

PYTES

Company Profile

2022

OVERVIEW

Part1

WHO WE ARE

Part2

WHAT WE DO

Part3

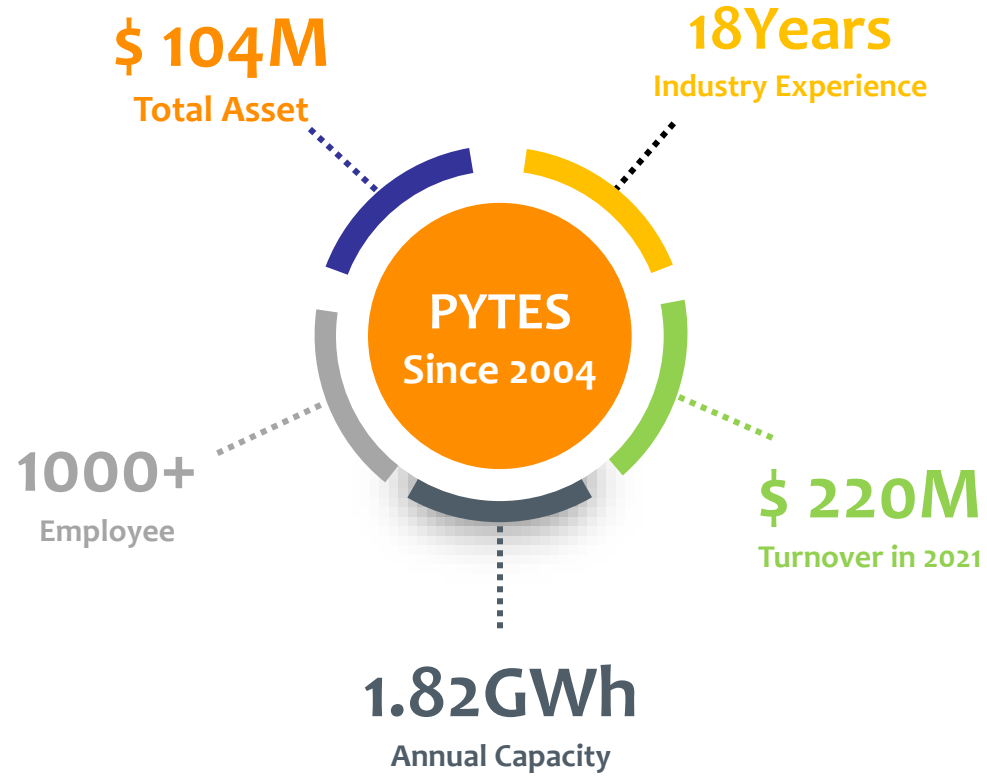
WHY US

Part4

Energy Storage introduction

Part 1

WHO WE ARE



Shanghai 20,000 m²



Shangdong 11,000 m²



Vietnam 5,000 m²



Shandong 24,000 m²

