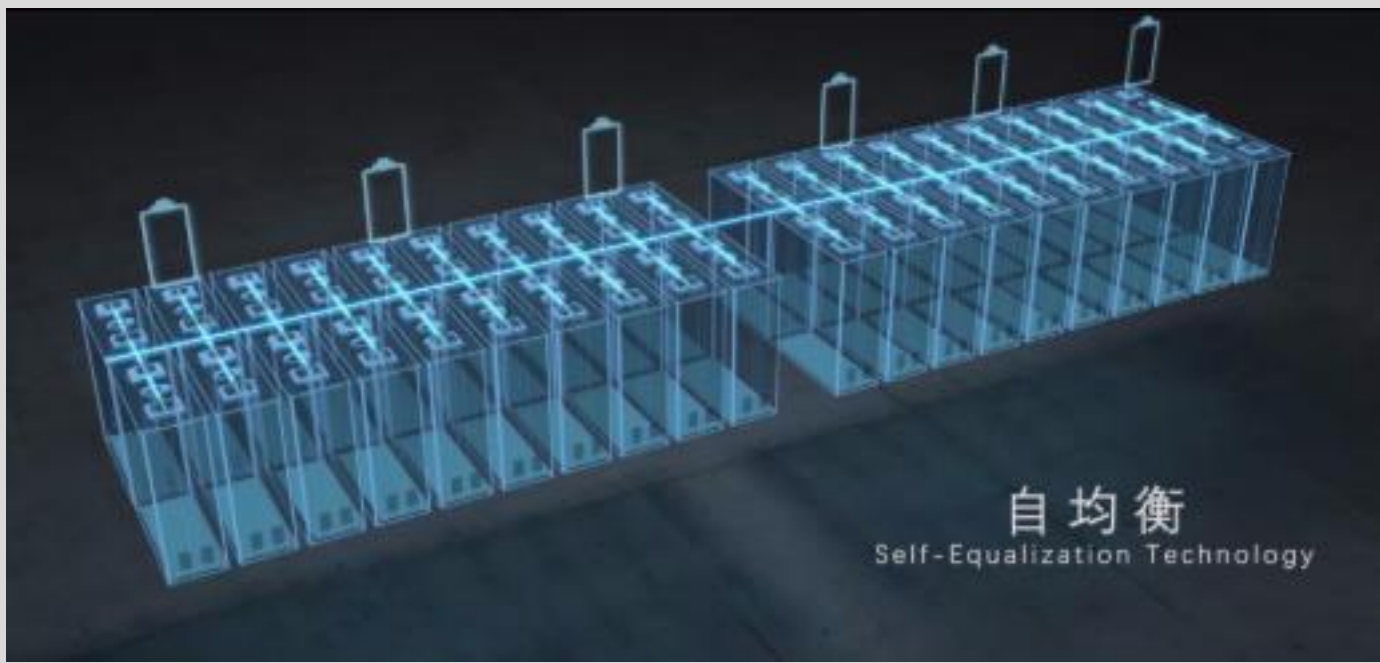
"Twin Stars" Battery Material System

Core Performance: Overcoming the low-temperature "bottleneck" of phosphate systems, enhancing battery performance and extending its capabilities



Internal Circulation Self-Balancing Technology

By using special additives in the battery, we can flexibly adjust the charge levels of different cells during charging, improving consistency in charge distribution.



Independently developed CSU (Sampling) module

Meet multiple scenarios

- Intelligent fast charging strategy
- Cell monitoring and detection
- Optimization of cycle life
- Residual value assessment
- Wireless communication & Cloud Intelligent Management BMS

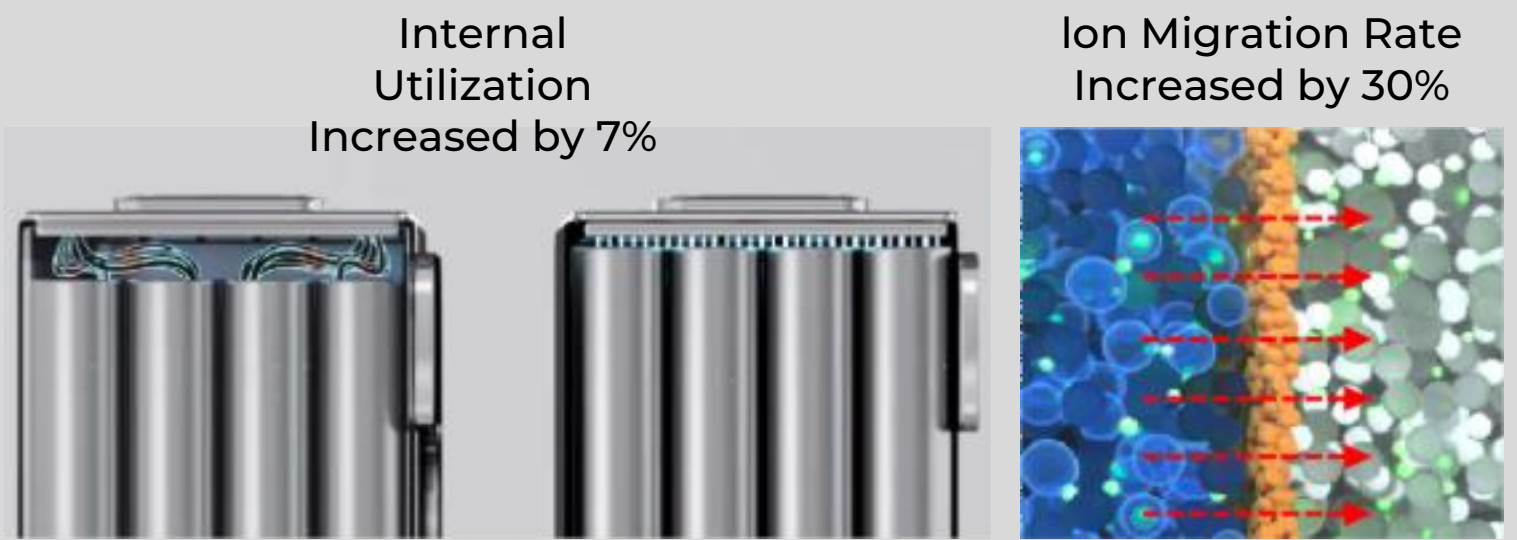
Passenger vehicles & commercial vehicles & energy storage

Meet the national standards

- It has passed the detection of GBT28046 environmental and electrical standards, and wireless communication is realized inside the battery pack.

