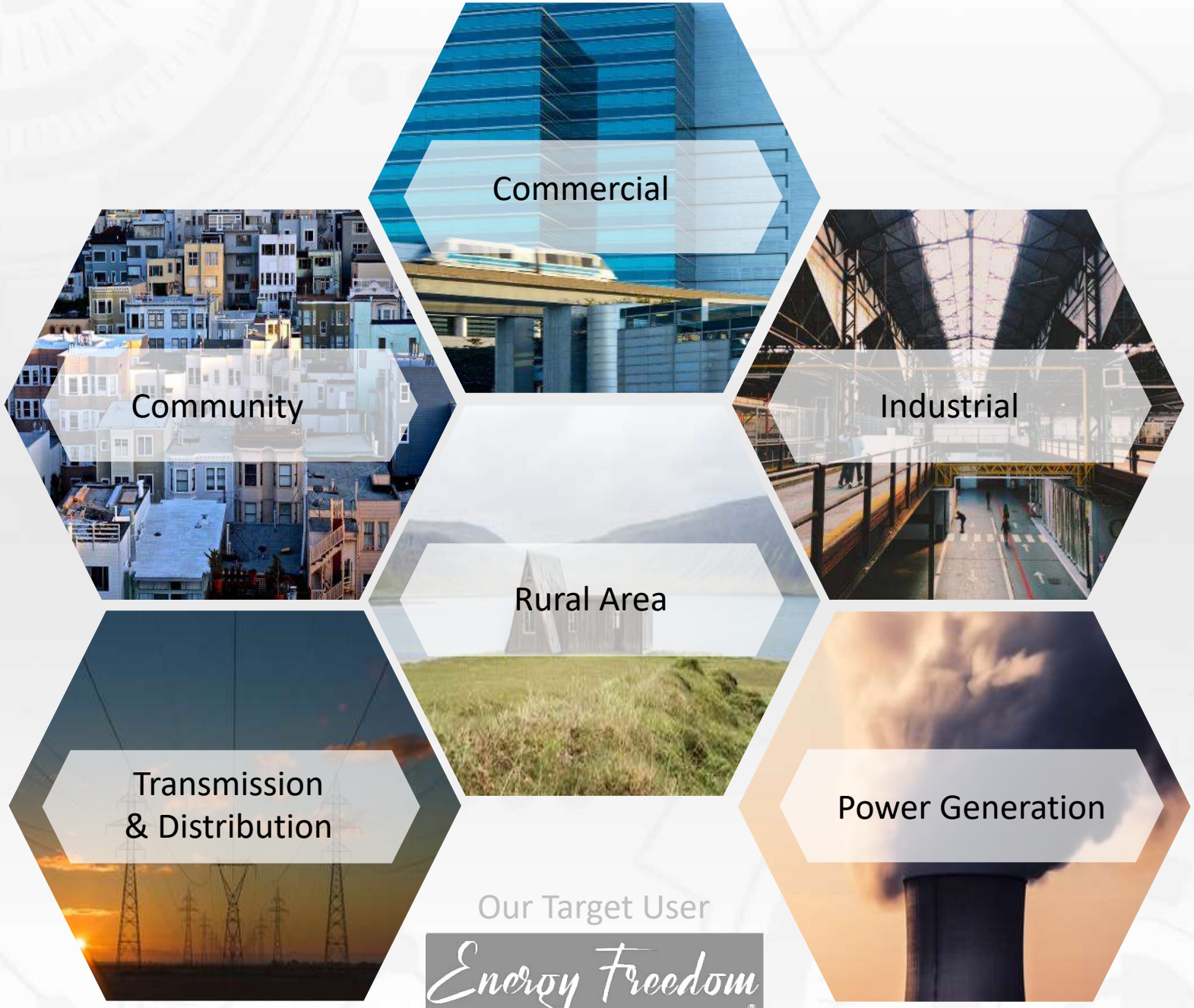
Sinexcel

Be **Sin**cere, Be **Excel**sior

Energy Freedom
Driven By Sinexcel®

Commercial & Industrial Energy Storage & Micro-grid Solutions

Driven By **Sinexcel**®



Our Target User

Energy Freedom

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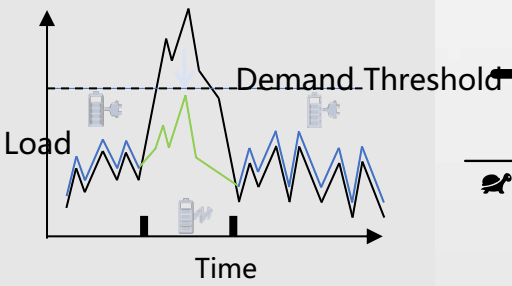
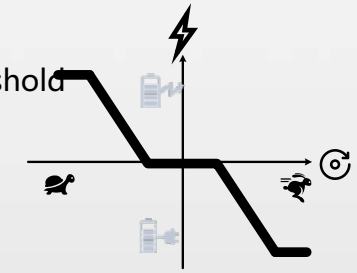
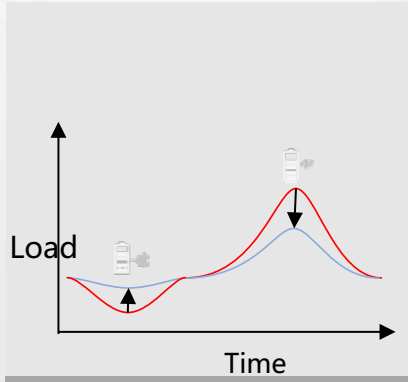


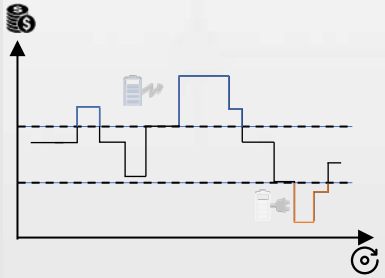
Demand Charge management



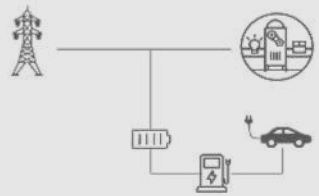
Frequency Regulation



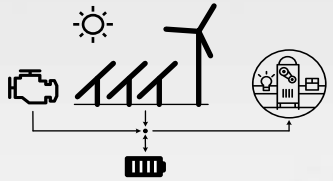
Peak Shaving



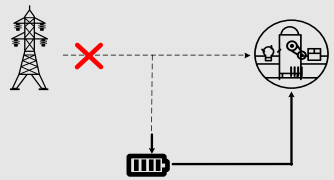
Spot Market



Energy buffer



Micro Grid



Backup power

Our Target Applications

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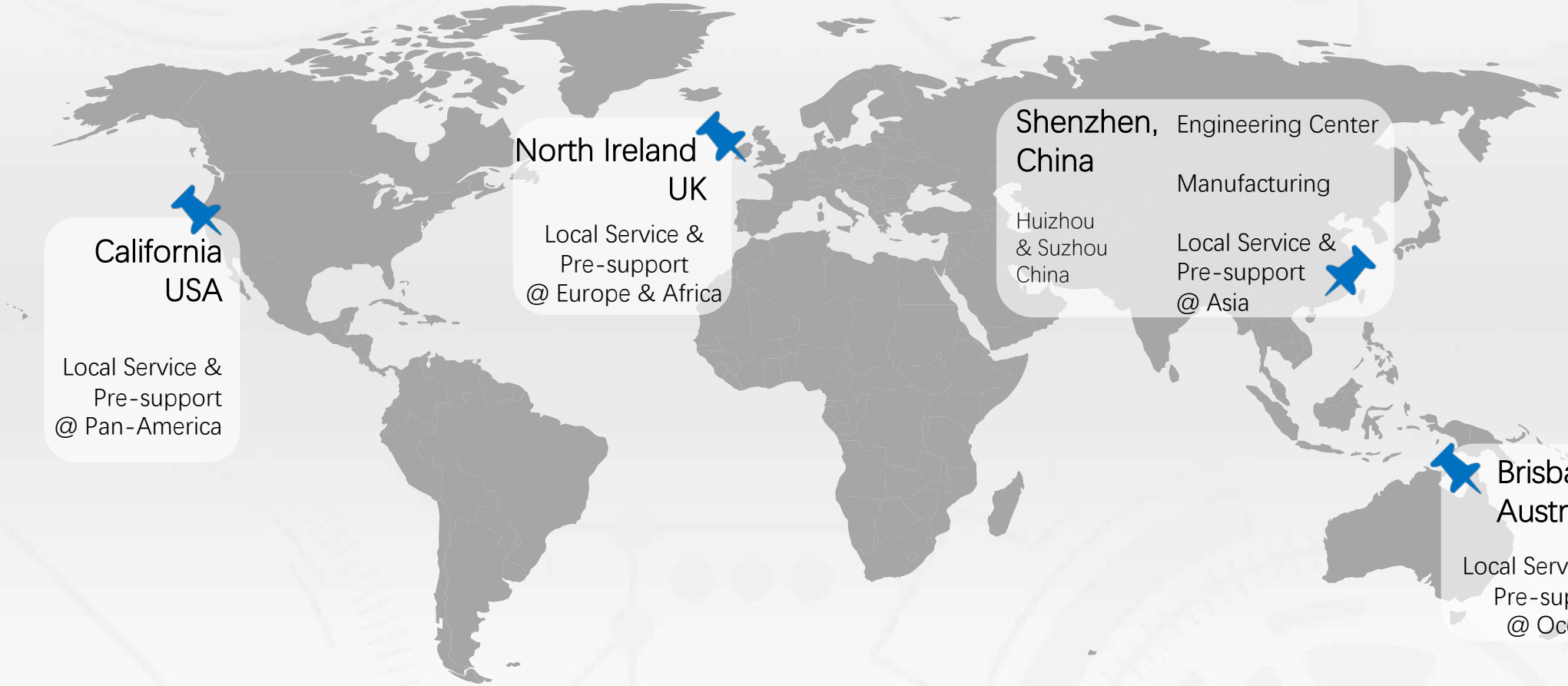
2011-2024
Be Sincere, Be Excelsior
10GWh+
ESS Serviced
4GW+
PCS Shipped
500+
Integrator Partners
Our Performance