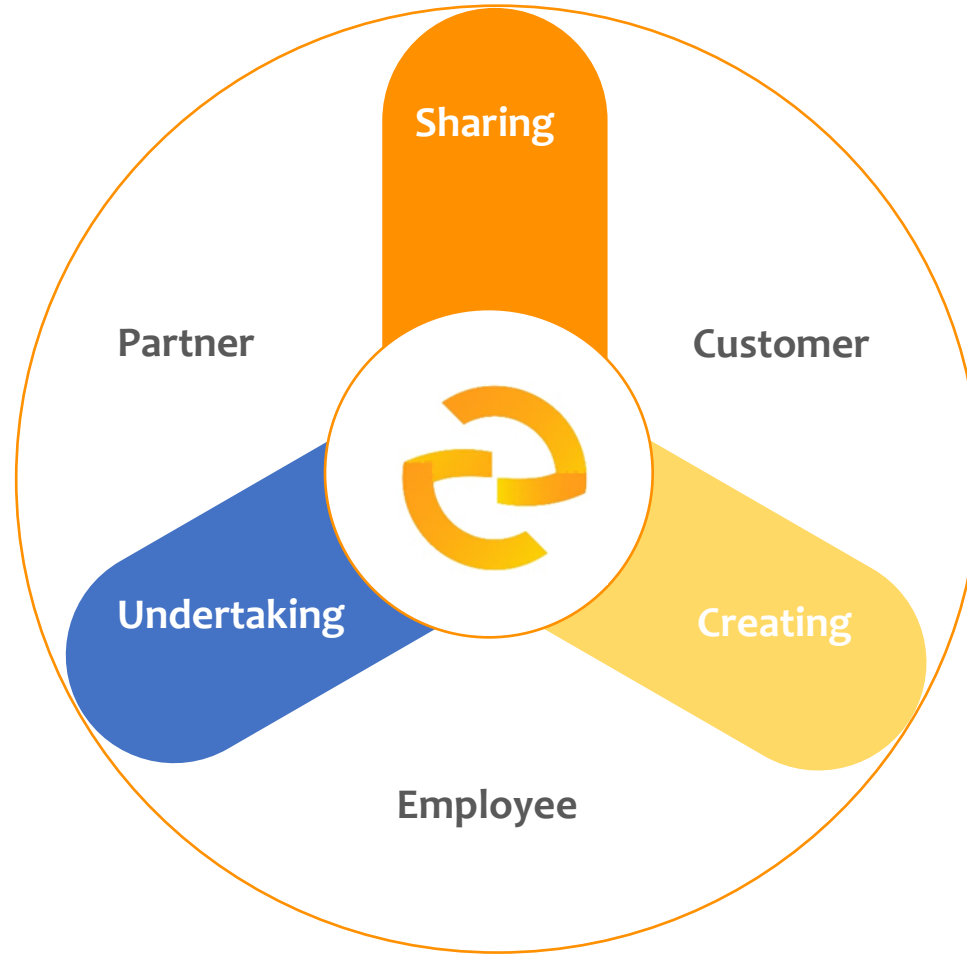


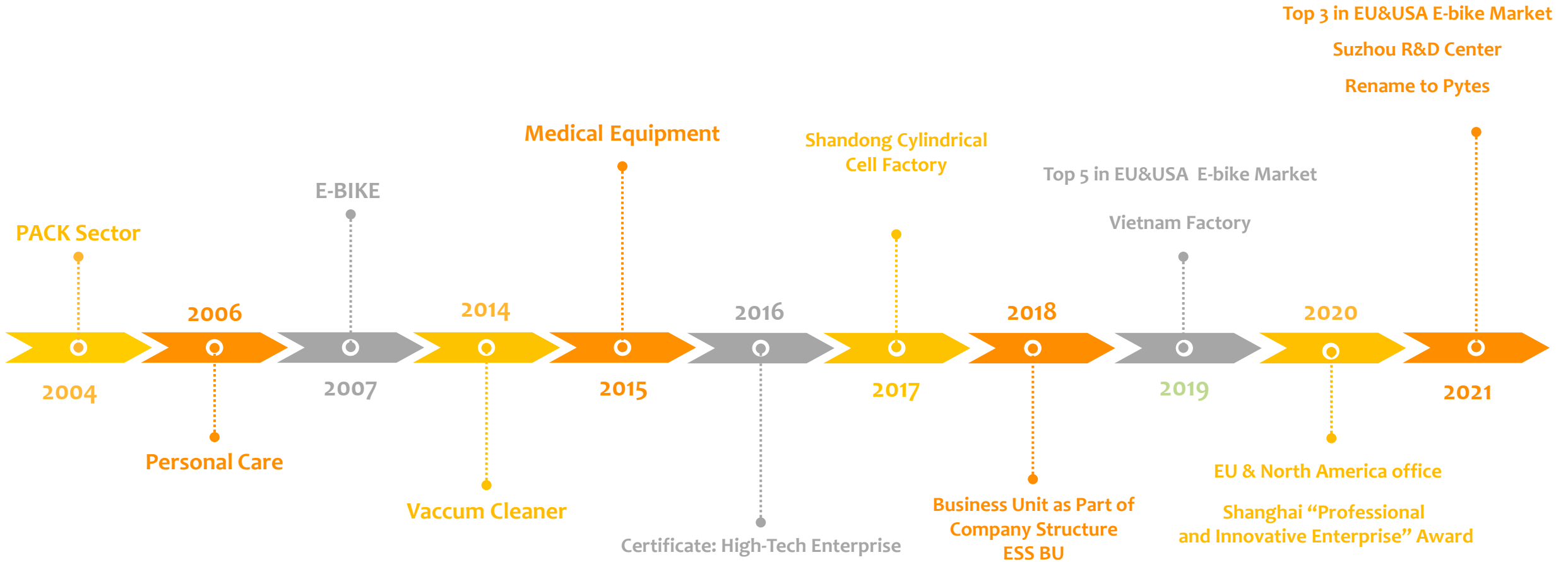


Pytes 派智能源

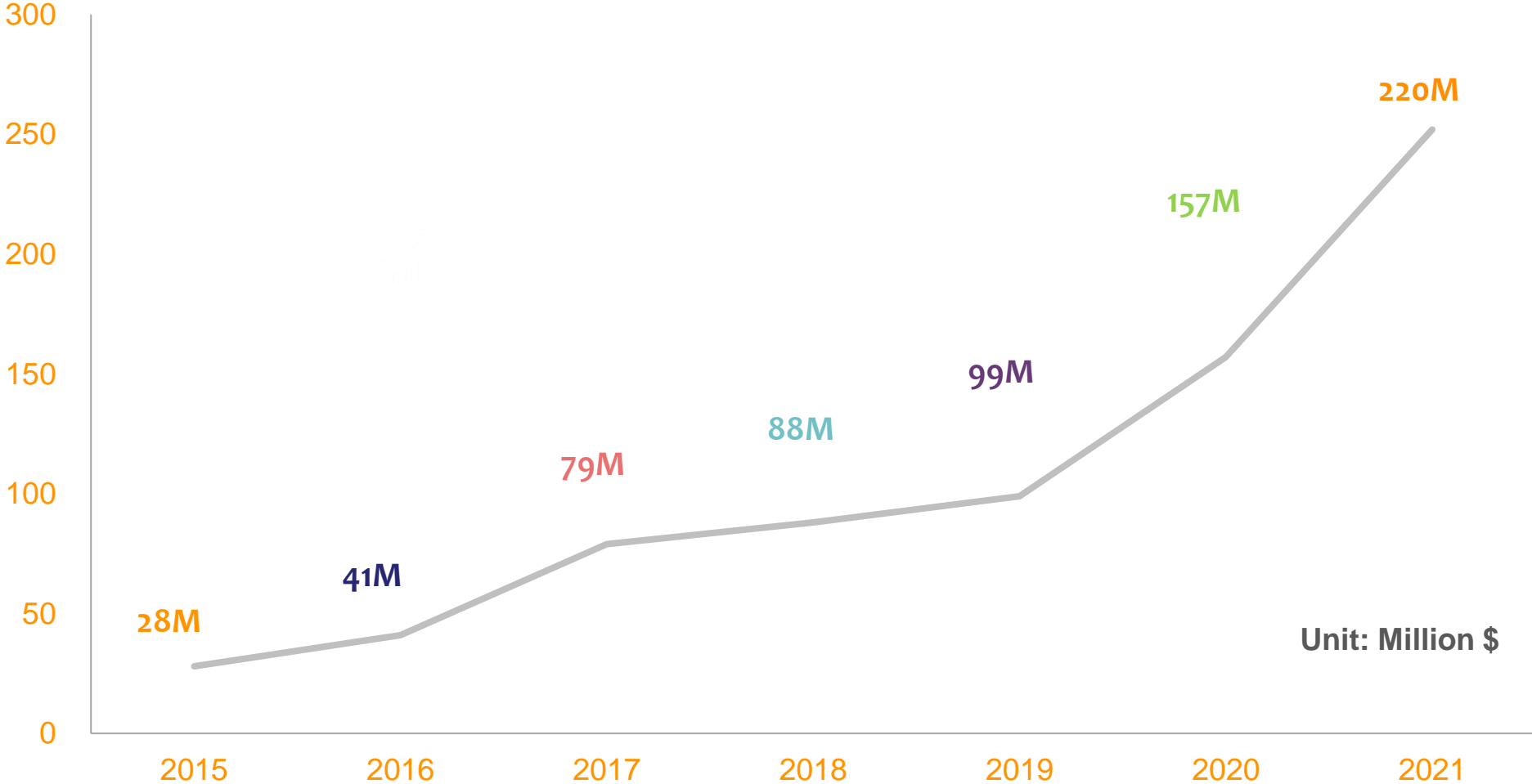
Shanghai Pytes Energy Co., Ltd.

BUILDING AN EXCELLENT PLATFORM OF CREATING, UNDERTAKING & SHARING,
BY CONTINUOUSLY OPERATING TO BENEFIT SOCIETY.