Wending Battery Technology

Featuring a Wending cover design and a fully integrated fixed Wending structure, this design enables an integrated connection of the internal cell structure, effectively improving space utilization by over 7%



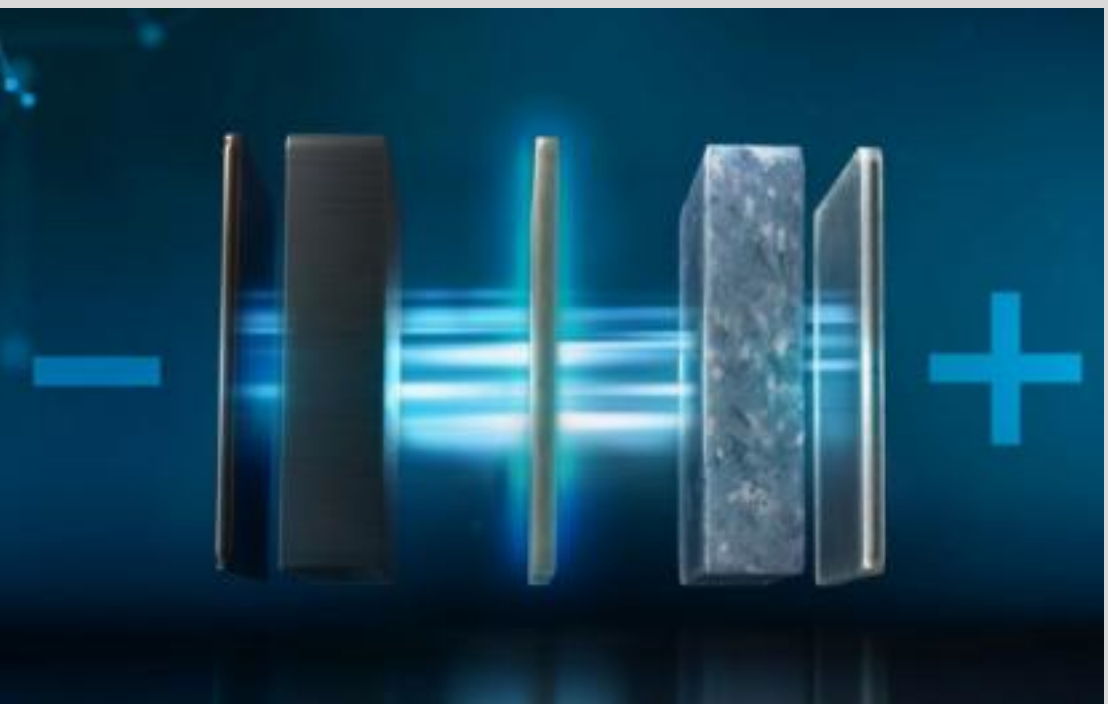
Traditional Structure

Wending Structure

Dual High Solid-Liquid Interface Technology

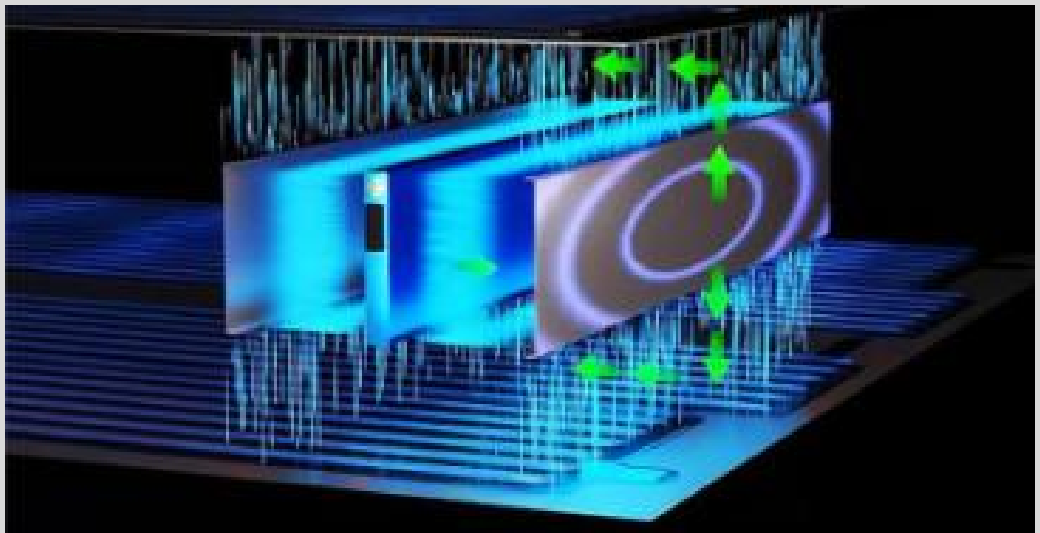
Semi-Solid Technology

By combining solid and liquid electrolytes, we have developed a long-lasting, high-energy-density semi-solid battery system, significantly optimizing both volume and weight.



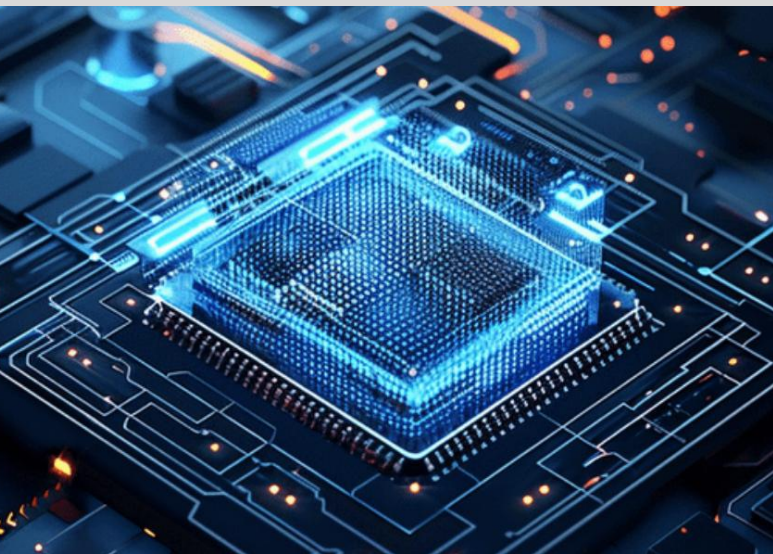
Advanced liquid thermal management technology