Our Locations

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Our Milestones

2007 — **Sinexcel** CHINA Founded

2010 — 1st Modular APF

2012 — 1st PV project

2015 — 1st Modular PCS

1st 2MW AC-coupled Microgrid project

1st hybrid DC-coupled microgrid for Island

Energy Storage & Microgrid BU

1st hybrid inverter

2017 — **1st** USA **patent**

IPO @SZES 300693

1st pre-engineered ESS container

1st ETL certified lab

Commercial & Industrial energy storage and microgrid solution

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2016 — **Sinexcel** USA Founded

Accumulated 100MW storage inverter installed

1st ETL certified PCS meets UL9540

2019 — **100th microgrid** projects

Annual Revenue of **$15+ million**

2019 — **1st frequency regulation** project in USA, 72 MW/72MWh

Sinexcel Australia Founded

2021 — Accumulated **1GW** storage inverter installed

2022 — The **1500V AC** and **30P** series were released and sold well

2023 — Shipped **GW** in 1 year

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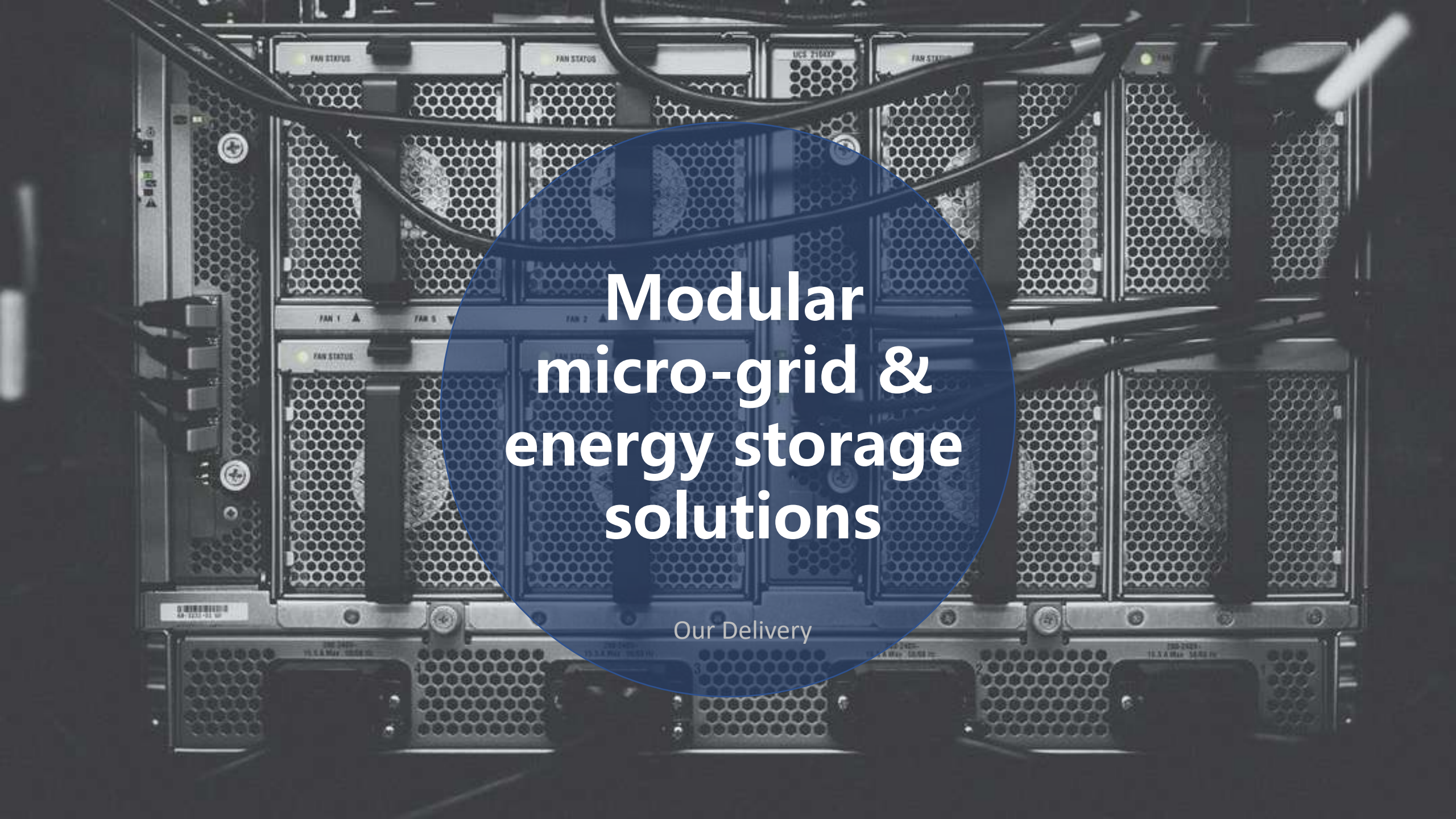

Modular micro-grid & energy storage solutions

Our Delivery

Power Conversion System

Pre-engineered System
w/o battery & EMS

Integration Service

Our Products

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Reliable

- Proven and years operation with various applications in different sites and environments;
- Universal & Certified PCS and container/cabinet system

Flexible

- Modular ACDC/DCDC bi-directional PCS;
- Modular container / cabinet energy storage system;
- Indoor / Outdoor installation

Compatible

- Grid support and grid forming;
- Battery agnostic;
- Global grid certified & listed.

Our Strengths

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Keep it simple, make it flexible & retain the use of energy stable.

Our Mission


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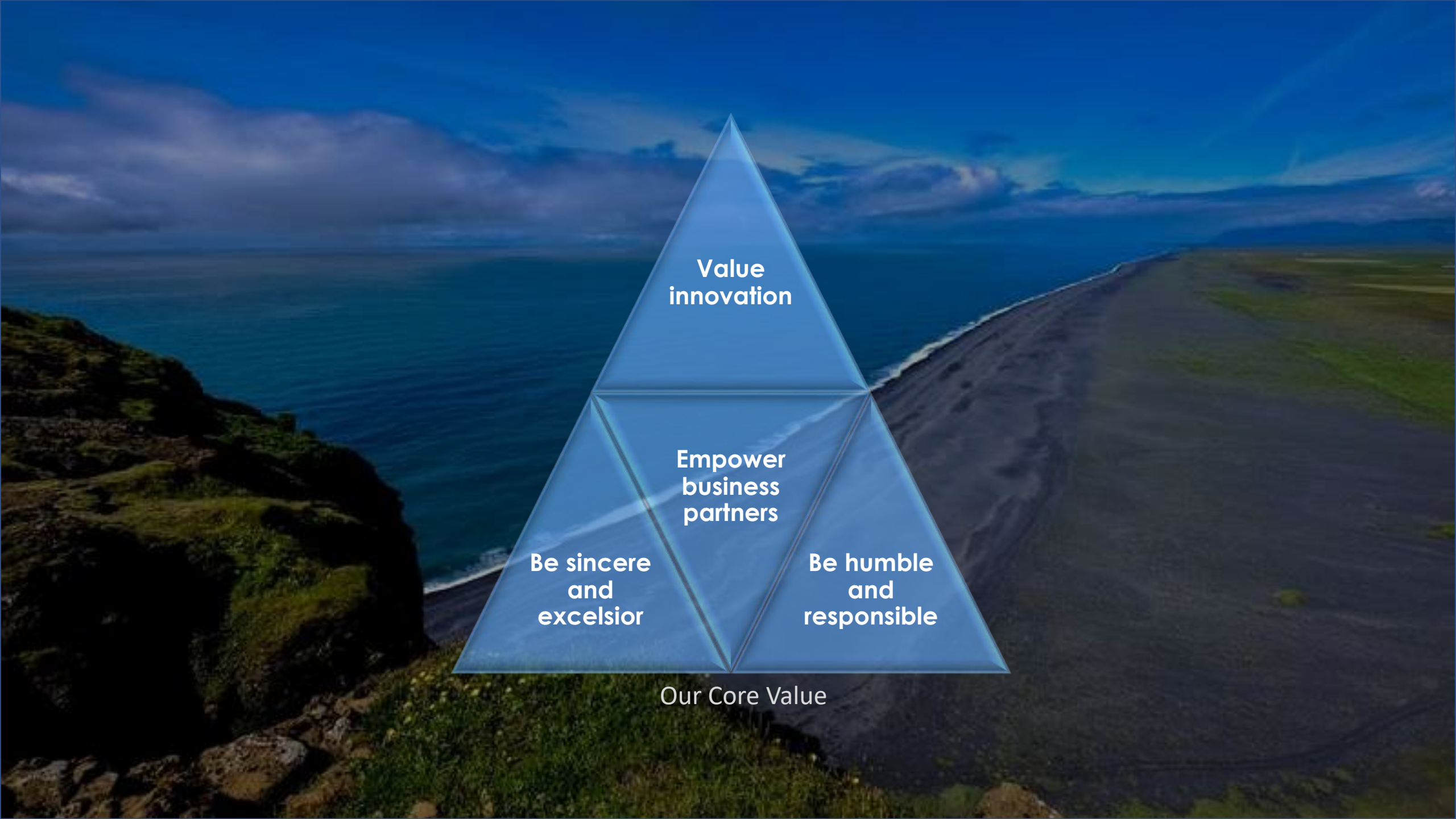
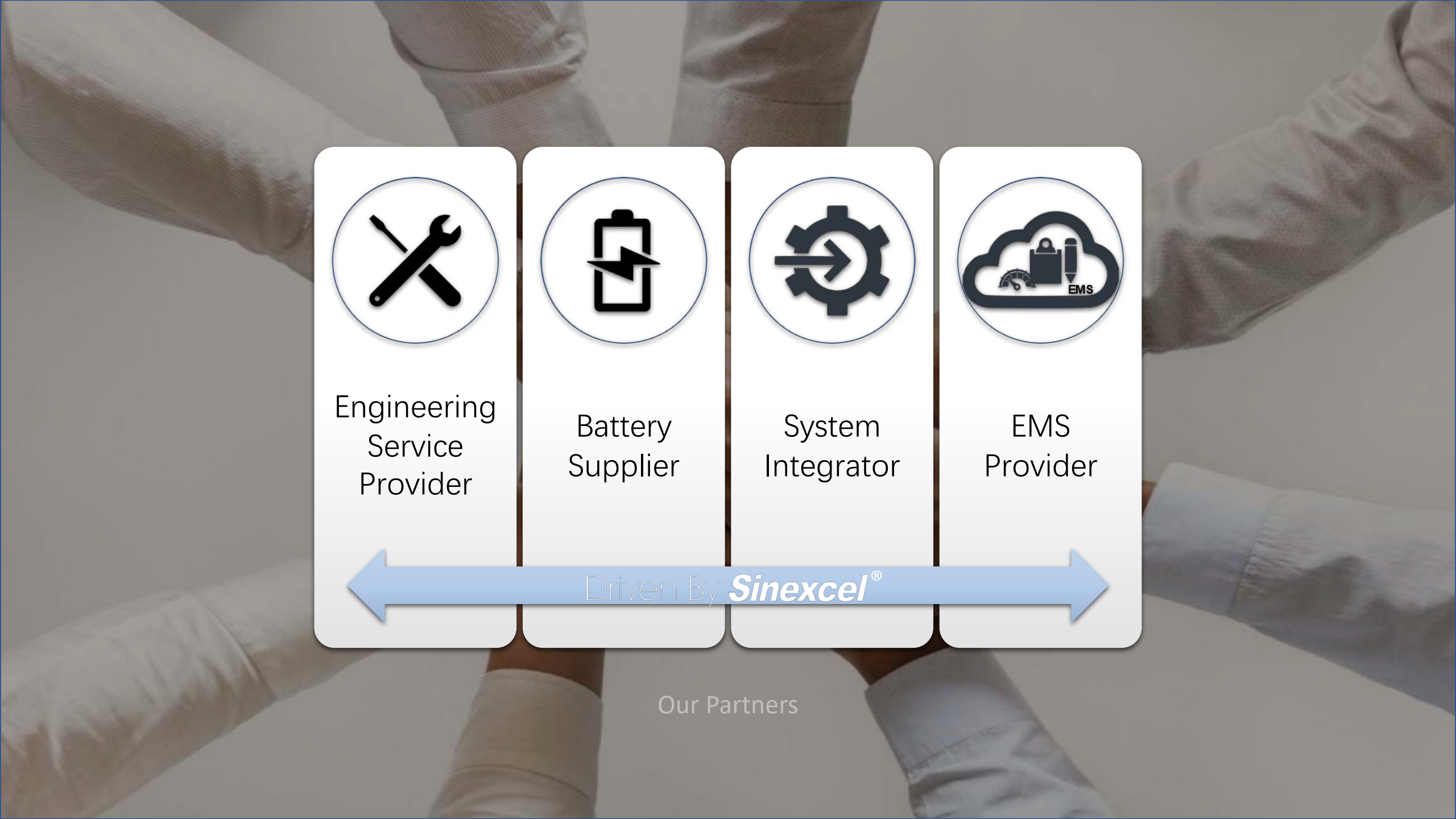
Our Vision