>>> SALES REVENUE

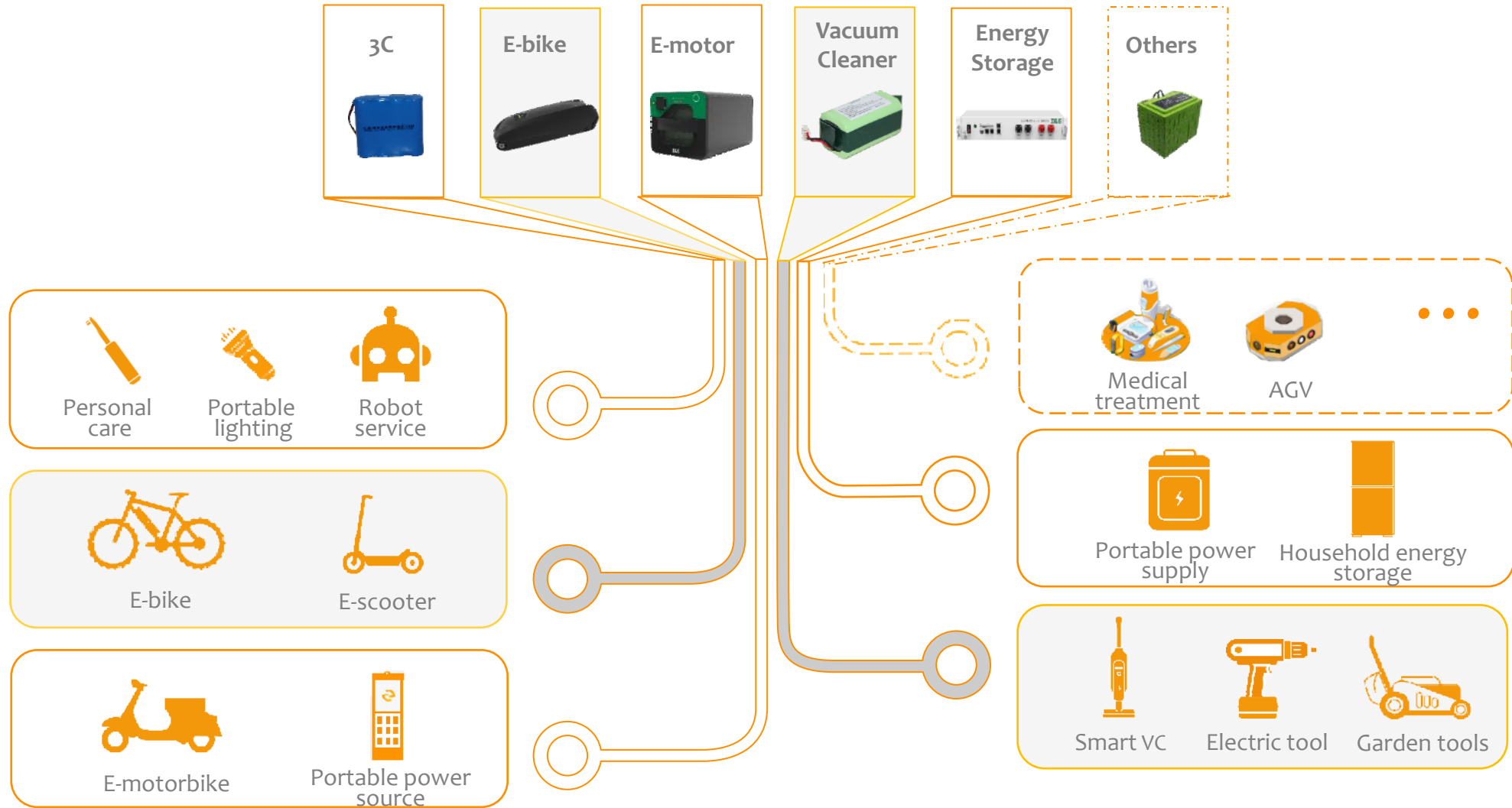


Part 2

WHAT WE DO

>>> FIVE BUSINESS UNITS

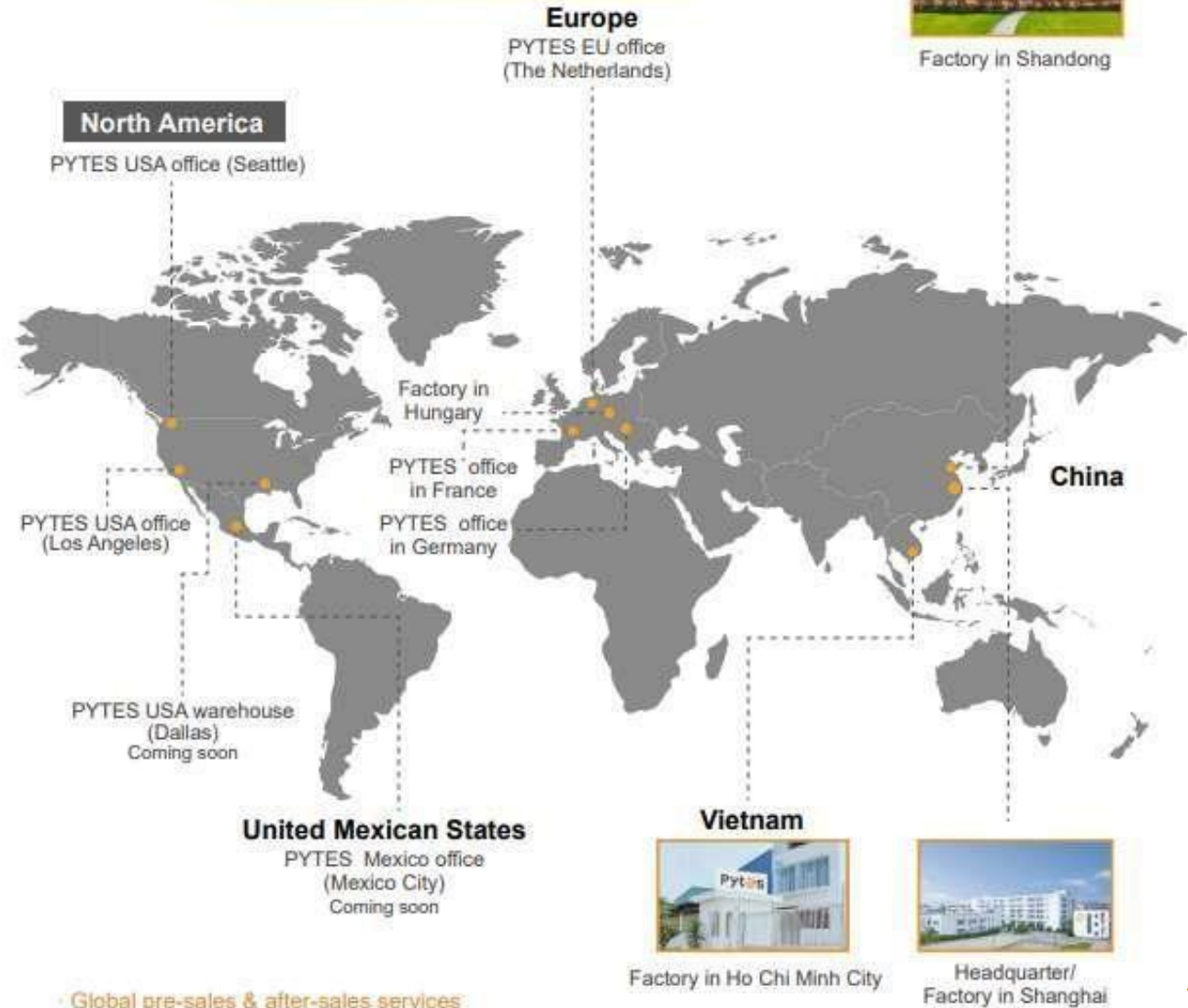
Provide advanced green energy solutions to customers worldwide



Part 3

WHY US

»» GLOBAL SERVICES



- ✓ 24/7 Pre-sales /After-sales service
- ✓ No language barriers: staffs high language proficiency & cross culture communication skills
- ✓ Local warehouses surround you
- ✓ On-time Delivery

Global pre-sales & after-sales services
7*24H support, Efficient feedback



Local Office

Based in Seattle and LA

Offering the most efficient service



Local Team

7*24 Sales, Pre-sale and after-sale support



Local Warehouse

Local Stock and fast delivery



Extensive experience

- Rich experience in R&D for top industry players ;
 - Wide Range of Applications;

R&D team

- Founders and key members with solid relative academic background and rich field experience
- Stable and Self-driven R&D team
 - 50+ R&D engineers of 10-year experience
 - 80+ R&D engineers of 10-year experience



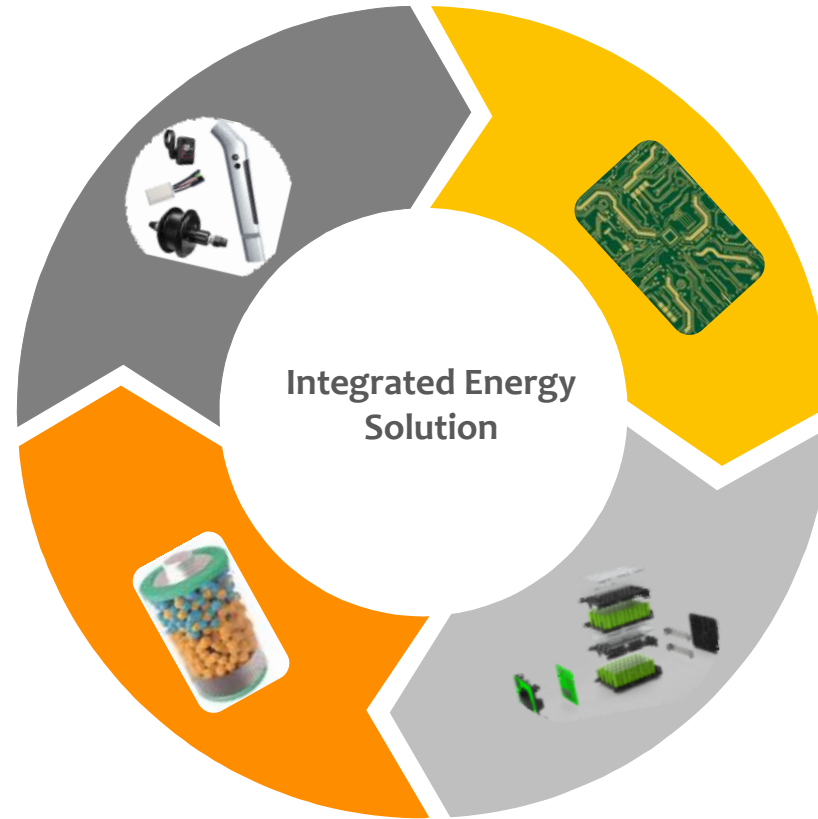
R&D investment

- **More than 5%** of revenue
- Continuous In-house Cell/BMS/pack R&D investment

Advanced R&D equipment

- Independent R&D laboratory
- Full Range of R&D equipments

System Integration
Power Conversion System (PCS)
Mid/Rear Motor
Display/Sensor, etc.



