



ENERGY STORAGE SYSTEMS

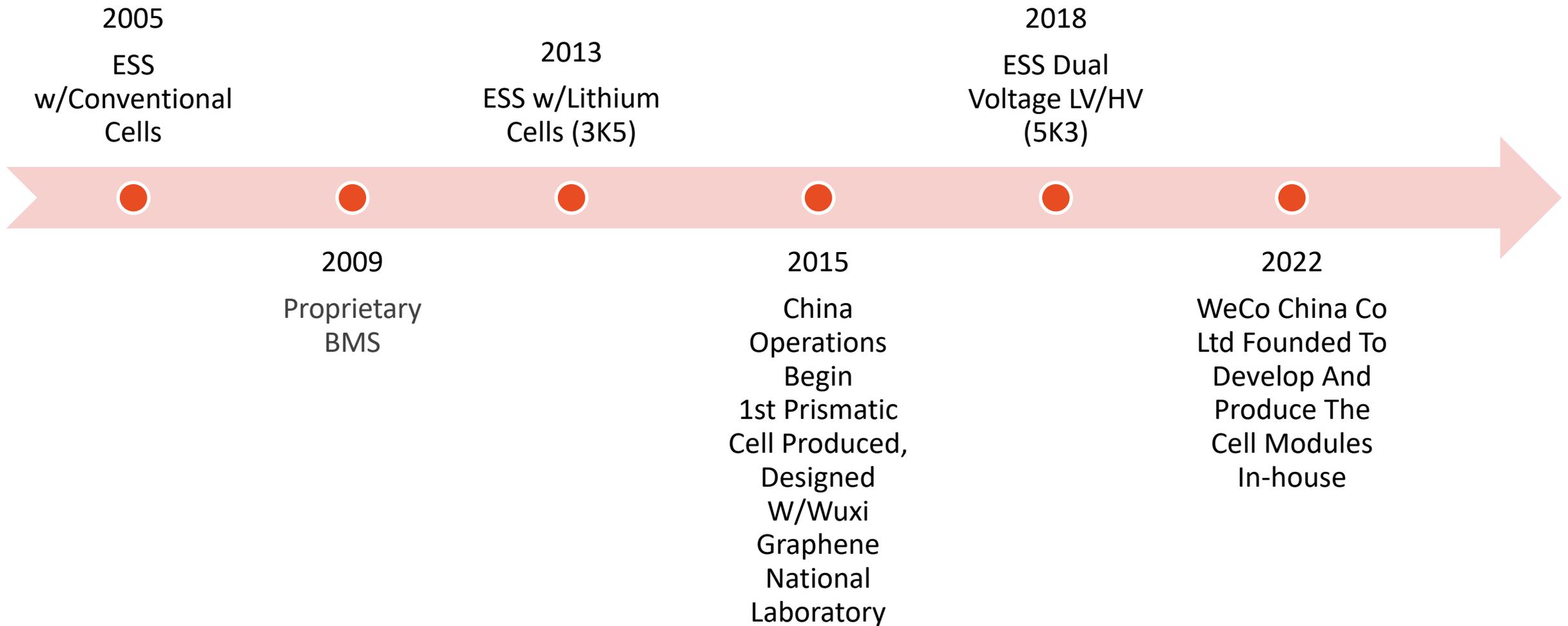
| WeCo Company Profile

WeCo Group is a leading Battery Energy Storage System (BESS) manufacturer active in the residential, industrial, and telecom sectors, with over 300k batteries produced yearly.

- ✔ WeCo Srl is the Italian headquarter & manufacturing company located in Florence Italy
- ✔ WeCo China is a manufacturing company based in Dongguan (China).
- ✔ WeCo UAE is the Middle East, Africa distribution hub, and R&D center.
- ✔ WeCo Australia is the APAC distribution and service center.