Value innovation
Empower business partners
Be sincere and excelsior
Be humble and responsible
Our Core Value



Our Partners

Power Conversion System

1/1.25/1.5 1.725MW

750kW

500kW

250kW

150kW

100kW

30kW

1000-1500Vdc
PWS1-1725KTL-NA/EX
5-8 Modules

1000-1500Vdc
PWS1-1725KTL-NA/EX
3-4 Modules

900/1000-1500Vdc
PBS1-430K-NA/EX
2 Modules

900/1000-1500Vdc
PBS1-430K-NA/EX
1 Module

600-900Vdc
PWS1-500KTL-NA/EX
5-8 Modules

600-900Vdc
PWS1-500KTL-NA/EX
3-4 Modules

600-900Vdc
PWS1-500KTL-NA/EX
1-2 Modules

Storage-only PCS

150-750Vdc
PWS2-30P-NA

150-750Vdc
PWS2-30P-EX

DCDC Converter

500-1500Vdc
PDS1-750-H-NA/EX
DCDC Converter
8 Modules

250-850Vdc
PDS1-400
DCDC Converter
5-8 Modules

250-850Vdc
PDS1-400
DCDC Converter
3-4 Modules

200-810Vdc
2*45kW DCDC Converter

200-810Vdc
1*45kW DCDC Converter

Indoor Unit

Outdoor Enclosure

Storage Inverters

250-520Vdc
PWG2-100K-EX

250-520Vdc
PWG2-50K-EX

PV+Storage Hybrid

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Listings on Authorities

Different models for US, UK and Australia had been listed on the authorities.

Listings on National Recognized Testing Labs

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Certified Products and Lab

NRS HECO SRD V2.0 ENA listing
C10/112
CSA 22.2 R25 UL 1741SA/SB
UE 2016/631 UL 9540 IEC 61727
IEC 62116
PEA/MEA G99 AS/NZS 4777
IEC/EN 62109
IEC/EN 62477 RCD
CEI 0-16
IEC/EN 61000 EN50549
CPUC Rule 21 NTS 2.1:2021(Type B/C/D)
UNE 217002 IEEE 1547 E5000
FCC Part15 (A OR B) Low Voltage Directive

Product Liability Insurance

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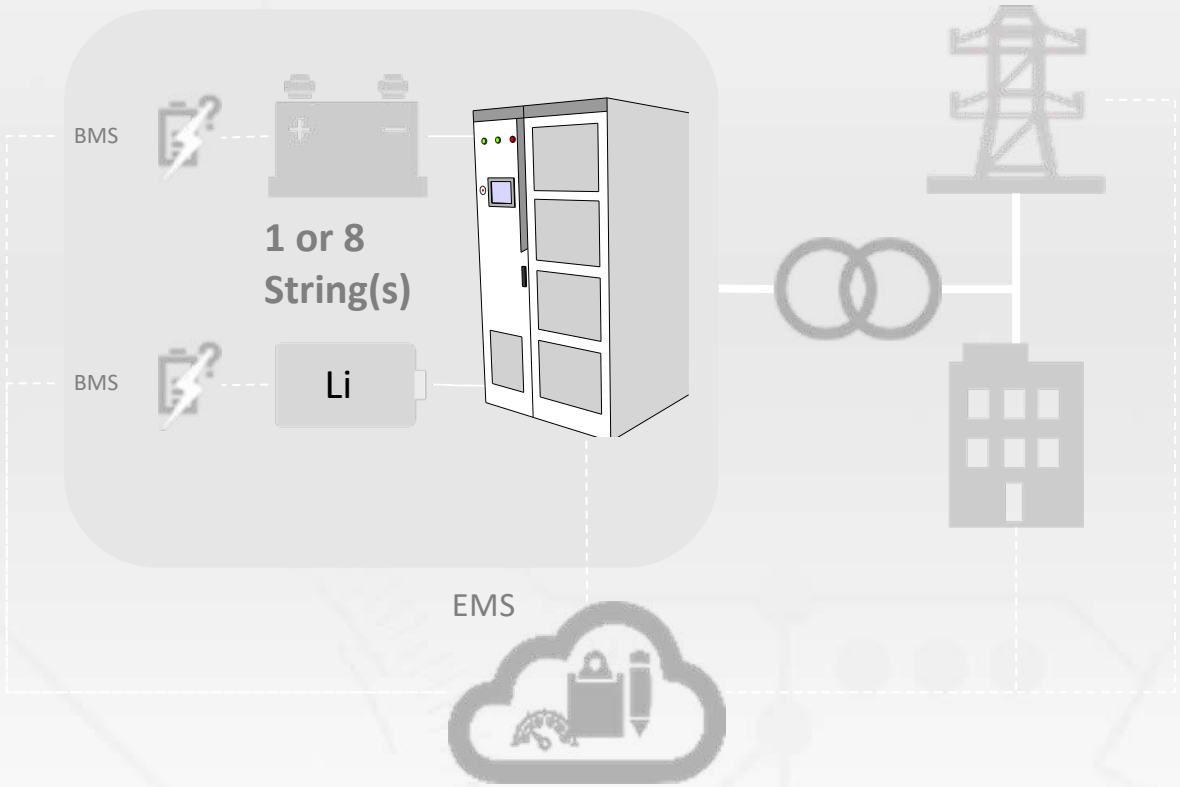
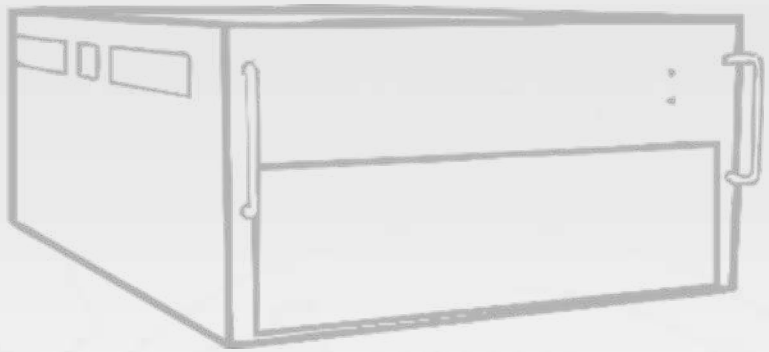
Multi-strings Technology



Front maintained & Modular Design



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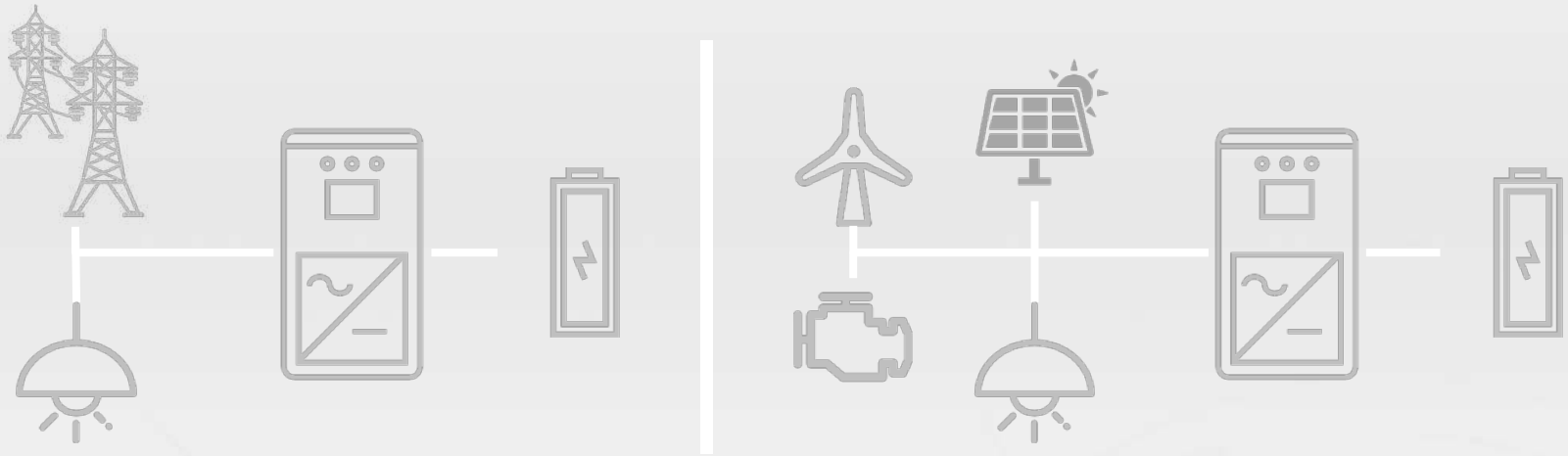
Grid-interactive & Grid-forming Built-in