Electronic R& D
Controller System
BMS
Supplementary Smart System

Material R&D
Cells Material
Electronic Components
Structural Material

Mechanical R & D
Structure Design
Safety Design

International Certified - Testing LAB



SGS

TUV

DEKRA

BV

International System Certifications

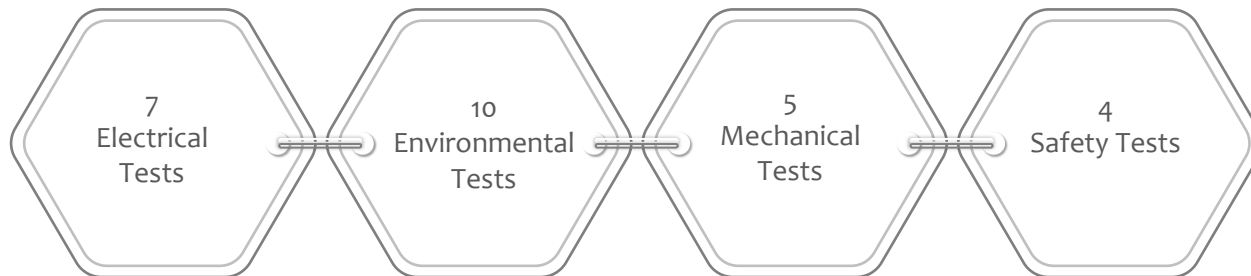


ISO9001-2015



ISO14001-2015

4 Categories 28 Quality Assurance Tests



Certification Standards

- INTERNATIONAL : IEC62133, UN38.3, IEC62619, ISO13849
- EUROPE : EN62133, EN50604-1, EN15194
- USA : UL2271, UL 2054, UL1642
- CHINA: GB 31241-2017, GB 31485, GB31486
- KOREA: KC62133
- JAPAN: PSE



DLG & TUV cooperative testing lab



Member of MIIT special team for
Lithium battery safety standard
(MIIT: Ministry of Industry and Information Technology)

Testing Items: IEC 62133-2017 (KC 62133、EN62133)、UL2271、UL 2054、UL1642、UN38.3、EN50604-1、EN15194、ISO 13849、GB 31241-2017、GB 31485、GB31486 &TUV-Rehinland CB-CTF&CUS(1642&2054).....

Established Time :

ISO9001:2015; ISO14001:2015

MES System :

MES system controls the whole manufacturing process effectively and precisely. It tracks product serial number with barcode, which can reflect product quality problem in time, traces back to product quality history and improves product management efficiency.

6S System:

SEIRI、SEITON、SEISO、SEIKETSU、SHITSUKE、SECURITY.

Quality core tools:

PPAP、FMEA、SPC、MSA、APQP etc.



Mechanical Safety

- drop
- vibration
- impact
- crush
- needle puncture
- acceleration shock



Electrical Performance Safety

- over-charge
- over-discharge
- short circuit



Environment Performance

- high/low temperature discharge
- high/low temperature cycle
- high/low temperature storage
- high humidity storage
- thermal abuse
- low air pressure
- salt mist
- fire ejection
- rainfall
- water immersion



Basic Electrical performance

- voltage
- resistance
- capacity
- rated discharge
- self-discharge
- cycle life

Electrical Tests

Testing Items

- Capacity/IR/Voltage
- Charging and Discharging High/
- Low temperature tests
- Cycling tests
- Over charging and discharging etc.



Mechanical Tests

Vibration Test



Drop Test



Shocking Test



Altitude Simulation



Salt Spray Tester



IPX5/IPX6 Rainfall Test



Thermal Shock



Environmental Tests

Short Circuit Test



Needle Test



Impact Test



Safety Tests



Supply Chain Management

- PMC team – Demand management & Production control
- Procurement team – Strategic supplier sourcing
- Digital team – Digital supply chain system

Efficient Response

- Strategic suppliers——60+
- Order Process Period ----2days
- Shorten key material purchasing period
- Shorten Delivery Period



Digital Operation

- ERP – Enterprise Resource Planning
- MES – Manufacturing Execution System
- SRM – Supplier Relationship Management
- PLM – Product Lifecycle Management

Production Capacity

- 4 Global production sites
- 18 Automatic / Semi-automatic production lines

»» MAIN CUSTOMERS

3C:



Smart Cleaner:



E-bikes:



E-motorbikes:



Energy Storage:



Part 4 Energy Storage introduction

»» ENERGY STORAGE SYSTEMS

Pytes



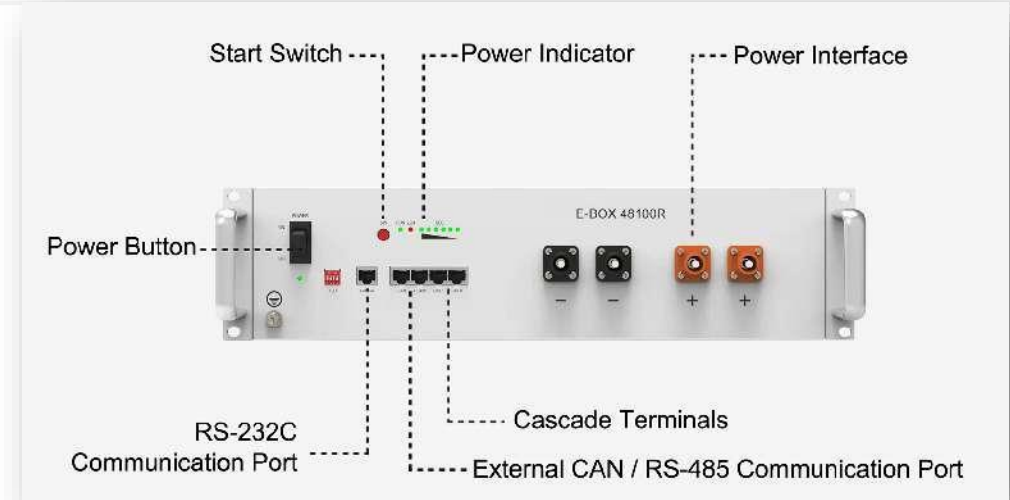
Pytas

E-BOX-48100R

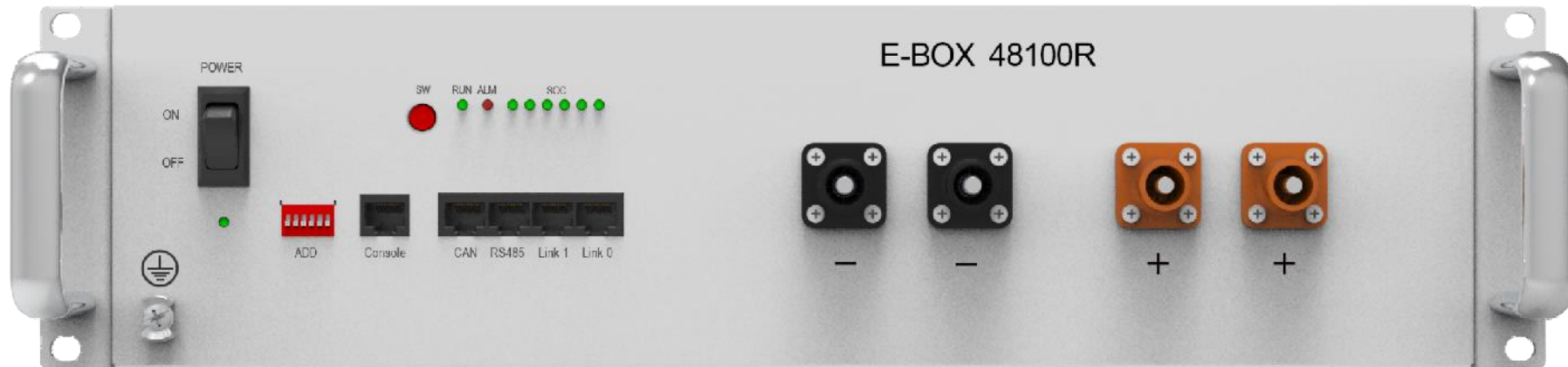


➤➤➤ E-BOX-48100R (IN STOCK)