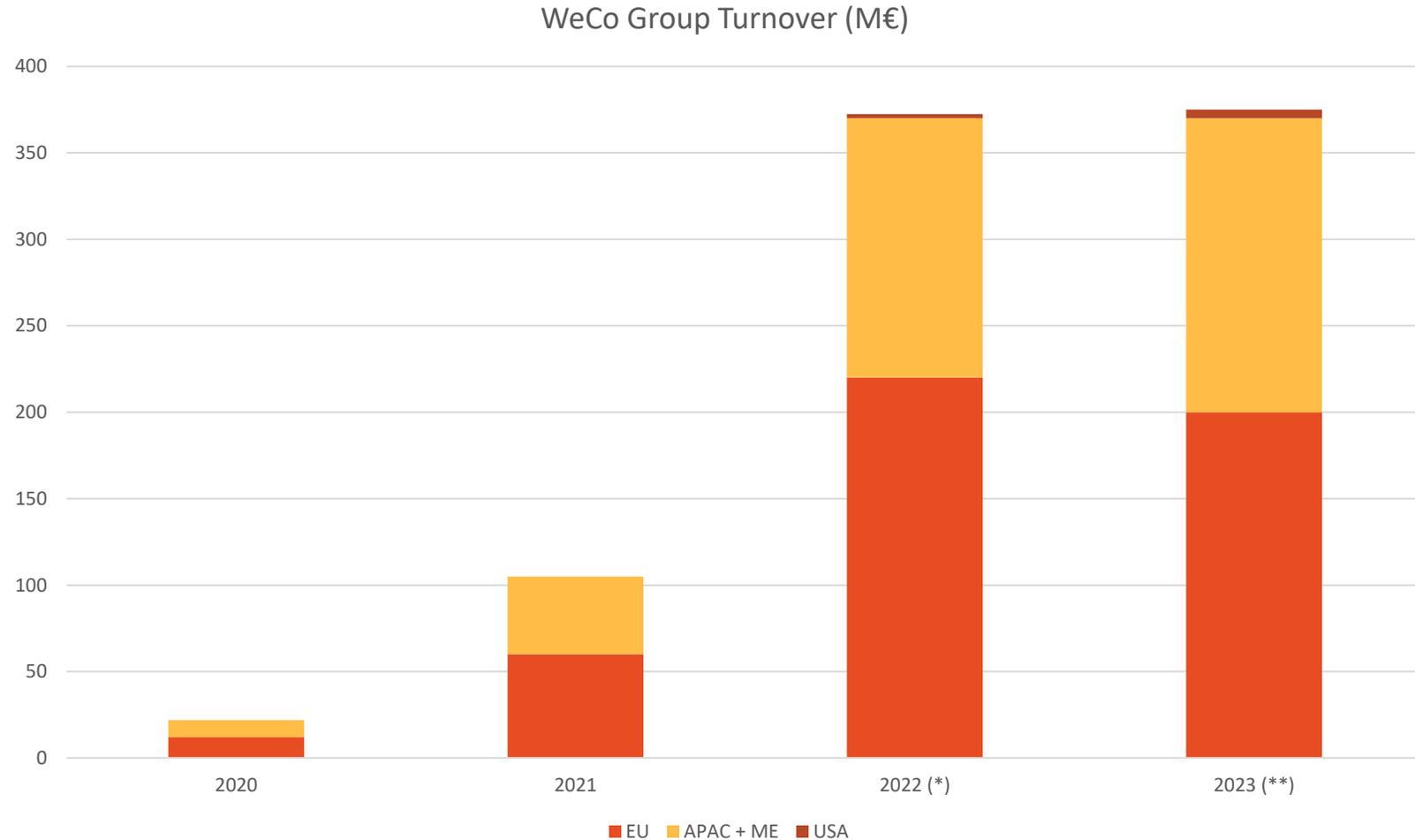
Our Story: The Last 17 Years



Our numbers

Company profile

- ✓ 2022: 1 GWh Delivered
- ✓ 7 Production Lines Active
- ✓ 100% End Line Inspection
- ✓ Export to 42 Countries
- ✓ Sales Growth Y o Y: 250 %
- ✓ 10,500 Cells produced per day
- ✓ 1000 Batteries Delivered per Day



WeCo is strengthening its leadership in the ESS business, increasing customer satisfaction.