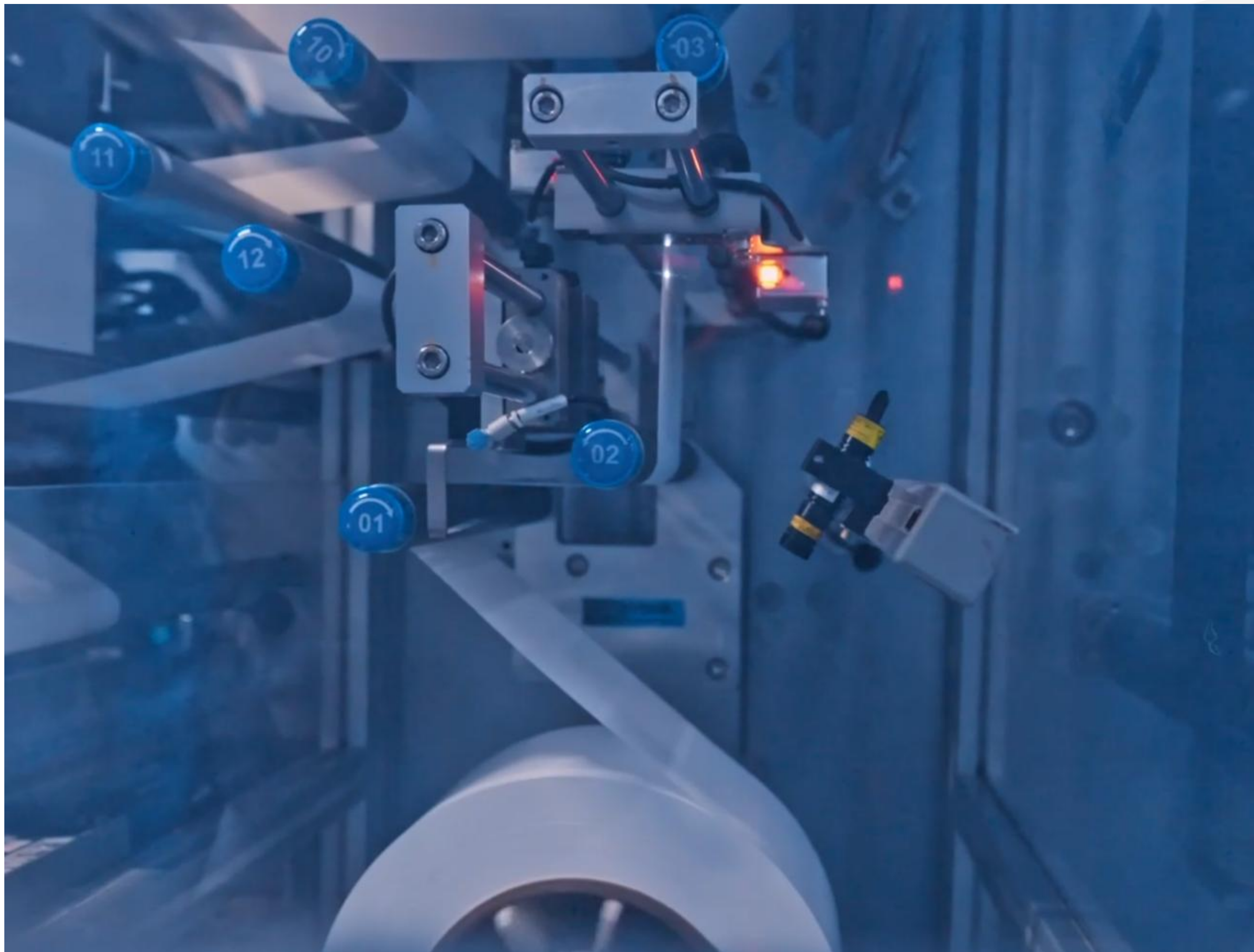
Bid farewell to traditional electric heating. Achieve an integrated design of liquid heating and liquid cooling, and control the temperature difference of a single cluster within 5 °C, creating a friendly and consistent environment.



1500V high-voltage electrical safety

Solve the most dangerous high-voltage breakdown experiment, with a withstand voltage level of 5000VDC.