Battery Model	E-BOX-48100R
Chemistry	LFP
Nominal Voltage	51.2V
Voltage Range	47.5V-57.6V
Nominal Capacity	100Ah
Nominal Energy	5.12kWh
Unit Dimension	L 17" * W 24" * H 4.6" (2.6U)
Unit Weight	112.5lb
Standard Continuous Discharge Rate	50A (2.56kW DC)
Maximum Continuous Discharge Rate	50A (2.56kW DC)
Peak Discharge Rate	102A (5.22kW@15s)
Round-Trip Efficiency	≥95%
Communication Protocol	RS232, RS485, CAN
Cycle Life	≥6000cycles
Calendar Life	≥10years
Operating Temperature	14°F - 122°F
Certificates	UL1973, IEC62619 / UN38.3 CEC, UL9540A; UL 9540 (Ready in Oct)



- Designed for home as well as small C & I applications (On- or off-grid)
- 5.12kWh (16 in series)
- UL1973 listed & UL9540A
- Floor/Rack/Wall Mount
- Self-designed reliable sophisticated BMS
- Compact, Slim and light than most LFP batteries



Bracket

- Easy installation and reduce costs
- Use it with single battery or multiple
- Take up less space and smooth ventilation



R-BOX

- Wall/ Floor mounted
- 10kwh total capacity can hold up 2 E-BOX-48100R batteries
- Easy installation, compact, elegant home style design and great extensibility
- Power sweet homes with clean energy, day and night



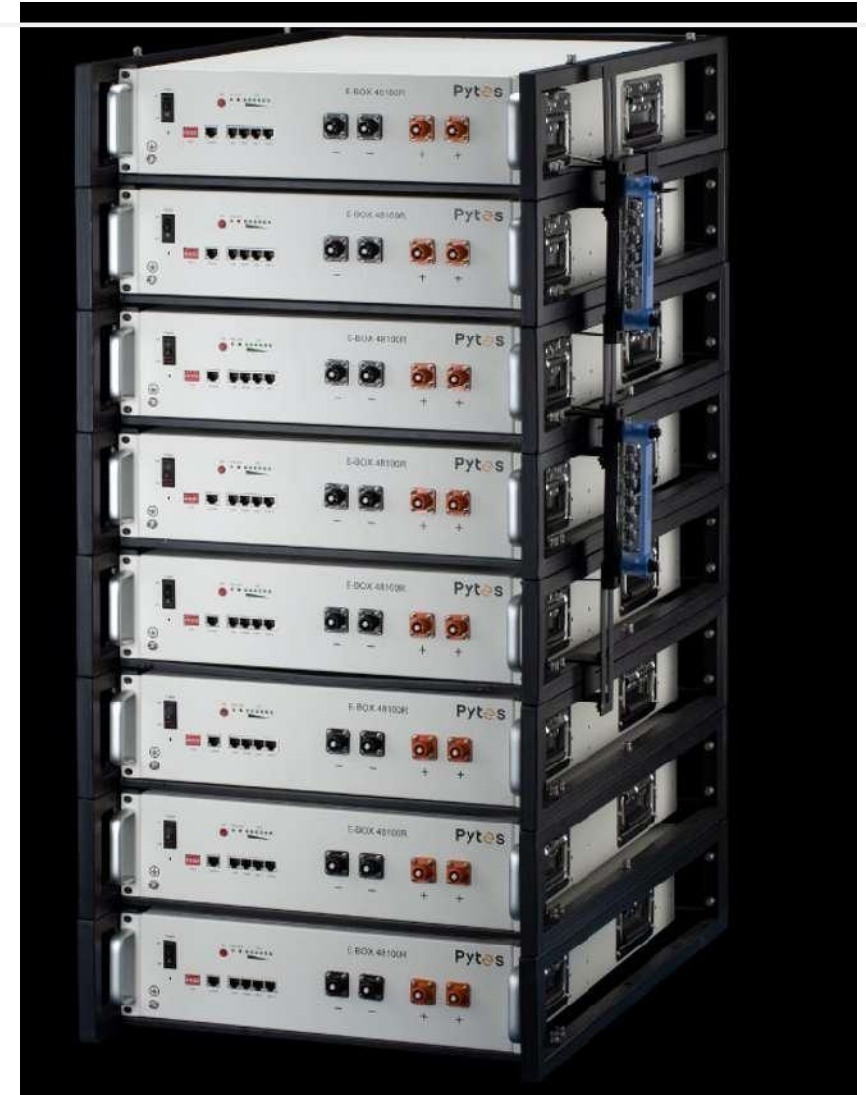
Max. 3 R-boxes

Pytes

R Bracket



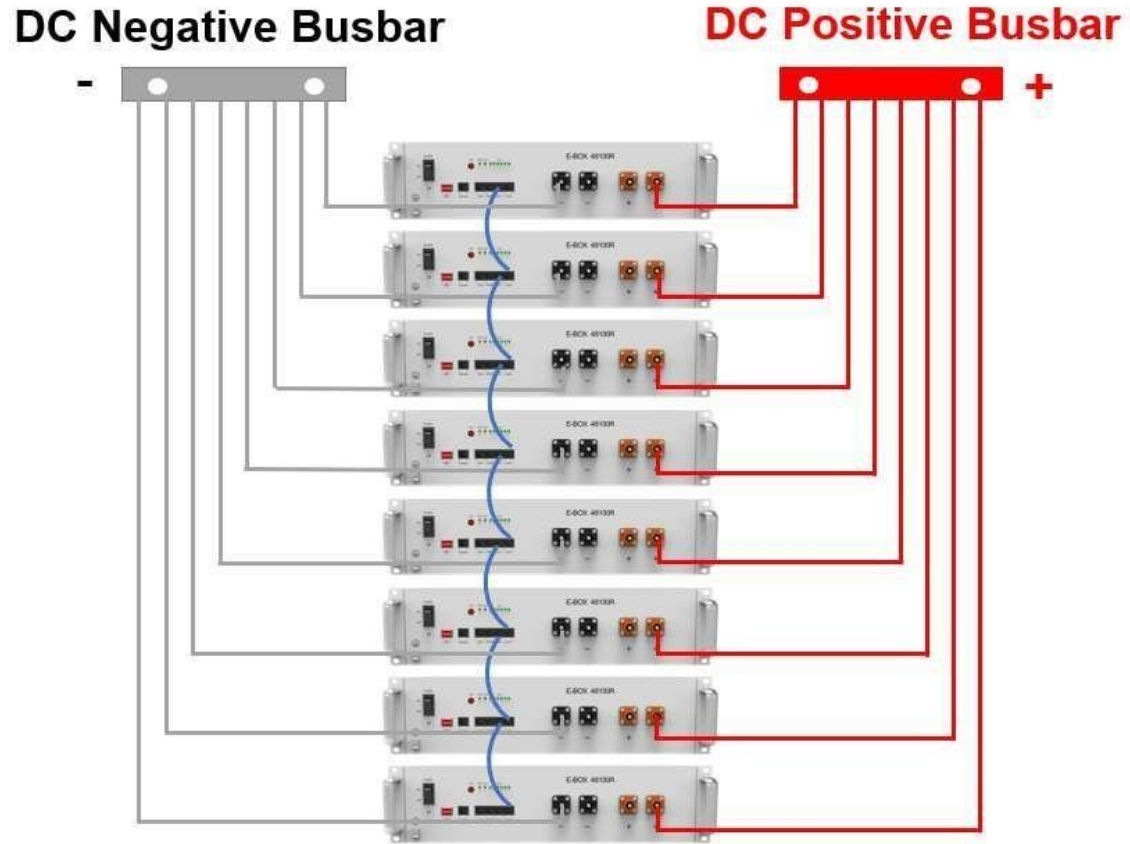
>>> R-BRACKET



- ✓ Easy ventilation
- ✓ Mountable & Demountable
- ✓ Less space required
- ✓ Multilayer battery rack