Quality, facts

WeCo Quality Standards for **Grade A Cells**

- Maximum Voltage difference of 0.2% during sorting
- Capacity and dimensions variation after the first cycle must be $< 0,5\%$
- The temperature must be $< 45\text{ }^{\circ}\text{C}$ (ambient temperature $25\text{ }^{\circ}\text{C}$) when charging at 1C

- A WeCo **grade A cell** capacity is >5% than the nominal capacity.



Test Report

Report No.: SZES220800472701

Date: 2022-09-15

4.1	TABLE: Charge preparation phase		--
Sample No.	OCV at start of test (V dc)	Charge capacity (Ah)	
M1	47.39	107.81	

4.2	TABLE: 1C test		--
Sample No.	Discharge capacity (Ah)	Maximum temperature of cell (°C)	
M1	106.45	45.0	

Supplementary information:

Only the test results were recorded

Not all LiFePO4 cells are the same.....



Cylindric Cell

Many Welding Points
One cell failure affect the entire pack
BMS cannot control each single cell
Mechanically weak



Pouch Cell

Support Low Current
Suffer Temperature Excursion
Mechanically Weak
Subject To Swelling



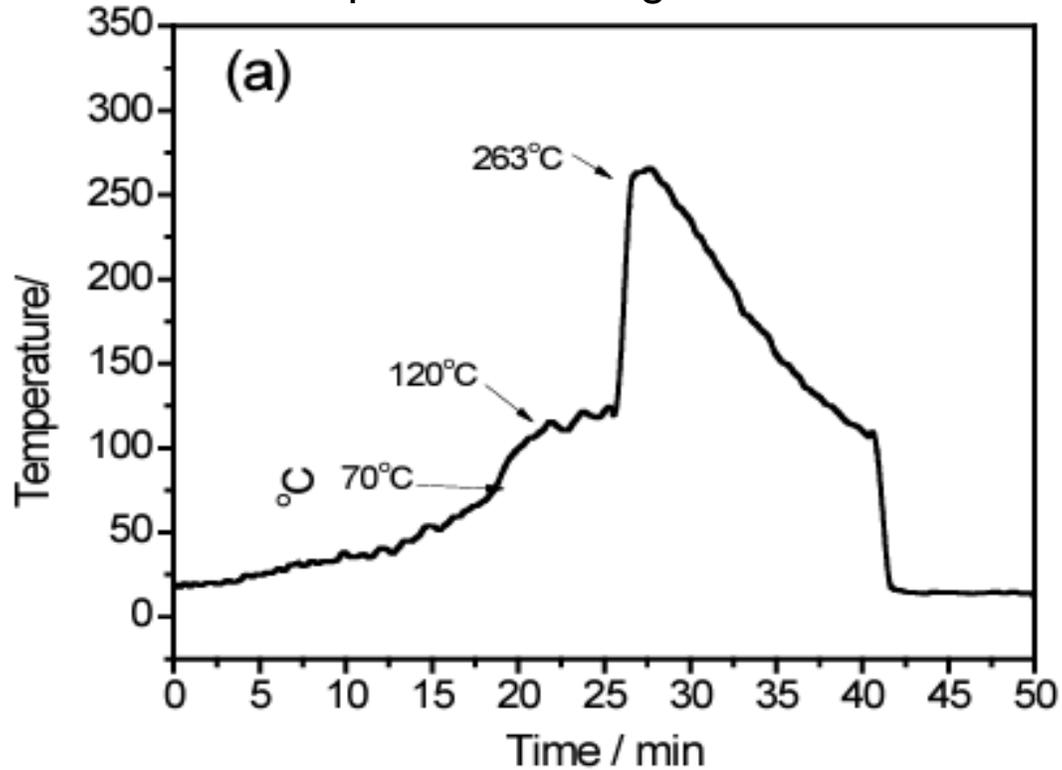
Prismatic HD Cell

High Current
Temperature Stability
Mechanically Safer
Long Lasting

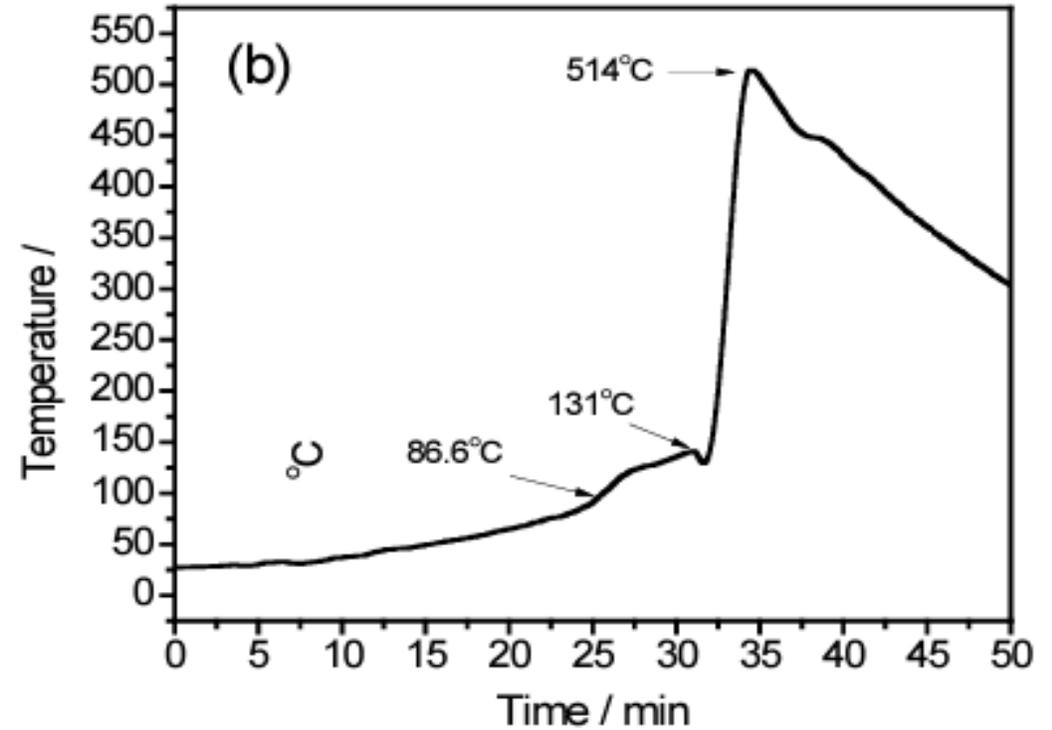
LiFePO₄
Safety, Longevity, Stability

A Prismatic LiFePO₄ Cell can surpass 500 °C causing no Fire

5X Operative Voltage Stress test



10X Operative Voltage Stress test



LiFePO4 Vs NMC

Thermal Runaway

WeCo LiFePO4 Ignition Point

630°C

NMC Ignition Point

160°C

Cycles are not ALL....