46

Processes' data traceability from raw material intake to delivery



3,000+

MES process control points monitored in real-time



97

Key and critical characteristic controls

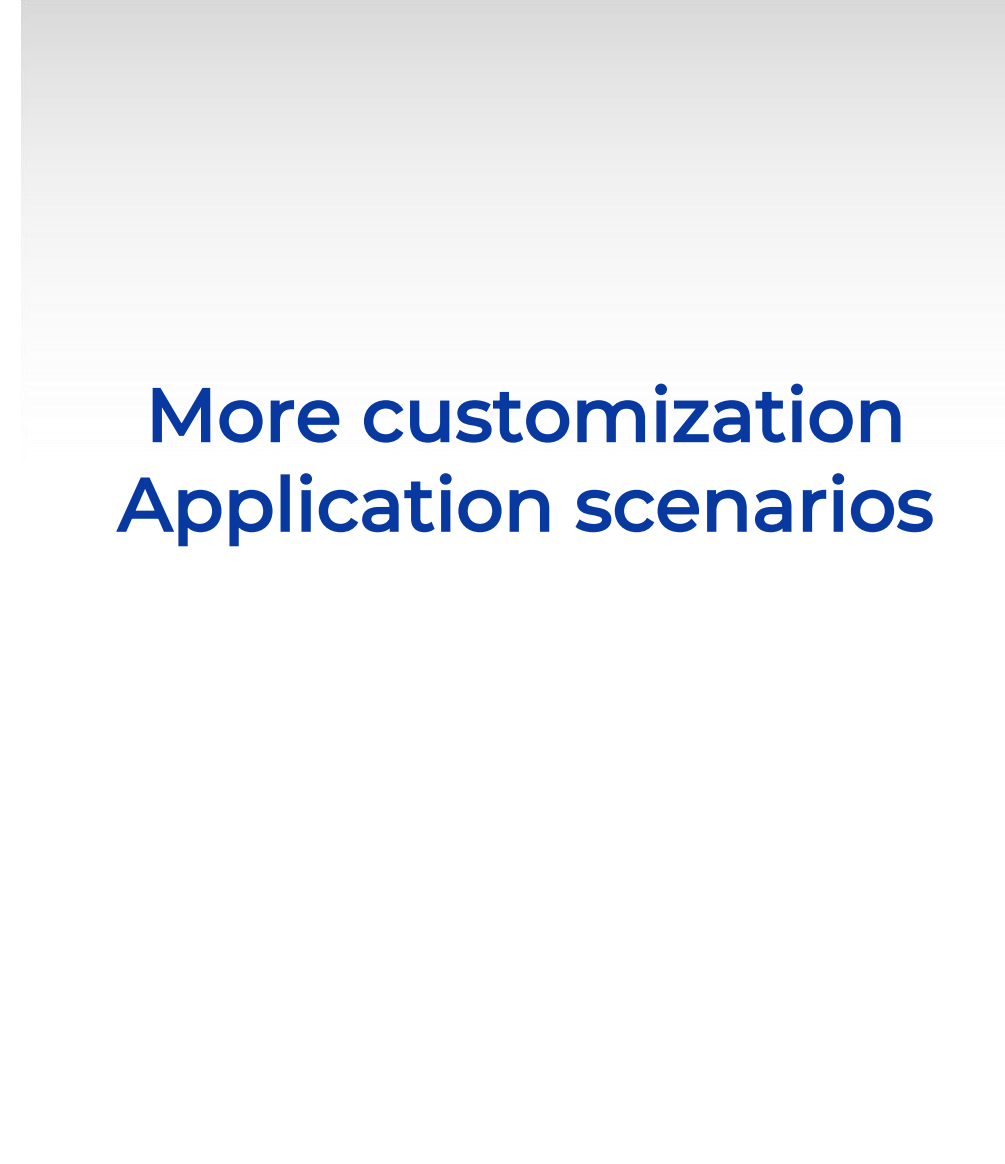
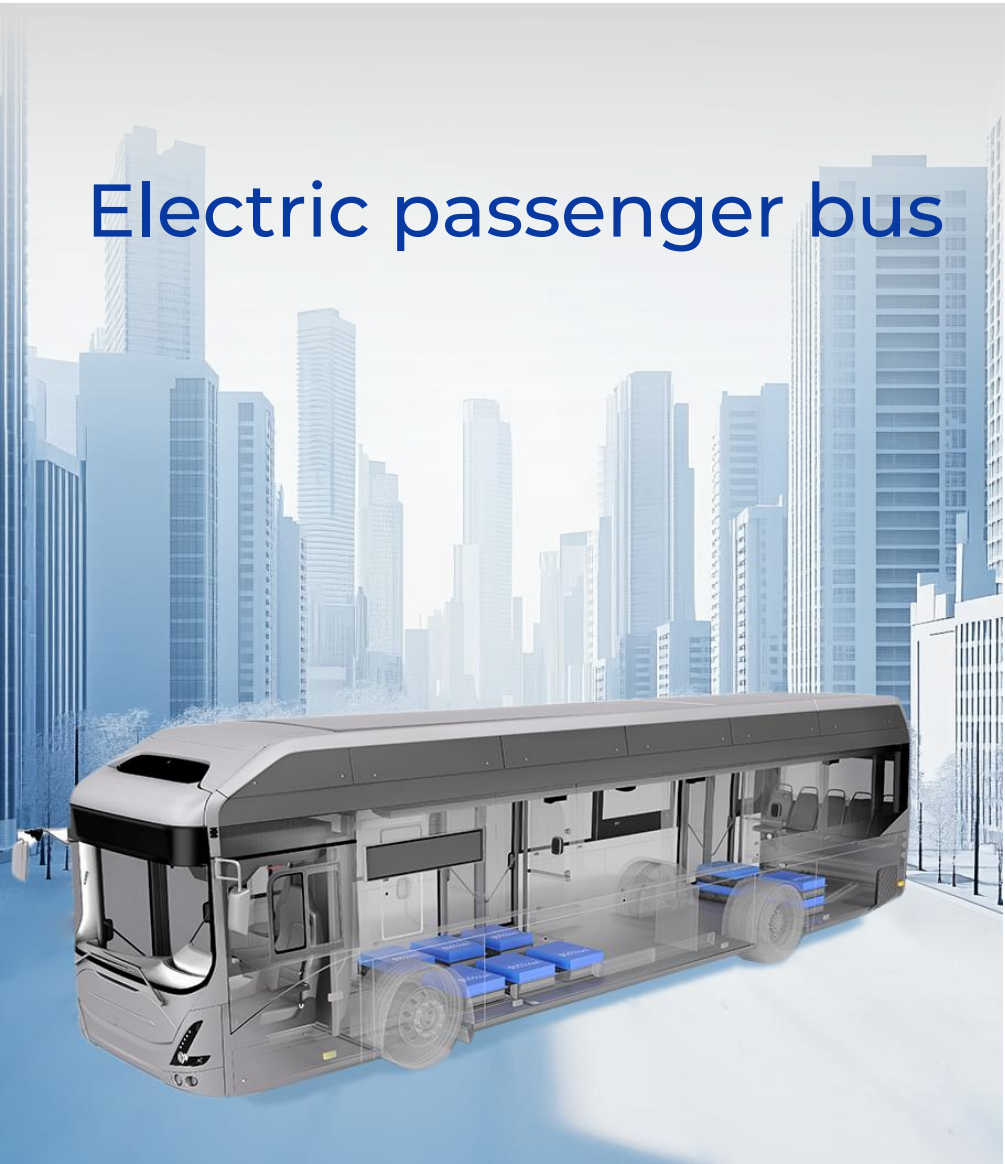
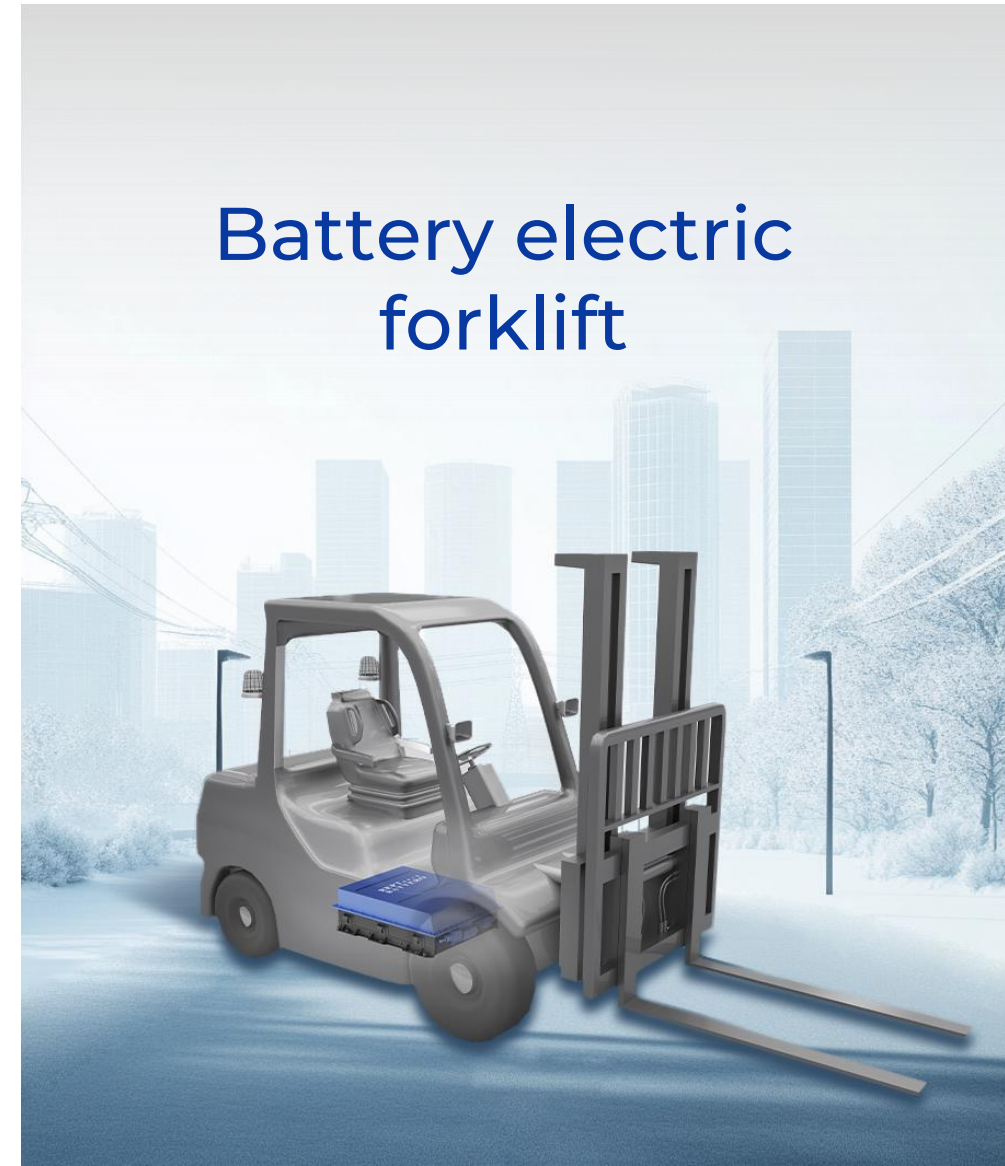