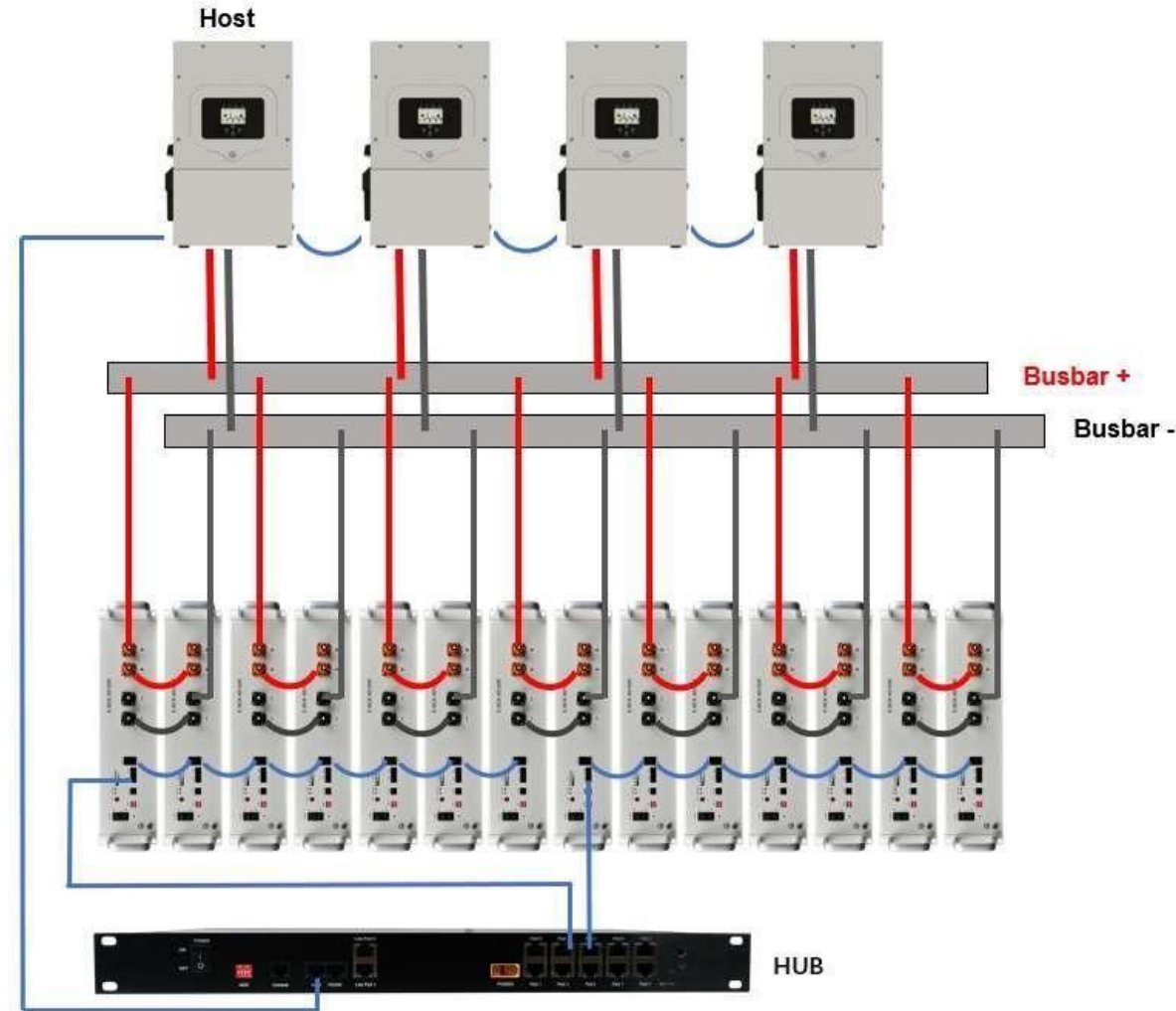
➤➤➤ BATTERY CONNECTION DIAGRAM

No hub system



power a battery

With hub system (>8 batteries)



Pytes

Forest R

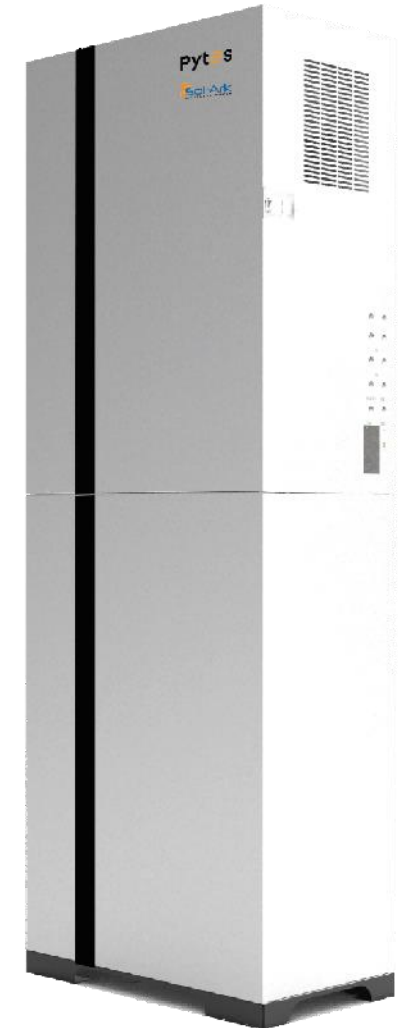




UL9540 (OCTOBER)

PYTES ALL-IN-ONE SYSTEMS HAVE PASSED THE TEST AND THE CERTIFICATE WILL BE ISSUED IN OCTOBER

- All-in-one Hybrid ESS System
- Capacity Range: 10kWh- 30kWh
- Power Output: 5kW- 15kW (Sol-ark Inverter)
- Enclosure rating IP65



Pytes

V5°

Available in Q4 2022



»»»V5° (Available in Q4 2022)

Chemistry	LFP
Nominal Voltage	51.2V
Voltage Range	44.8V-57.6V
Nominal Capacity	100Ah
Nominal Energy	5.12kWh
Unit Dimension	19" * 20.9" * 5.5"
Standard Charge/Discharge Rate	75A
Maximum Charge/Discharge Rate	100A
Peak Charge/Discharge	150A (15s)
Round-Trip Efficiency	≥95%
Communication Protocol	RS485, RS232, CAN
Cycle Life	≥6000cycles
Calendar Life	≥10years
Operating Temperature	14 °F - 131 °F
Heating system	14.4 °F- 18 °F/h
Maximum Allowed Modules in Parallel	16 pcs (82kWh) in a group 7 groups (573kWh) in a system w/ a Hub

New Feature

- High charge/discharge rate (1C)
- Sub-zero charging for cold environment
- Remote upgrading
- Easy Connection (up to 3 pcs connected in parallel without busbars)

Pytes

Stack LV Series

Launch in 2023





New Feature

- Sub-zero charging for cold environment
- Enclosure rating IP65
- Field-proven sophisticated BMS maximize reliability and longevity
- Remote upgrading
- Up to 6 batteries connected in parallel

Your Benefits

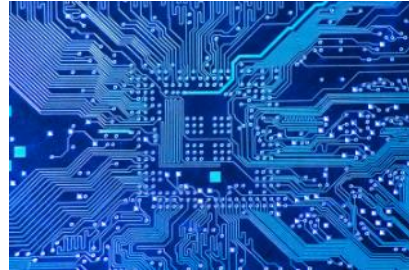
- SAFETY
- COMPATIBILITY
- SCALABILITY
- DURABILITY
- EASY TO SET-UP AND MAINTENANCE FREE