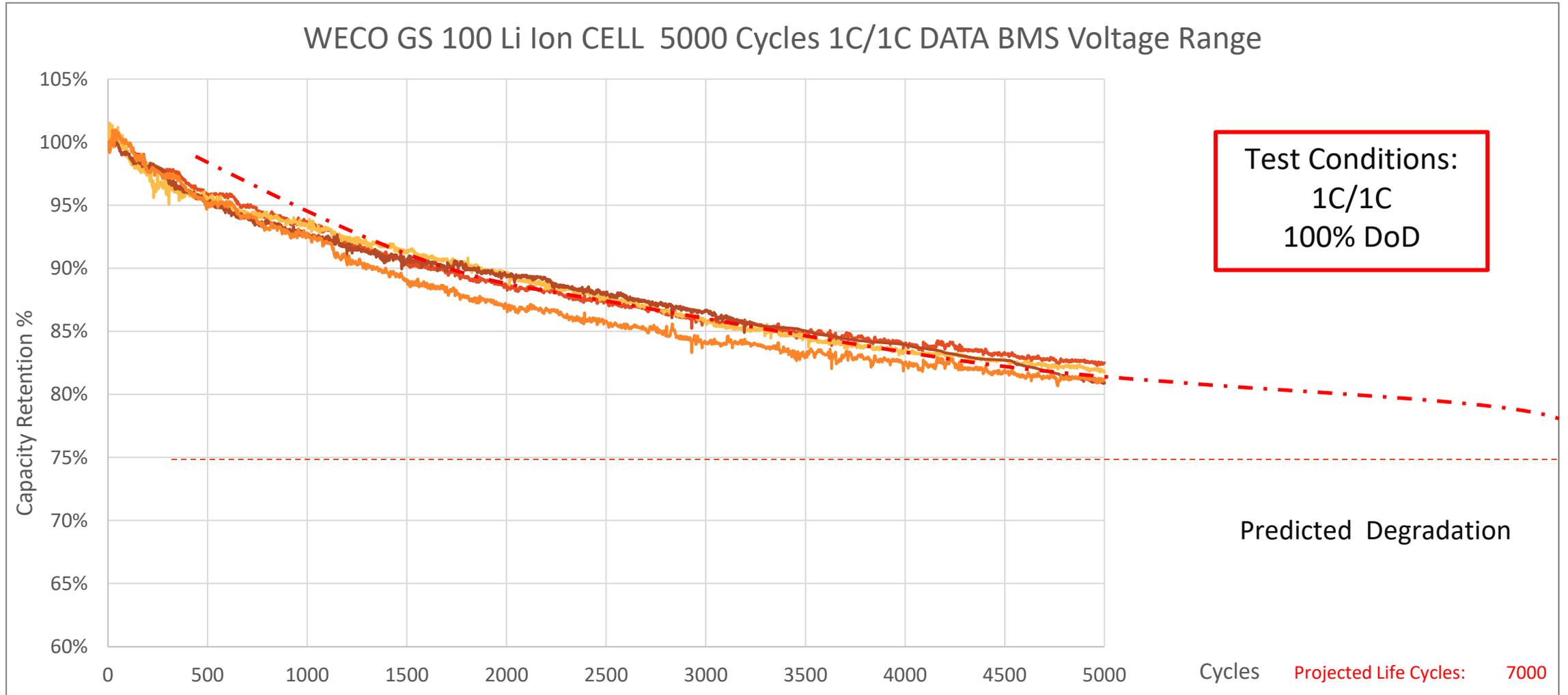
The customer's **quality perception** is based on the industrial standards of 5000 or **7000 cycles**.

There are **other factors** you should take into consideration:

- **Operative Current**
- **Operating Temperature**
- **Residual Capacity**

Life Expectancy

Company profile



Based on our tests, we expect up to 20 years of battery life for typical residential applications.

Guaranteed Quality

Company profile

WeCo products are **designed to last** and are produced to grant performances for **many years**.

We are so confident in our quality, that we undersigned a specific insurance policy in cooperation with **Unipol**, a leading Italian insurance group. The insurance policy covers any WeCo battery to guarantee to third parties the design characteristics of the products for their entire useful life cycle. The insurance covers the product according the warranty conditions.