600+

Process control points in compliance with IATF16949 quality management system

APPLICATION FIELD

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ENERGY STORAGE SOLUTION

Comprehensive solutions driving the transformation and upgrading of energy structures.



Application Types	Application Purpose
Peak Shaving and Frequency Regulation	Assisting the grid in peak shaving and frequency regulation, stabilizing the power network
Spinning Reserve	Reducing standby unit activation time and minimizing waste
Black Start	Providing startup power for power plants
Renewable Energy Curtailment Utilization	Addressing the issue of wasted wind and solar energy
Coordinated Utilization of New Energy	Smooth output of new energy, enhancing penetration and tracking of planned curves
Energy Storage Stations	Peak shaving and frequency regulation, providing emergency power support
Backup Capacity	Addressing grid peak power demands
Distributed Micro-grids	Mitigating fluctuations in renewable energy sources
Time-of-use Electricity Price Management	Profiting from peak and off-peak pricing differences
Capacity Fee Management	Enhancing user self-balancing and reducing capacity costs
Energy Storage Charging Stations	Used for electric vehicle charging, resolving configuration capacity issues
Emergency Power Micro-grids	Enhancing the reliability and security of power supply



314~345~392Ah

WENDING CELL Large-capacity series



Super fast charging

WENDING CELL Super Fast Charging Series



Super safe

WENDING CELL PHEV Series

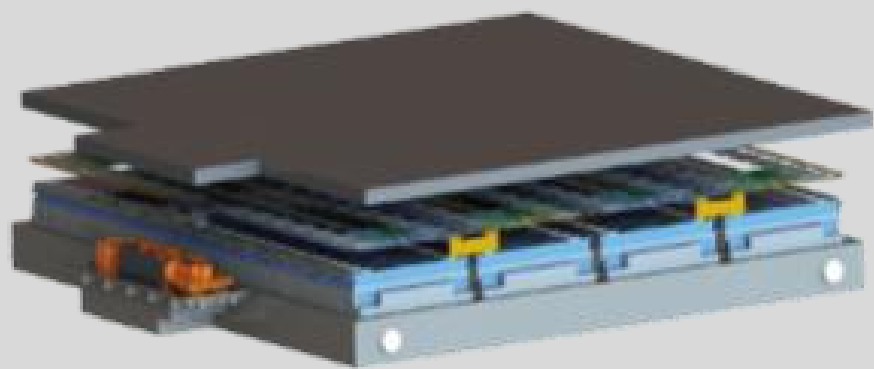
PASSENGER VEHICLE BATTERY PRODUCTS

The hardware configuration and capabilities of our technology center fully meet standard requirements and address the needs of customers in sectors such as automotive and energy storage.



GREEN CTP PACK

Both the battery cells and the complete battery packs can be recycled for secondary use.