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Pre-engineered System w/o Battery & EMS

Pre-engineered ESS

1-2MW

2-4 * 500kW PCS +40' Container

1 * 1725kW PCS +40' Container

500kW

500kW PCS +40' Container

250kW

250kW PCS +20' Container

500kW PCS +20' Container

150kW

150kW PCS +10' Container

500kW PCS +10' Container

30kW

1-3 * 500kW PCS +
1-2 * 750kW DCDC PV Charger
+40' Container

1-2 * 750kW
DCDC PV Charger
Outdoor installed

500kW PCS +
400kW DCDC PV Charger
+40' Container

400kW DCDC PV Charger
+20' Container

400kW DCDC PV Charger
+10' Container

50/100kW Hybrid PCS
+10' Container

30kW PCS+ DCDC+ Cabinet

4MWh

40-45' Container

2MWh

20' Container

1MWh

500kWh

100kWh

Battery Cabinet

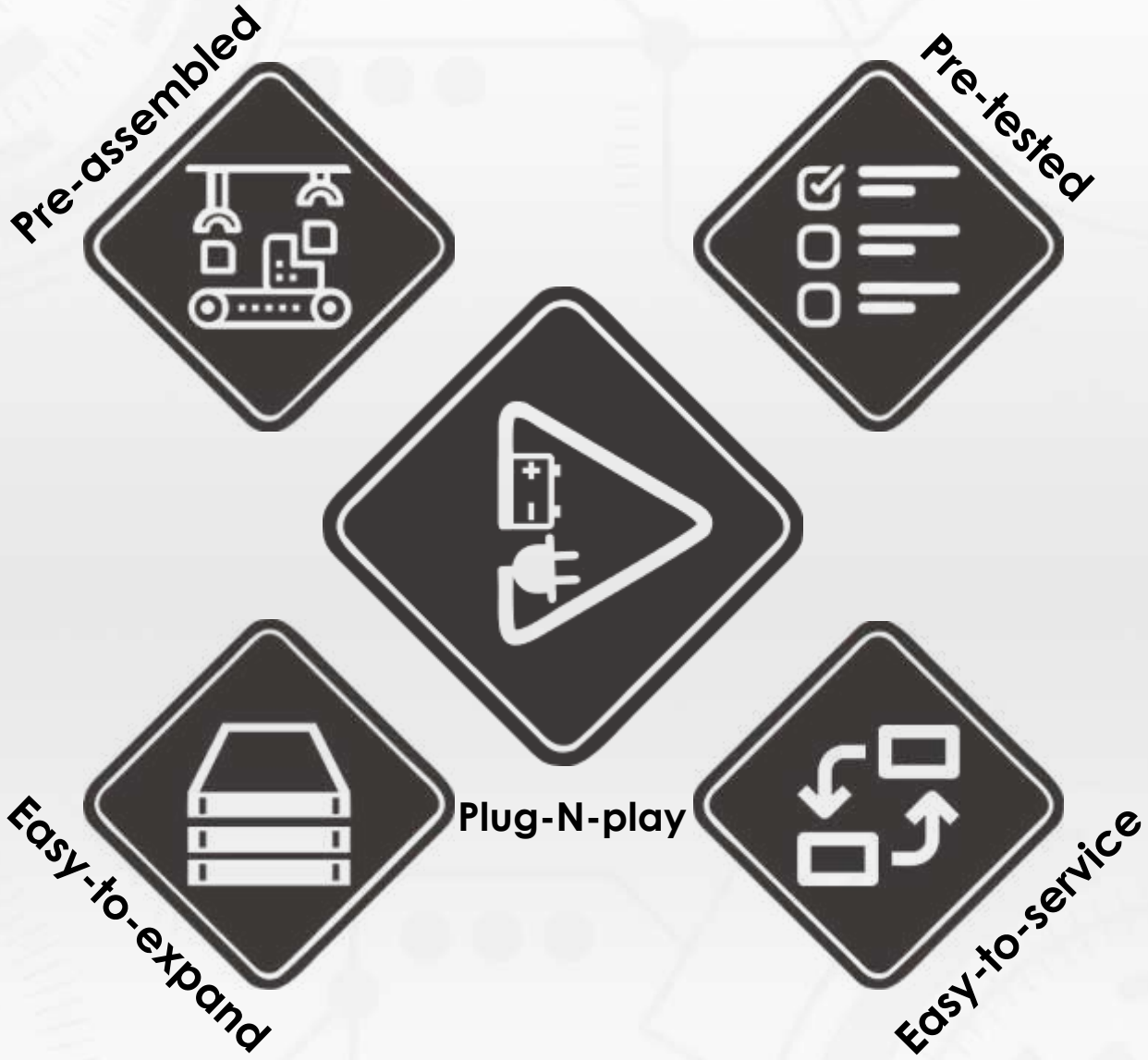
AC Coupled

All-in-one Solutions

DC Coupled

Battery-only Solutions

Energy Freedom Driven By Sinexcel®



Energy Freedom
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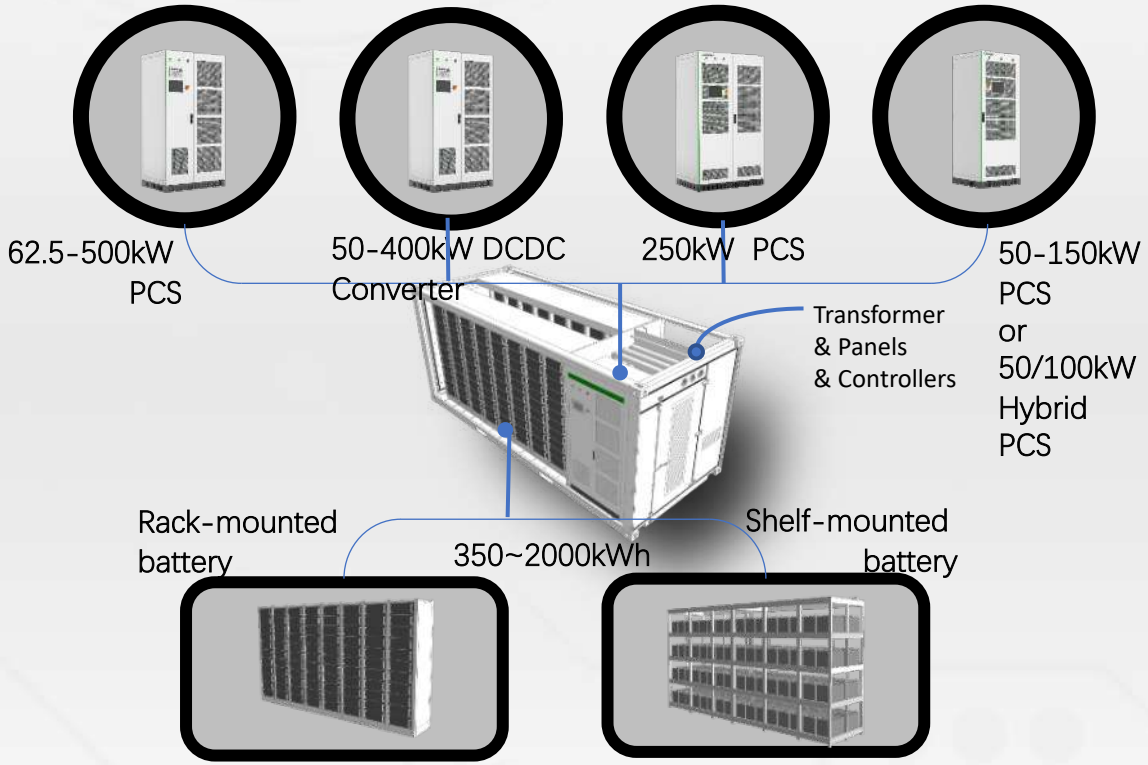
Container ESS
10/20/40ft – Up to 2Mw/4MWh



- Intermodal shipping container
- 10ft/20ft/40ft standard ISO container.
- All-in-one design.

- Modular & NREL certified PCS
- Compact and similar formfactor
- P-Q & V-F mode
- Built-in or external transformer offers option for 400Vac/480Vac connection.

- Independent battery room
- Lithium-ion (LFP/NCM/NAM) or Lead-acid, or Nickle Iron, or Flow battery compatible.

- Pre-engineered with aux distribution, and optional HVAC or air ventilation and/or firefighting system.