Reputation of the Unipol Group



10 YEARS WARRANTY or 7000 CYCLES @ 70% Residual Capacity

Production & Quality





WECO MANUFACTURE ALL BATTERY MODULE COMPONENTS INCLUDING

Battery Management System (BMS)

- Patented Software and Firmware
- Proprietary BMS and balancing logic.
- Digital Voltage and Thermal Sensors and for BMS

LFP Nanographene Cells

- Chemical Composition Design
- Complete Cell Design
- Patented Welding and Connection Process

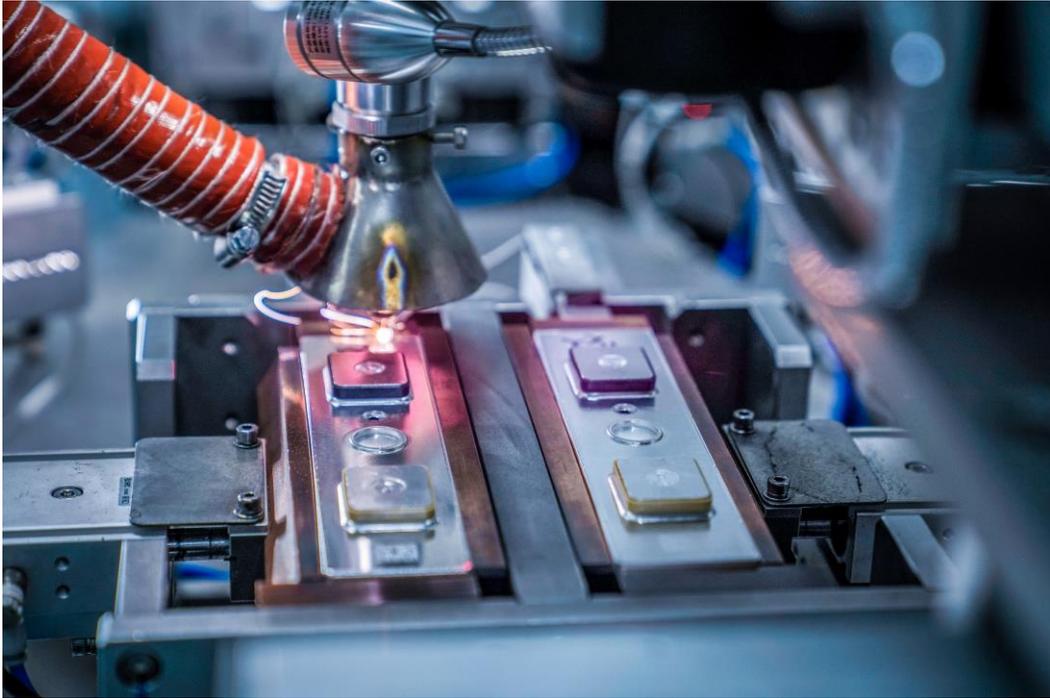
Battery Module Chassis

- Patented Stack Systems
- Metal Frame Design and Production
- Complete Module Assembly