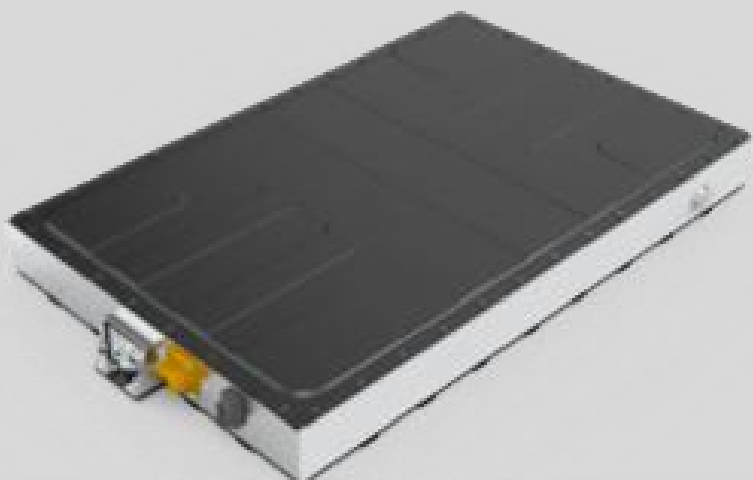
BEV Battery system

Quick battery swapping



PHEV Battery system

Save fuel and have excellent low-temperature performance.



BEV Battery system

super fast charging



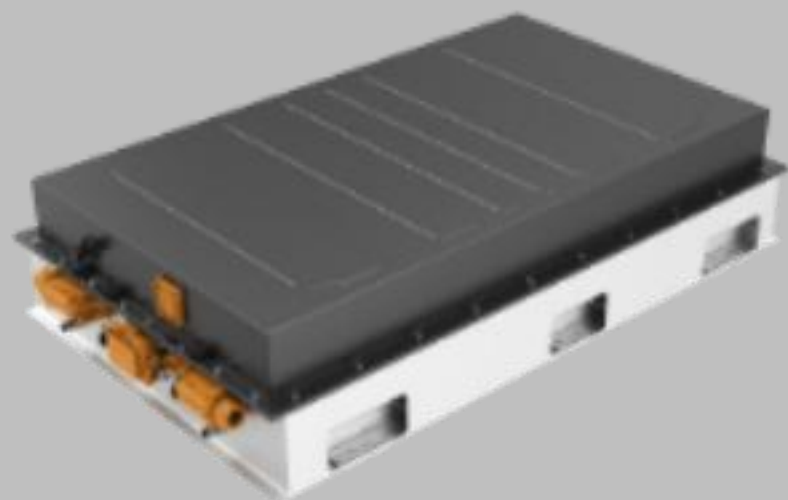
COMMERCIAL VEHICLE BATTERY PRODUCTS

The hardware configuration and capabilities of our technology center fully meet standard requirements and address the needs of customers in sectors such as automotive and energy storage.



Commercial vehicle battery system

Standard C-type box



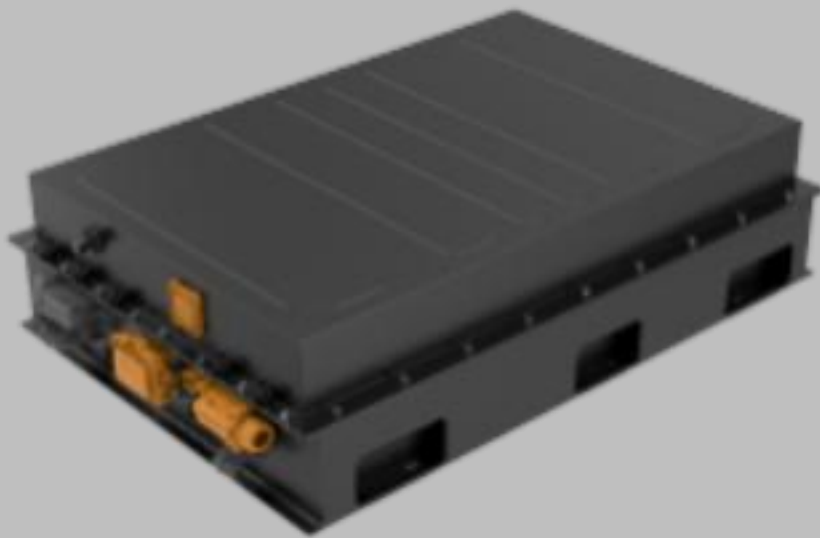
Commercial vehicle battery system

Standard D-type box



Commercial vehicle battery system

Standard G-type box



Commercial vehicle battery system

Standard F-type box



R&D CAPABILITY

Powtrix 1.0

Y52 liquid cooled energy storage system

Energy Storage ModuleEnergy Storage System		
Group form	1P52S	10P416S
Nominal voltage	166.4V	1331.2V
Voltage range	130V~189.8V	1081.6~1497.6V
Nominal energy	46.592KW	3727.36kWh
Dimension	1120*810*238	20HQ
Weight	~330kg	35t

Powtrix 2.0

Y104 liquid cooled energy storage system

Energy Storage ModuleEnergy storage System	
Group form	12P416S
Nominal voltage	1331.2V
Voltage range	1040V~1500V
Nominal energy	5015.9kWh
Dimension	20HQ
Weight	45T

Y52 liquid cooled outdoor cabinet

Y52 liquid cooled outdoor cabinet	
Group form	1p416s
Nominal voltage	1331.2V
Voltage range	1081.6~1497.6V
Nominal energy	372.7kWh
Dimension	1.3m*1.3m*2.3m
Weight	3.5t

Liquid cooled integrated machine

Liquid cooled integrated machine	
Nominal energy	233kWh
Ambient humidity	5%~95%RH
Nominal power	125kW
Dimension	1250mm×1350mm×2250mm
Weight	<2600kg

Y52 liquid cooled energy storage module

Y104 liquid cooled energy storage module

APPLICATION SCENARIO



Wenzhou, Zhejiang
Shuangyu project peak shaving and
valley filling 14mWh



Jingneng Guangxi Baise
Shared energy storage power station
project 200MWh



Guazhou, Gansu
12MWh Photovoltaic Energy Storage Project



Beijing Energy Inner Mongolia Tongliao
Shared energy storage power station
project 476MWh source grid side energy
storage