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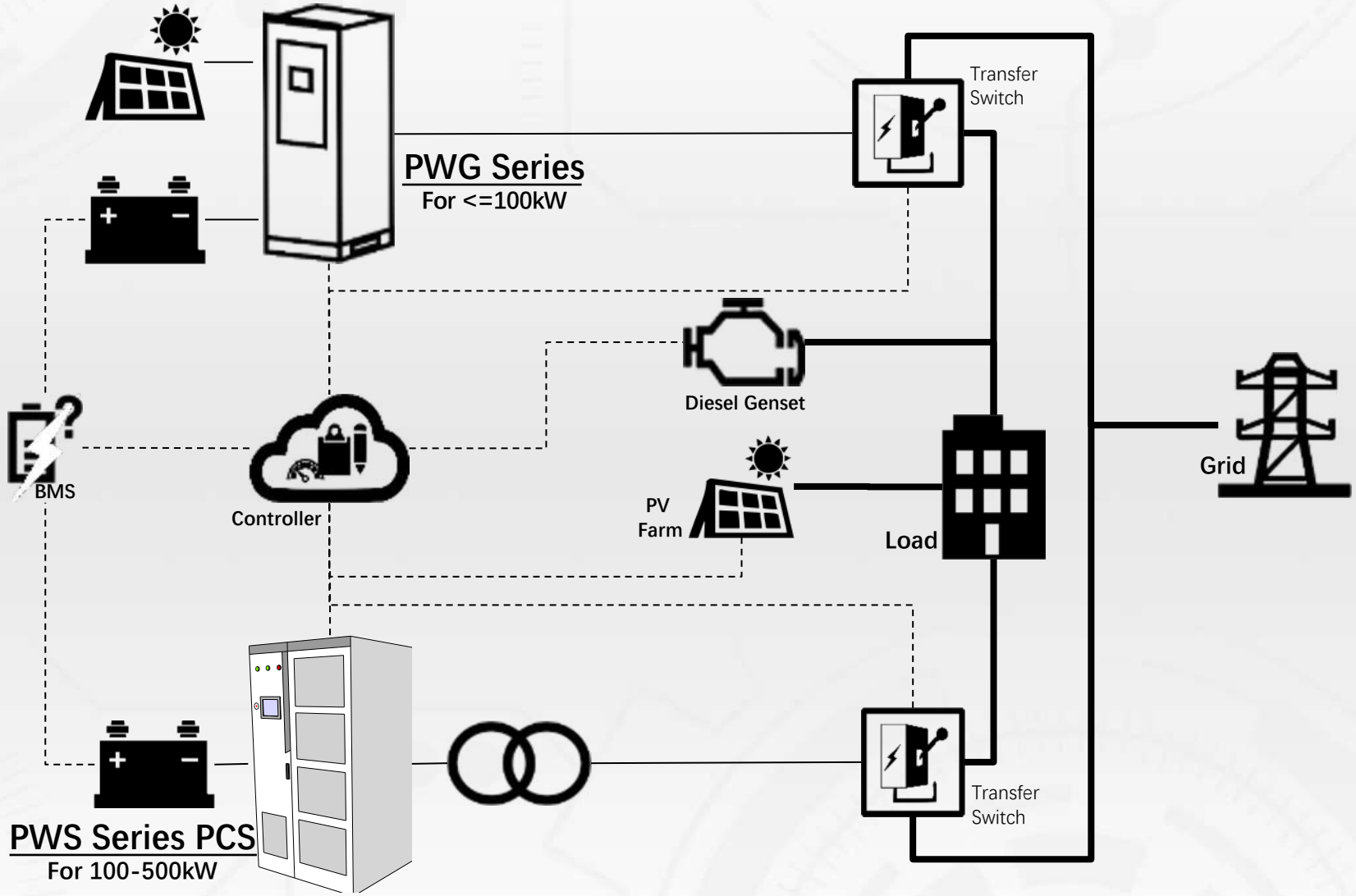
AC-coupled Solutions



Energy Freedom
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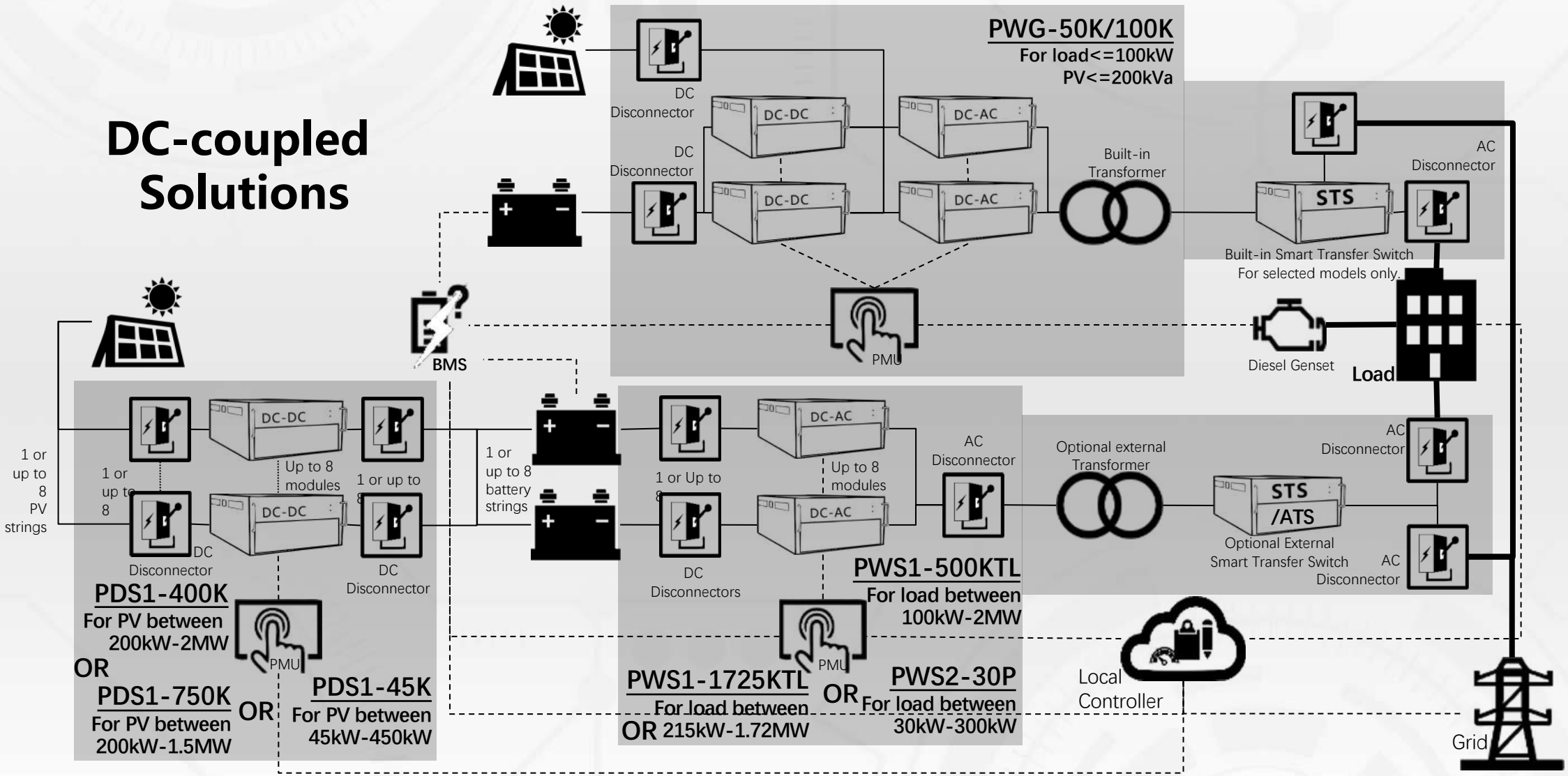
DC-coupled Solutions



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30kW~10MW+ DC-coupled Pv-plus-Storage Solutions

Indoor DCDC/200-810Vdc

Indoor/Outdoor hybrid inverter

Indoor DCDC/250-800Vdc

Outdoor DCDC/500-1500Vdc

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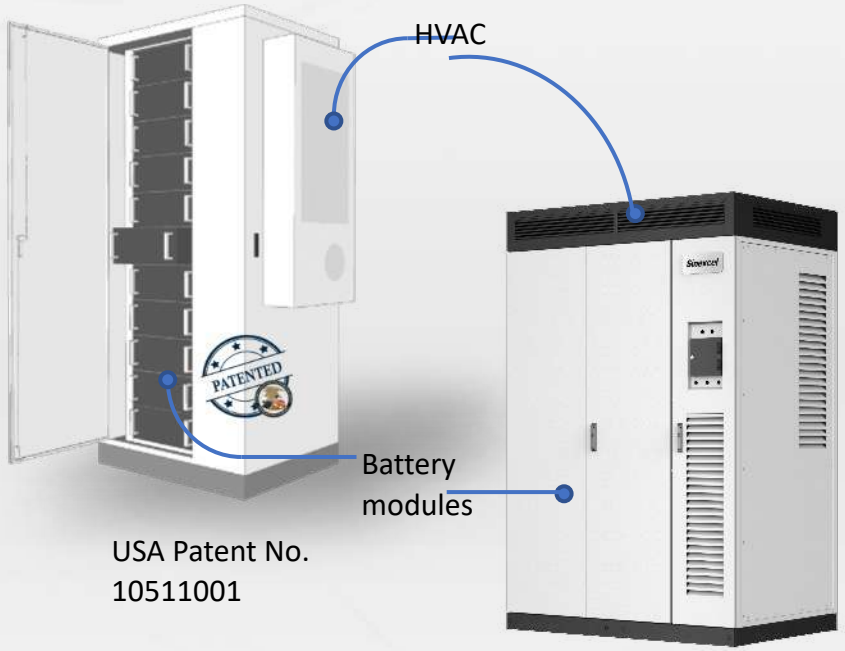
Cabinet/Rack ESS
Up to 30 kW / 100kWh



Out-door
NEMA 3R / IP54

- Out-door enclosure
- In-door standard 19 “ rack or customized enclosure

- Rack-mounted 30kW PCS
- Up to 10 units in parallel @ off-grid.
- 400Vac/480Vac/208Vac 3phases & 240Vac split-phase.

- Standard 19in battery system by LFP or NCM/NCA.

- Optional HVAC/Air Ventilation/UPS
- Optional Fire Fighting System

Energy Freedom
Driven By Sinexcel®

Cabinet/Rack ESS
30-90 kW / Up to 240kWh

Out-door
NEMA 3R / IP54

- Out-door enclosure
- In-door standard 19 “ rack or customized enclosure

- Rack-mounted 3*30kW PCS
- Optional 3MPPT DCDC PV charger *3 @support connecting to 45-135kWp
- Optional smart transfer switch

- Compatible with most lithium-ion battery systems based on 90-280Ah battery cell

- Optional HVAC/Air Ventilation/UPS
- Optional Fire Fighting System

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Static-transfer-switch

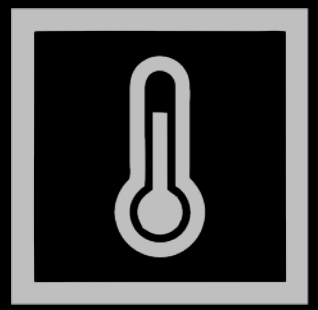
- Sensing the availability of the grid,
- Automatically or manually toggle the grid interconnection
- Conditional seamless toggling.
- PCS Built-in module or external cabinet.