Safety is always priority



Safety on cells

- Tier 1 Automotive LiFePO4 cells
- No fire or explosion
- Safer than NMC



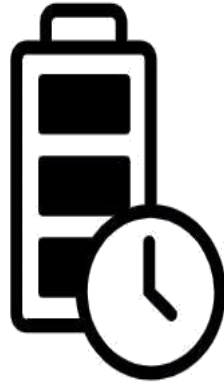
Safety on BMS

- Widely used ESS BMS
- Accurate voltage, current, temperature measuring
- Short-circuit/Over-charge/current/temperature protections
- Multi-layer software and hardware control and protection



Safety on packs

- Robust structure
- Strict quality control during production
- Passed all safety tests
- 100% 48-hour aging test



- long-lasting cells;
- Fully automatic production line
- Highly uniform

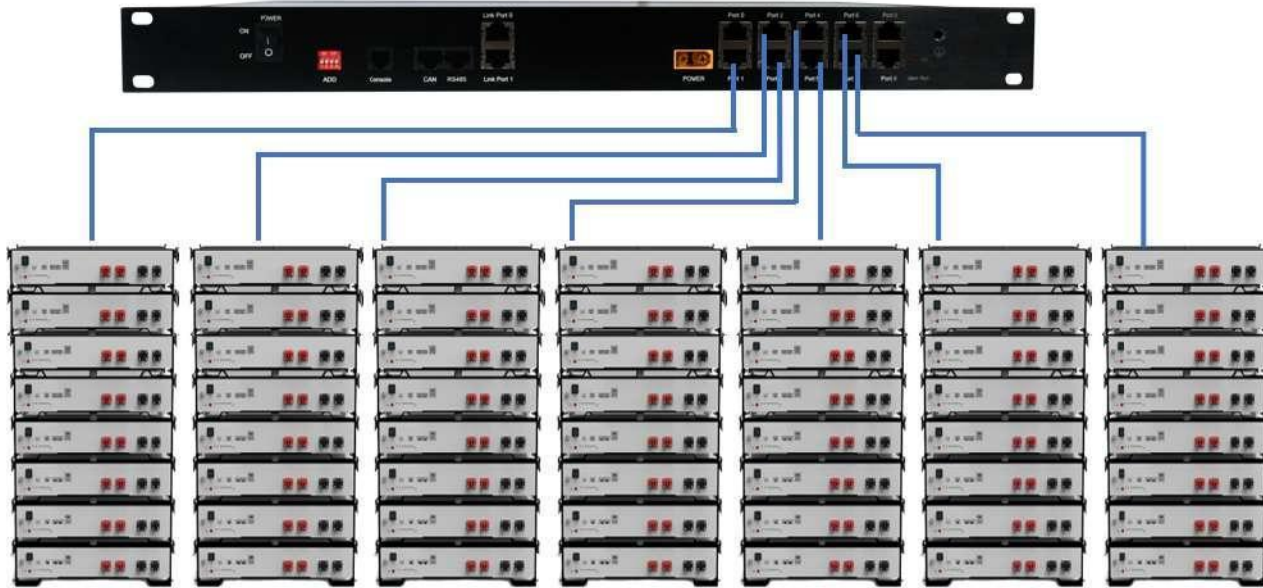


- High uniformity cells in each pack by strict sorting
- Heat management
- Prolong the battery life by smart BMS control

Compatibility List of PYTES ESS and Inverters



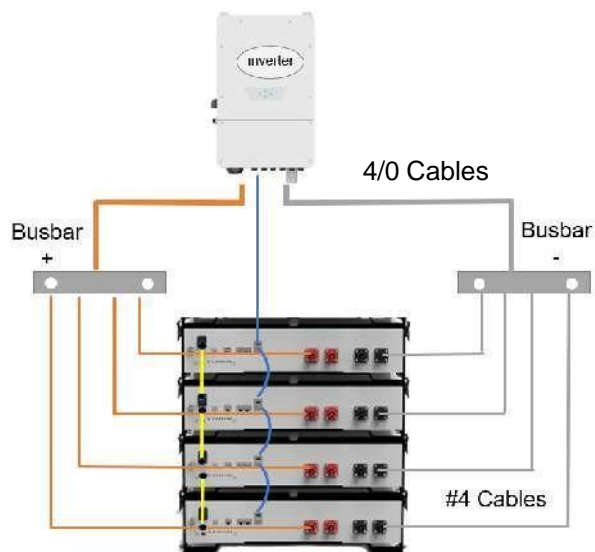
From 5kWh to 280kWh and more



- Easy to scale up
- Max. 8 in a string
- Max. 7 strings
- Up to 280kwh in one system
- Ideal for homes and small C& I systems

➤➤➤ EASY TO SET-UP AND MAINTENANCE FREE

- Easy To Set-up
- No maintenance
- BMS software tools provided for easy diagnosis
- Easy to replace