| Cell Manufacturing Facilities



| Pack processing



| 8S Certified Standard Pack



| Assembly Line

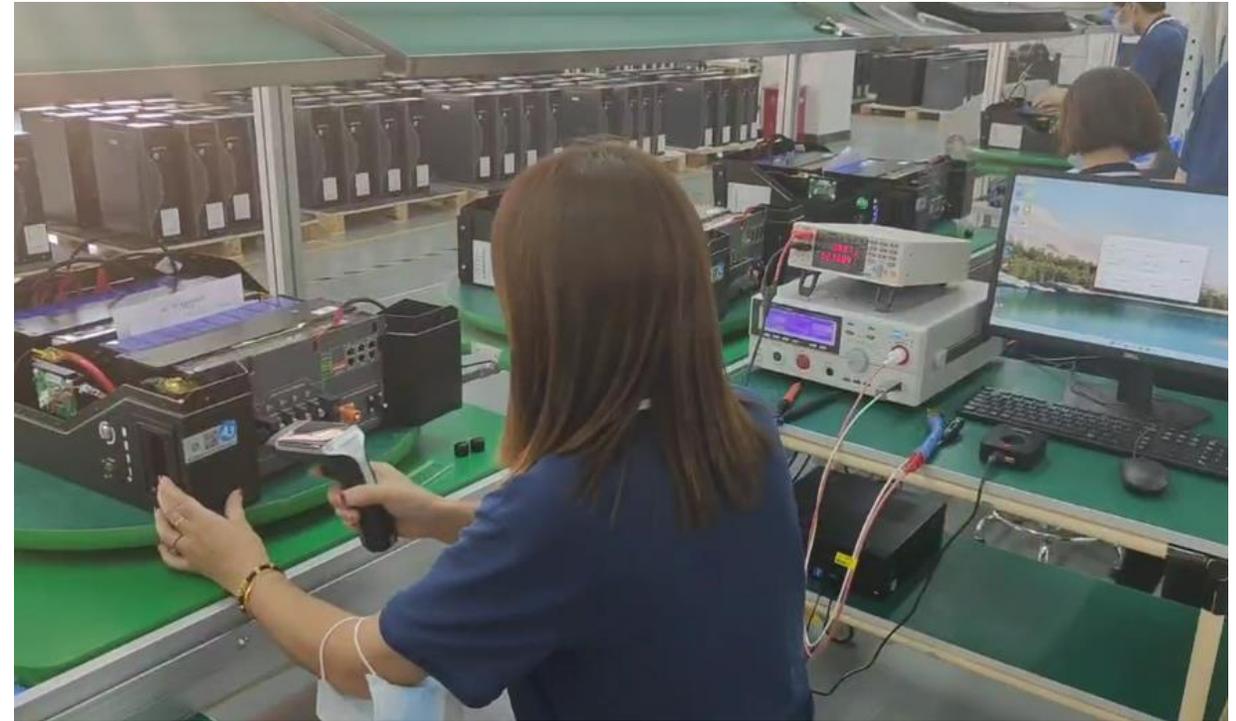


Steel Case manufacturing



100% Hipot Test and Insulation test on every parts

3300Vdc withstanding test



| 100% resting period 24h + Function test before packing



5K3XP

WECCO

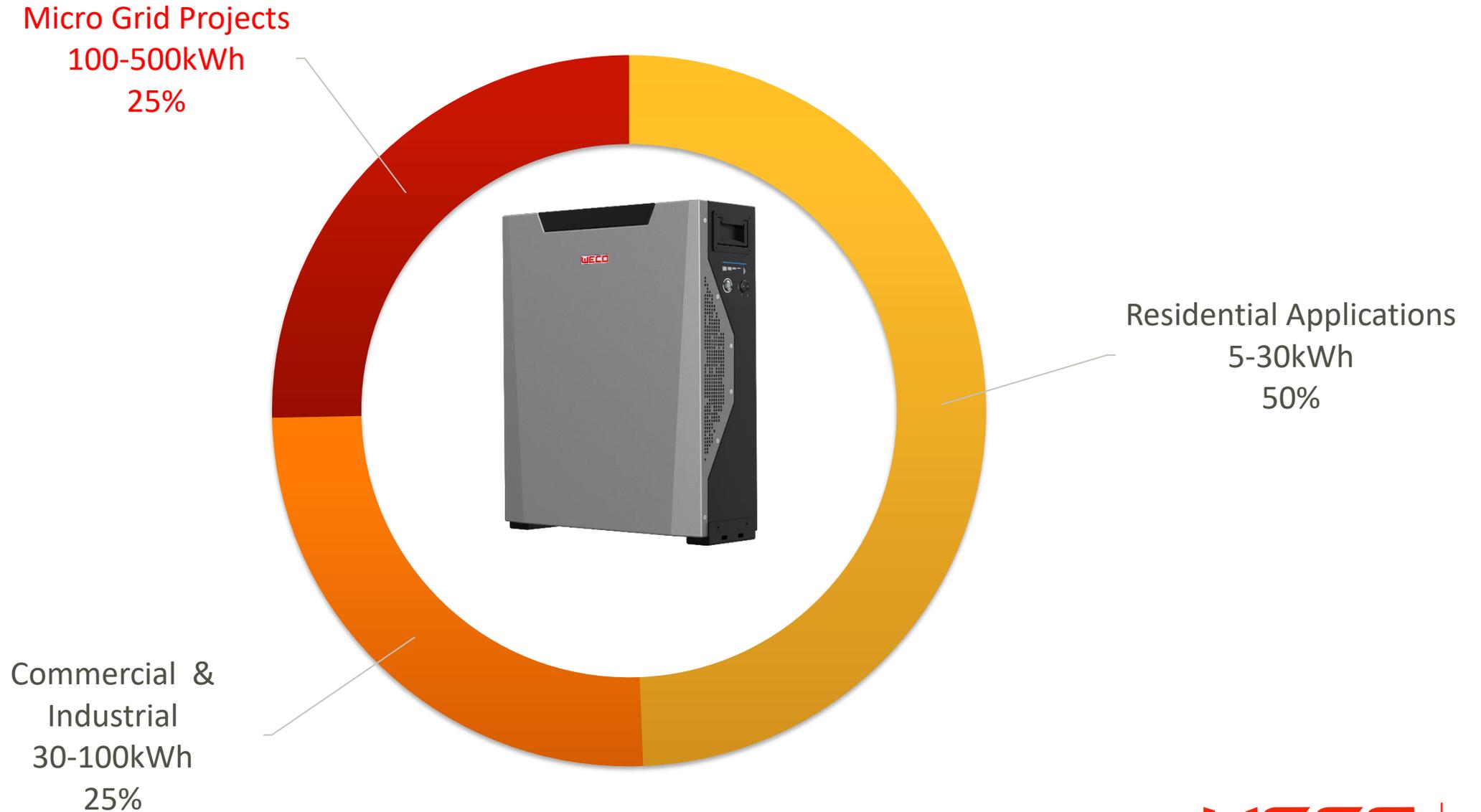
1

5K3XP

2022 Best Seller



MAIN APPLICATIONS





FEATURES

- ✓ AUTO START UP & ID ASSIGNMENT
- ✓ BUILT-IN WIFI & BLUETOOTH COMMUNICATION
- ✓ 15 BATTERIES IN PARALLEL W/O ADDITIONAL DEVICE
- ✓ 16 BATTERIES IN SERIES WITH ONE HV BOX
- ✓ 50% MORE POWERFULL DYNAMIC EQUALIZER
- ✓ 7000 CYCLES @ 90% DOD

4K4 LT



FEATURES

- ✓ AUTO START UP & ID ASSIGNMENT
- ✓ EXTERNAL WIFI DEVICE
- ✓ 1C/1C CAPABILITY
- ✓ 15 BATTERIES IN PARALLEL
- ✓ 6000 CYCLES @ 90% DOD

4K5 ULTRA



FEATURES

- ✓ THINNEST BATTERY ON THE MARKET: 105 MM
- ✓ EXTERNAL VOLTAGE BOOSTER 50-450V DC
- ✓ AUTO START-UP & ID ASSIGNMENT
- ✓ 15 BATTERIES IN PARALLEL (LV)
- ✓ 12 BATTERIES IN SERIES (HV)
- ✓ 8000 CYCLES @ 90% DOD

MK1



FEATURES

- ✓ IP 65
- ✓ CLIMA CONTROL AND A/C
- ✓ FROM 60 TO 245 kWh
- ✓ PARALLEL KIT FOR CONNECTING MORE CABINETS
- ✓ SAFETY AND REMOTE DOOR INTERLOCK