Local Controller

- Wall or Rack mounting
- Local Web access
- Function:
  - Peak shifting,
  - Load tracking;
  - AC coupled system coordination
  - Demand Control;
  - Emergency backup;
  - Micro-grid control.

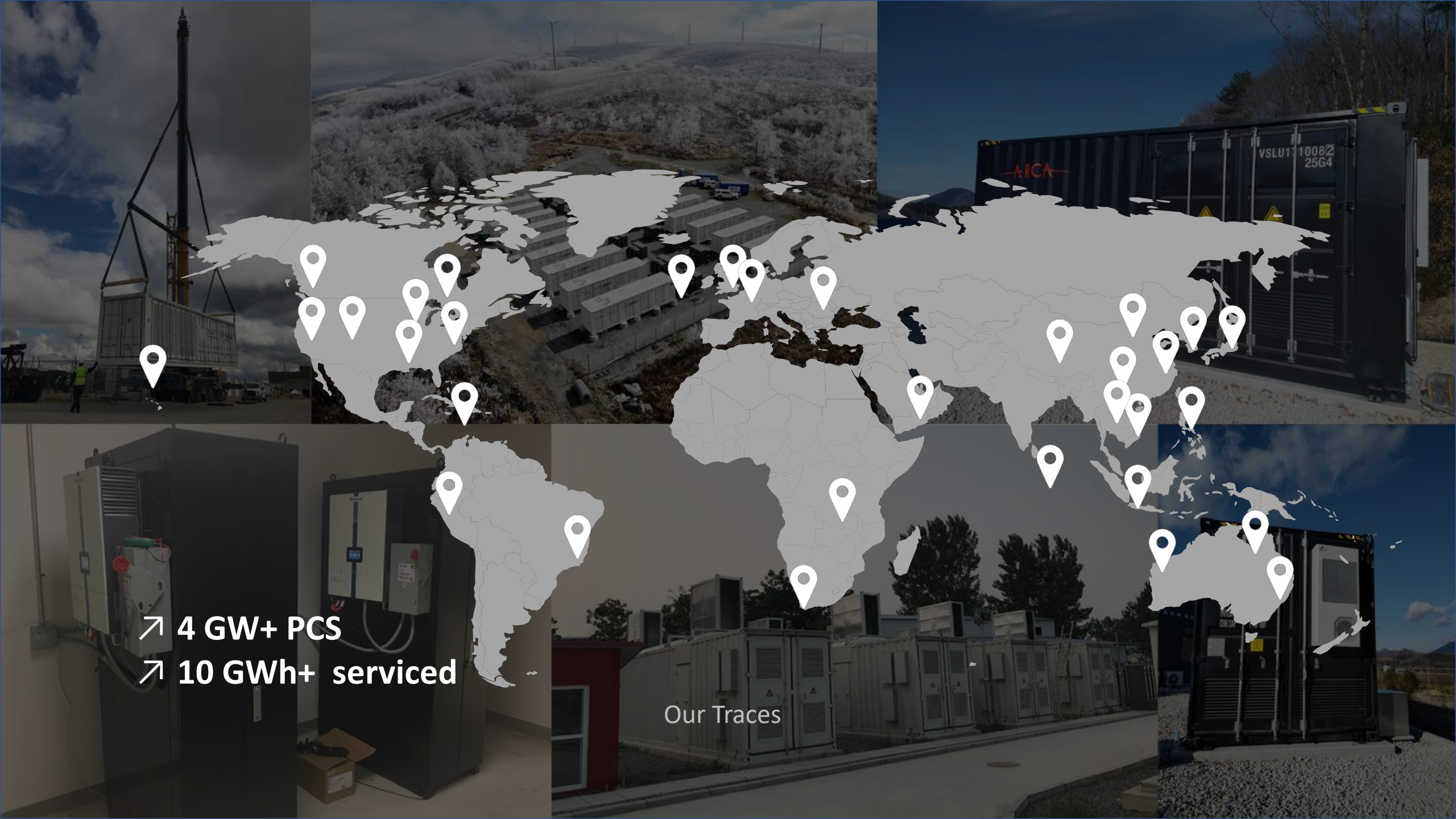
System Integration Service

BMS/EMS Integration

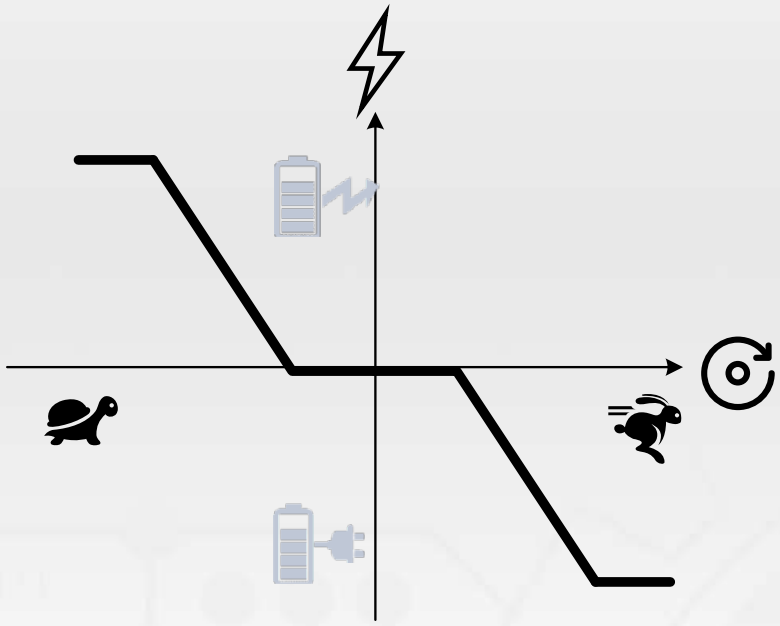


Thermal Improvement

Battery Cycle Test


↗ 4 GW+ PCS
↗ 10 GWh+ serviced
Our Traces

Frequency Regulation



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Illinois & West Virginia, USA

2019.12

Frequency Regulation

36* 2MW-40ft BESS Container

Grid-tied

72 MWh LFP

24h×7d

Located in Middle-west of USA , the two sites total 72MW which composed by 36 units of 40ft container BESS. This project is used for frequency regulation bidding.

Henan, China

2018.12

Grid-support

24* 1MW/2MWH 40ft BESS Container

Grid-tied

50MWh LFP

24h×7d

As part of 100MW energy storage power station connected with state grid at 10kV interconnection, 24 pcs 40ft container BESS are using for grid support and frequency support.

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Inner Mongolia, China

2021.12

Grid-support

10MW/30MWH BESS

Grid-tied **coupled with** 100MW Wind farm

30MWh **second-life battery**

24h×7d

This is a demonstration project of secondary battery application in the energy storage system to smooth generation of the wind farm.

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Southern California, USA

2020.12

Grid-support

36* 40ft BESS Container

Grid-tied

180MWh LFP

24h×7d

We designed 24 set battery racks for each container which is compatible with the **Samsung E3 battery pack** and with built-in Fire Fighting System, HVAC, battery panel and AC power panel. Each container can contain more than 5MWh battery.

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Netherlands

2022.1

Frequency Regulation &
Grid-support

1MW/1.1MWh
20ft BESS Container

Grid-tied

1.1MWh LFP

24h×7d

ESS in the pre-engineered container provided by Sinexcel is working with external EMS (Energy Management System) to realize the **fast frequency response** by remote dispatching and managing.

Dongguan, China

2016.12

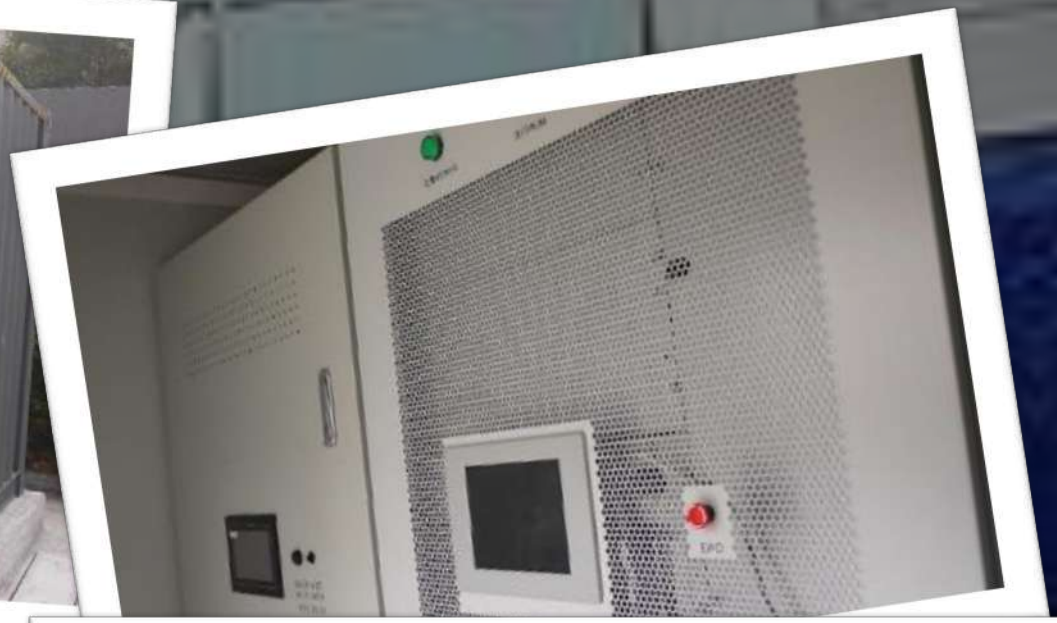
Grid simulation &
Peak-shifting

PWS1-100kW PCS

Grid

LFP, 50kWh

24h×7d



10ft container BES driven by Sinexcel, w/ **VSG**(virtual synchronous generator) algorithm, made for China Southern Power Grid Co., makes the micro-grid to be with high robustness.