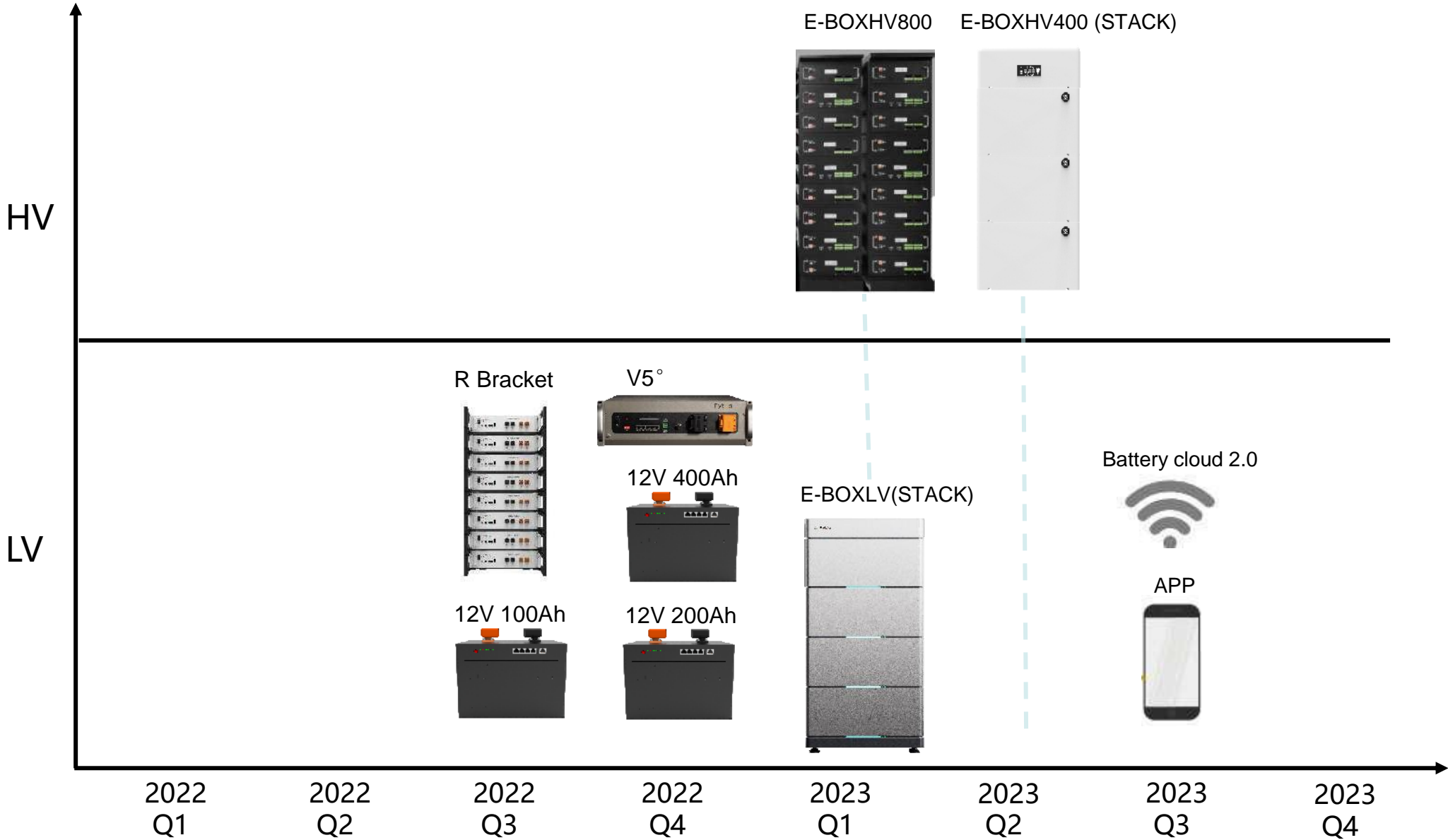


Refer to our battery installation videos

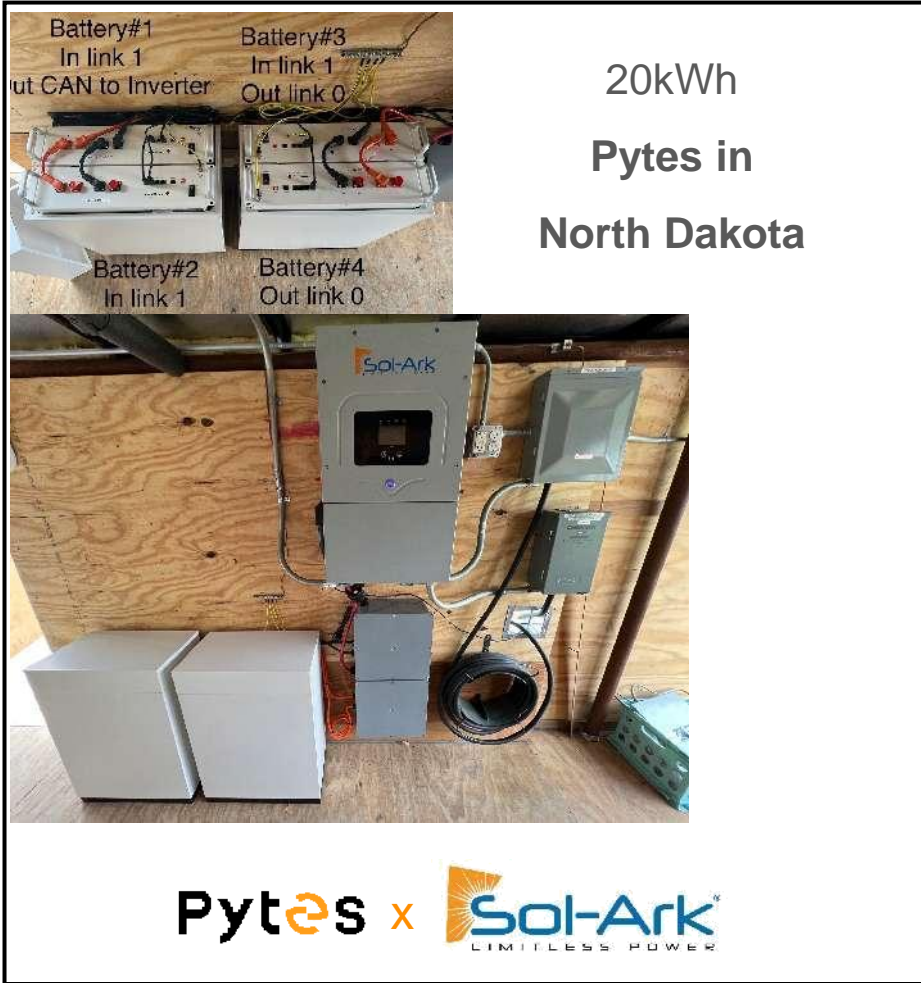


BMS Software tools

>>> ROADMAP



Power a Better Life.



Battery#1
In link 1
Out CAN to Inverter

Battery#3
In link 1
Out link 0

Battery#2
In link 1

Battery#4
Out link 0

20kWh
Pytes in
North Dakota

Pytes x Sol-Ark
LIMITLESS POWER



10kWh
Pytes in
Michigan

Pytes x Sol-Ark
LIMITLESS POWER



Pytes x  **IVG**
ENERGY SOLUTIONS

8kW / 10kWh

Jul. 2022

Pytes in Germany



Pytes x  **Schneider**
Electric

23.4kW / 80kWh

Pytes in Indiana

»» ENERGY STORAGE CASES



Pytes x  victron energy
REAL POWER

30kW / 60kWh
Pytes in Germany

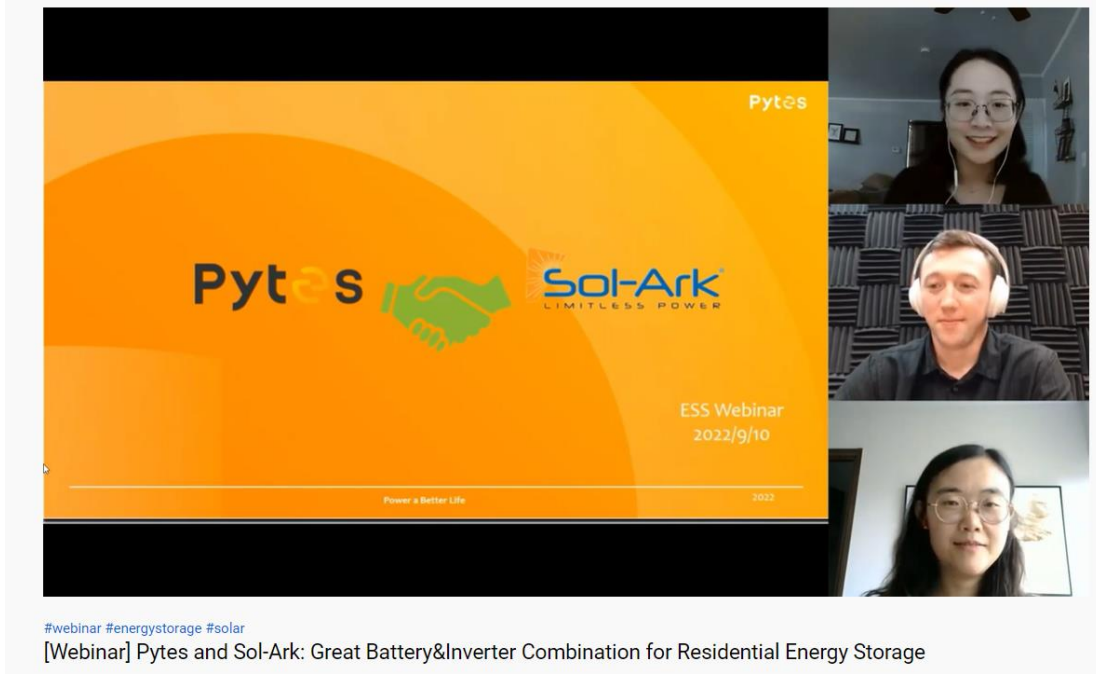


Pytes x  Growatt
SOLAR POWER

20kW / 40kWh
Pytes in South Africa

>>> ENERGY STORAGE CASES





Pytes and Sol-Ark Webinar



Pytes and IVG Training

»» PYTES TEAM IN THE SHOWS



Intersolar



SPI



the battery show

For our dear customer

- MOST COST-EFFECTIVE UL9540A/UL1973 BATTERY
- WIDE COMPATIBILITY WITH MANY INVERTERS
- SCALABILITY
- FULL TECH AND SALES SUPPORT
- EASY TO SET-UP AND MAINTENANCE FREE



www.pytesgroup.com



Pytes's LinkedIn

Thank you !

T +86-21-57475800
E name@pytesgroup.com
www.pytesgroup.com

上海市奉贤区光明金钱公路3492号
3492 Guangming Jinqian Road, Fengxian District, Shanghai