Ningxia Huarun Haiyuan
200MWh/400MWh



Yongchuan Songgai Project 400 MWh
Chongqing Independent Energy Storage



Chongqing Three Gorges Yongchuan
200MWh/400MWh



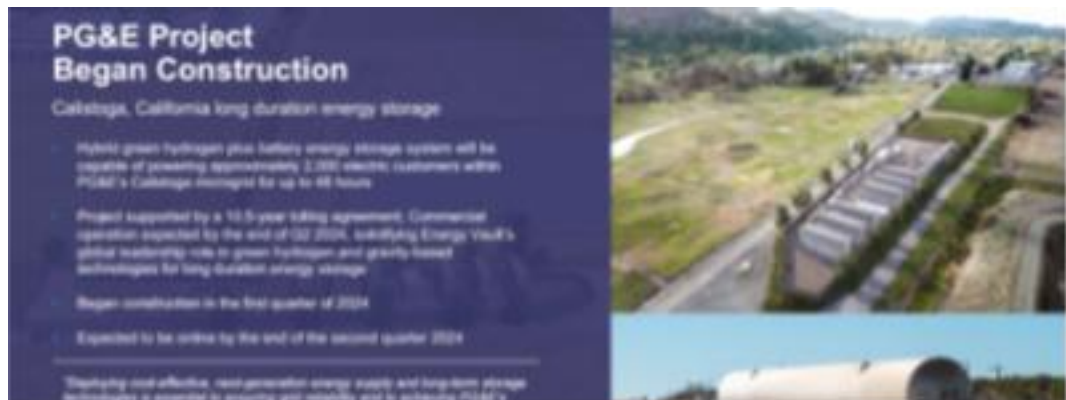
Morowali, Indonesia
Power grid frequency modulation IMIP
project phases I-IV 50MWh



Weda Bay, Indonesia
Power grid frequency regulation IWIP
project phase II and III 28MWh



Shache "project 800 MWh
Xinjiang Photovoltaic Distribution and Storage



PG&E Project
12 MWh Long Term Energy Storage in
California, USA



St Gal Energy Storage Project
226MWh FM energy storage in Texas,
USA



Weda Bay, Indonesia
Power grid frequency regulation IWIP
project phase I 30MWh



Bulgaria 7.45MWh photovoltaic
distribution and storage



The 'MY BESS' project
Malaysia sample 3.7 MWh



North American FLEXGEN Shared Energy
Storage Project
Grid side energy storage 245MWh



The Waratah Super Battery project
1950 MWh FM energy storage in New South
Wales, Australia



Belgium project
126MWh energy storage project



North American FLEXGEN Shared Energy
Storage Project
EV Charge Optical Storage Charging Project



Cascade Energy Storage Project 117.5MWh
California, USA

PASSENGER VEHICLE POWER BATTERY SOLUTIONS

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SAIC ROEWE D5X(2024)



SGMW BINGO(2023)



NISSAN D60(2022)



DONGFENG E70(2021)



smart 1#(2023)



Volvo EX30(2024)



Stellantis AMI(2022)



SGMW XINGGUANG(2023)



SGMW YUNDU 2023



FAW NAT(2023)



FAW E131(2023)



LEAPMOTOR C01(2022)



LEAPMOTOR C11(2022)



SGMW MINI(2021)

COMMERCIAL PASSENGER VEHICLE POWER BATTERY SOLUTIONS

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FAW Jiefang

Application Models: Battery-swappable pure electric semi-trailer tractor
Supporting Battery Cells: 230 Ah



SANY zhonggong

Application Models: Sany iSEE2 Electric Dump Truck
Supporting Battery Cells: 230 Ah



Shanxi Heavy Duty Automobile

Application Models: Battery-swappable pure electric tractor
Supporting Battery Cells: 230 Ah



JAC Motors

Application Models: Battery-swappable pure electric flatbed transport truck
Supporting Battery Cells: 230 Ah/324 Ah