Hong Kong

2016.03

Demonstration for grid support

PWS2-50kW PCS

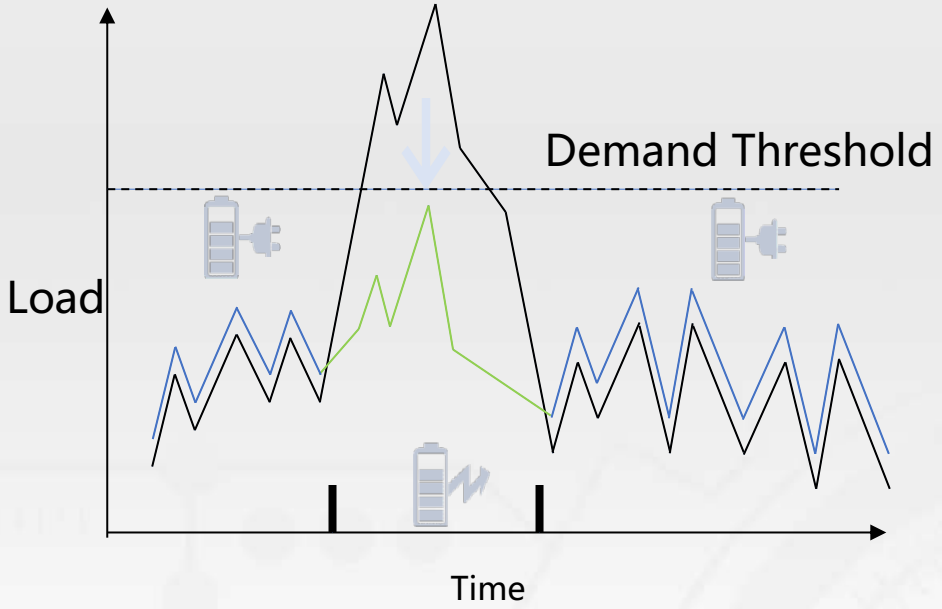
Grid

Supercapacitor

Laboratory Use

The Hong Kong Polytech University Lab is using this equipment for the government funded project on demonstration for grid support.

Demand Charge Management



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California, USA

2017.04

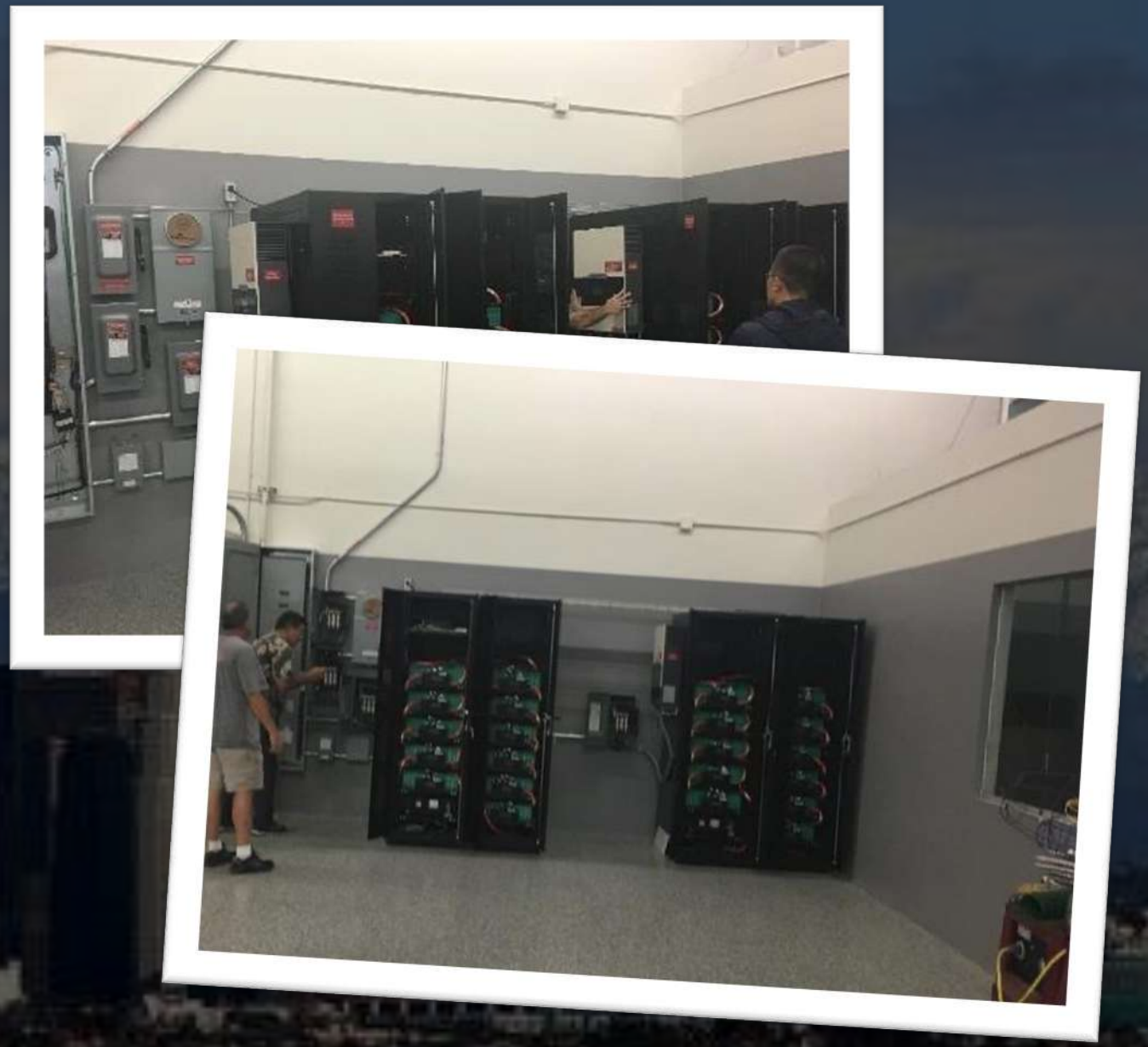
Demand charge management

PWS2-30kW +60kWh

Grid

LFP

24h×7d



30+ sites operating right now in CA by our partner in US. Demand charge management is reducing half of electricity bill of the final clients every month.
More sites are being commissioned

Anaheim, CA

2018.01

Demand charge management

PWS2-30kW +120kWh

Utility Grid

LFP

A packaging material manufacturer in Anaheim, CA using PWS2-30k making DCM

Eureka, CA

2018.10

Demand charge management

PWS2-30K-NA

Utility Grid & PV

Lead-carbon

Demand charge management for a RV camp near Eureka, CA

Lima, Peru

2017.12

Demand charge management + backup

PWS2-30kW +50kWh in 2 sites

Grid

LFP

24h×7d

4 sites operating right now to reduce the demand charge caused by gas compressor in Lima, Peru by our partner in Latin America.

Cathedral City, CA

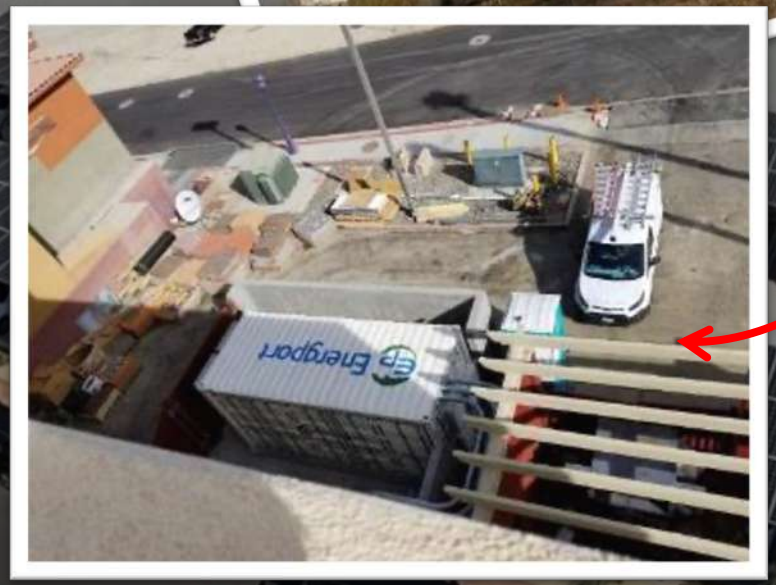
2018.1

Demand charge management

PWS1-500kW
+750kWh in container

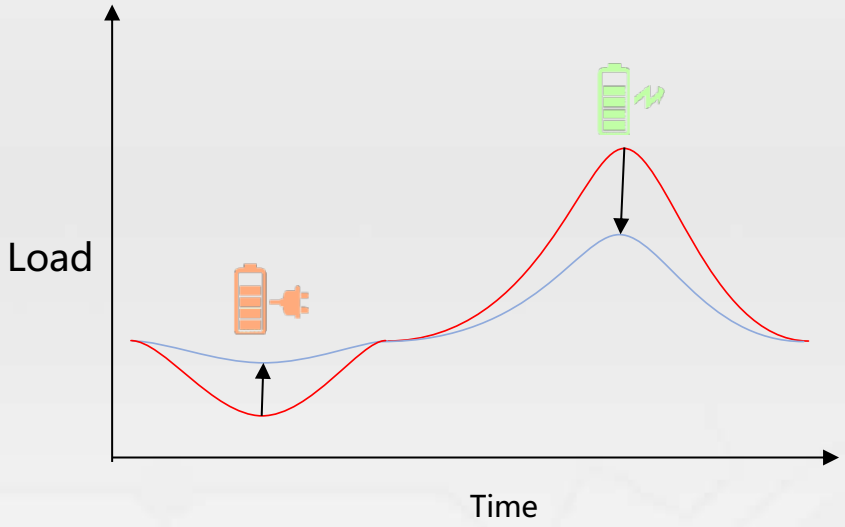
Utility Grid & PV

LFP



Demand charge management for a theater, this project is considered as the **first private-owned PV + Storage** in the US

Load-shifting/Peak-shaving



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Peterborough, England

2016.05

Peak shifting

PWS1-150kW PCS

Grid+1MW PV panel

Lead-carbon, 1MWh

24h×7d

Container BES solution driven by Sinexcel to reduce the peak-hour electric bill and charged by external PV farm or grid.

Netherlands

2019.03

Peak Shaving

PWS2-30K PCS

Grid+PV

LFP, 60kWh

24×7h

30kW/60kWh system has been installed in industry and charge for forklifts in peak hour to reduce the electricity bill for owner.