ENVIRONMENTAL RECYCLING SOLUTIONS

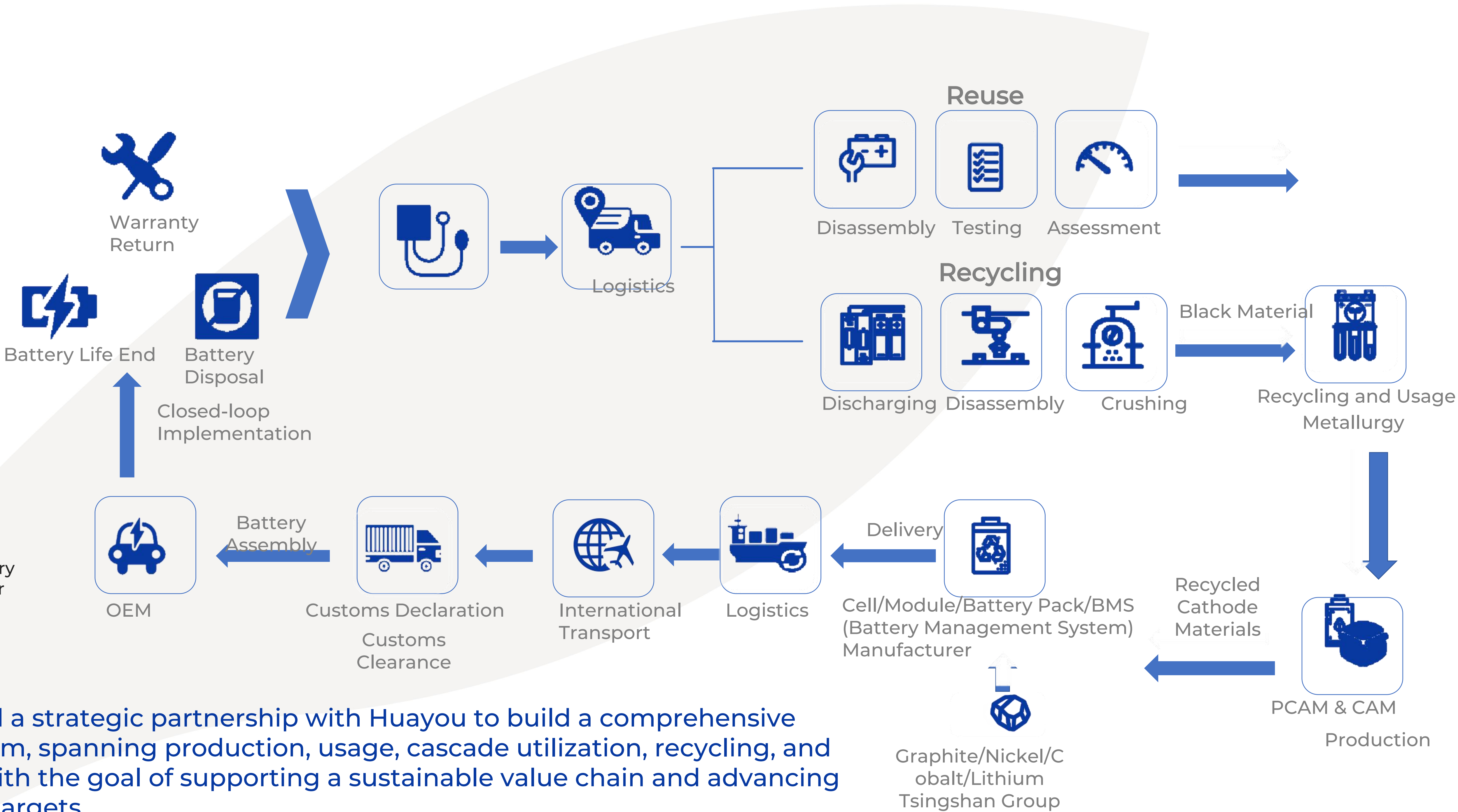
Rapid Expansion of the Industry Chain

Tsingshan Group plans to expand across multiple segments of the lithium battery value chain through direct holdings or equity investments.

Resource Integration and Synergy

- Long-term stable supply
- Integrated industry chain
- Favorable business environment provided by market rules
- Backward integration of the industry chain to enhance bargaining power

The company has formed a strategic partnership with Huayou to build a comprehensive battery industry ecosystem, spanning production, usage, cascade utilization, recycling, and resource regeneration, with the goal of supporting a sustainable value chain and advancing global carbon neutrality targets.



DEVELOPMENT STRATEGY

Driven by Innovation, and building a first-class new energy company

04

Planned Production Capacity for 2025

90GWh+

Expected to Reach

Trillion-level Scale by 2027

R & D Center:

North America | Europe | China

Manufacturing Bases:

Wenzhou | Jiashan | Liuzhou | Foshan | Chongqing | Southeast Asia



Wenzhou Manufacturing Base

Covering an area of 301 mu, the infrastructure construction of this place started in December 2017. Currently, the production capacity has reached 26 GWh. The base construction is now under planning, and the production capacity is expected to reach 30 GWh from 2024 to 2025.



Jiashan Manufacturing Base

It was established in December 2020, with a planned annual production capacity of 30 GWh.



Liuzhou Manufacturing Base

It is located in Liuzhou City, Guangxi Zhuang Autonomous Region, with a planned annual production capacity of 20 GWh.



Foshan Manufacturing Base

It is located in Nanhai District, Foshan City, with a planned annual production capacity of 8 GWh.



Chongqing Manufacturing Base

A project with an annual production capacity of 30 GWh of battery cells and PACK is set up. With a total investment of approximately 10 billion yuan, it has an annual production capacity of 20 GWh of battery cells and is supported by the construction of a PACK production line.



Planned Manufacturing Base

Carry out the construction of green factories, and measure and supervise the carbon emissions throughout the entire life cycle of products. The Indonesian base is an important part of Ruipu Lantern's overseas industrial layout, which further enhances its global customer service capabilities.



Professional Training/Skill Guidance

Provide Expert Training



Remote Monitoring/Maintenance

Online Technical Support Available Anytime



Fast Response/Regular Maintenance

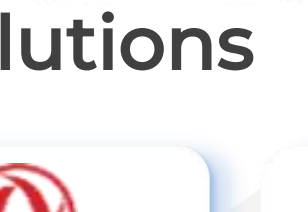
24/7 After-Sales Service Guarantee System



Maintenance Stations/Spare Parts Warehouse Guarantee

Provide Optimal Safety Operation Guarantee





EXPLORE DIVERSIFIED COOPERATION MODELS TO LEAD THE DEVELOPMENT OF NEW ENERGY INDUSTRY



Collaborative Development of Raw Materials

Globally, we are jointly developing upstream resources for new energy, including nickel, cobalt, lithium, and manganese, to support the industry



In-depth Supply Chain Cooperation

With European Union OEMs, we provide a stable supply of raw materials and cost control advantages



Global Battery Recycling

We have established a strategic cooperation with Huayou Recycling for the global recycling of lithium batteries, promoting sustainable development

In recent years, REPT BATTERO has made significant strides in the new energy sector, continuously innovating in technological research and development. We have also actively pursued diversified collaboration models, securing key partnerships with renowned automotive manufacturers such as RENAULT, Stellantis, and domestic automotive giant SAIC. These collaborations will inject new momentum into the high-quality development of the new energy industry and open up vast prospects for the future growth of REPT BATTERO.

HIGH ESG STANDARDS DRIVE SUSTAINABLE DEVELOPMENT

Sustainable Management Strategy

-  Supply Chain Traceability Management 01
-  Energy Utilization 02
-  Battery Recycling 03
-  Waste Emissions and Utilization 04
-  Employee Production Safety and Health 05
-  Corporate Social Responsibility System 06

ESG

ESG Achievements

- 1、United Nations Global Compact ("UNGC") "SDG Ambition Accelerator" Participating Enterprise Certification
- 2、Responsible Business Alliance (RBA) Silver Level Certification
- 3、GB/T 39604-2020 Corporate Social Responsibility Management System Certification
- 4、Wind ESG Electrical Equipment Industry Grade A Rating
- 5、2024 Greenlight ESG List Exemplary Case – Exemplary Innovation Contribution List TOP10
- 6、The "2024 Annual Innovation Award - Energy Conservation and Emission Reduction Technology Progress Award" and the "Carbon Neutrality Field Technology Progress Award" issued by the China Energy Conservation Association and the China Quality Certification Center.
- 7、"Five-in-One" Green Low-Carbon Integrated Energy Demonstration Station Project

-  Liuzhou Base was awarded Guangxi Zhuang Autonomous Region GreenFactory 
-  Liuzhou Base was awarded Guangxi Intelligent Demonstration Manufacturing Enterprise 
-  Jiashan Base Jiaxing City Green was awarded Factory 
-  Wenzhou Base and Liuzhou Base were awarded National-level Green Factory 

We will establish a development system aligned with the United Nations Sustainable Development Goals, creating a safe and healthy workplace for all employees and a green, eco-friendly community environment to ensure sustainable and rapid growth.

Leading the Future Anchored in Safety

Driven by Innovation, and building a first-class new energy company