Shanghai, China

2013.10

Peak-shifting, EV quick charging

125kW 4-string storage
Inverter x 8

Grid

LFP, 40kWh x 40
LFP, 240kWh x 12

24h×7d

Swappable EV charging station is charging the EV battery pack and discharging in the night for peak-shifting.

Auckland,
New Zealand

2020.10

Peak Shaving

PWG2-100kW PCS

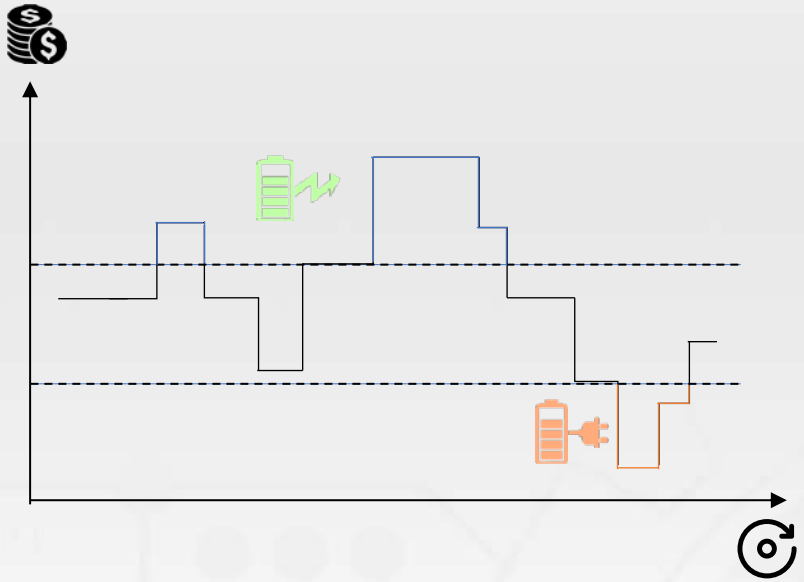
Grid+PV

LFP, 273kWh

24×7h

There is a local ad company in Auckland, New Zealand. PCS has been programmed to charge at night so the cheaper off-peak power rates would be applied. In the daytime, PCS help to make self use of PV energy.

Spot market



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Davis, California

2019.1

PV generation support
& electric market

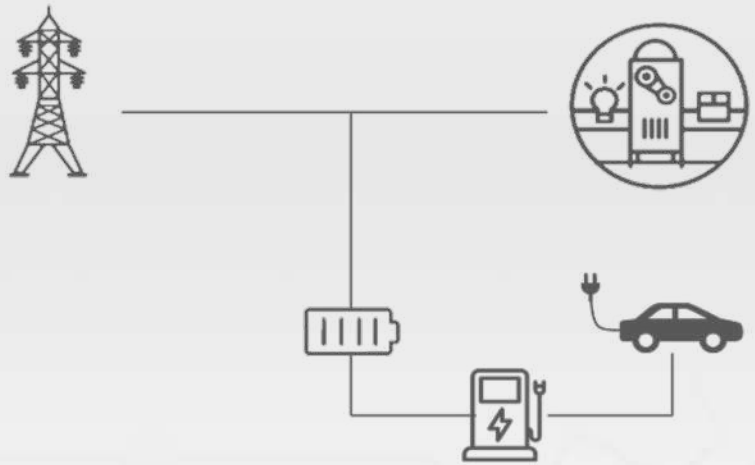
4* PWS1-500kW
+1000kWh

Utility Grid & PV

LFP

4 * 20ft container BESS Driven by Sinexcel ac-coupled with PV farm for shifting of PV generation and electricity market.

Energy Buffer



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New York, USA

2021.4

Energy buffer

PWS1-500kW-M4
250kW PCS

Grid

LFP, 300kWh

24h×7d

10ft Container BES & 2*180kW EV charger driven by Sinexcel is used for peak-shaving and less impact on grid.

Energy Freedom
Driven By Sinexcel®

Beijing, China

2022.1

Energy buffer

PWS1-500kW-M6
375kW PCS

Grid & DG

LFP, 306kWh

24h×7d

This is a demonstration project for the **2022 Beijing winter Olympics**. It uses PV system, Diesel Genset, Energy Storage and V2G technology to realize the mobile power supply and quickly charging for vehicles.

Energy Freedom
Driven By Sinexcel®

Xiangtan, China

2016.11

EV charging station w/ micro-grid

PWS1-250kW PCS + PWD-800KW STS

Grid & PV panel

LFP, 300kWh

24h×7d

Container BES & EV DC quick charger station driven by Sinexcel is used for PV energy maximization and less impact on grid.

Energy Freedom
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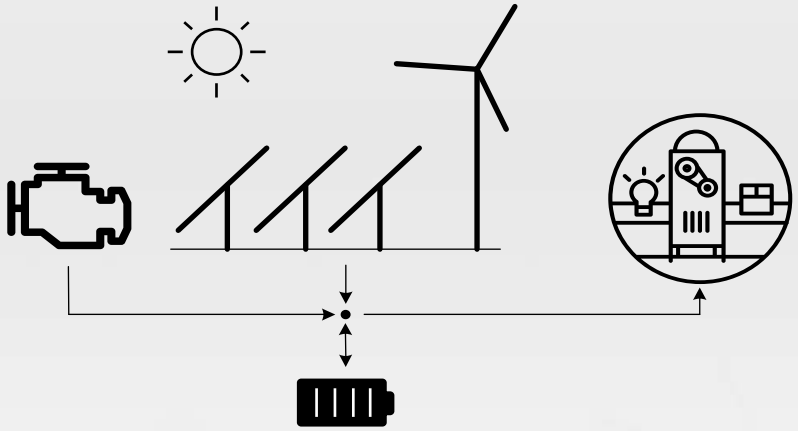
Off-grid power supply



Energy Freedom
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Semau & Salura, Indonesia

2013.11

Micro-grid

450kW PV
150kW Storage Inverter

450kWp PV panel
100kW Diesel Gen

Lead-acid, 2.8MWh

24h×7d

In-door off-grid power supply to support daily electric in remote island

Yushu, China

2015.06

Micro-grid

PWG2-50kW/100kW
PCS for 34 villages

40/80kWp PV panel

Lead-carbon, 40/80kWh

24h×7d

The PV micro-grid power supply is now supporting 34 remote village

Sendai, Japan

2017.12

Off-grid microgrid

PWS1-100K+
PWS1-50K

PV & DG

LFP
340kWh+170kWh

Illuminating a village with grid forming energy storage inverter, the generators acts as back up

Burma

2018.10

Off-grid microgrid

PWG2-50K
60kW PV

PV & DG

LFP 160kWh

Illuminating a remote nameless village with grid forming PV hybrid energy storage inverter, the children are so happy to have electricity

Malawi

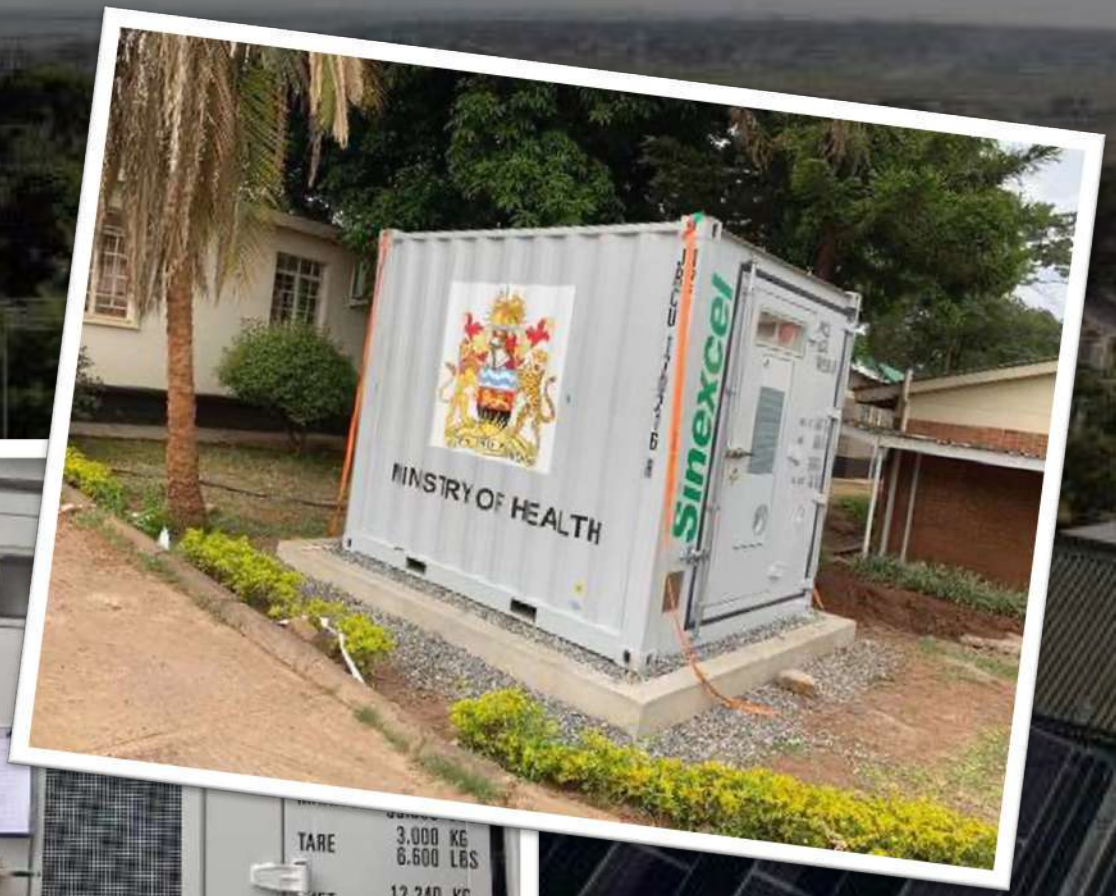
2018.12

Off-grid microgrid

PWG2-50K-EX
80kW PV

PV & DG

LFP 103kWh



The 10ft container BESS Driven by SINEXCEL is powering Aids research lab owned by Ministry of Health, funding by US Federal Government to improve local medical situation.

South Australia

2019.6

Off-grid microgrid

PWG2-100K-EX
100kW PV

PV & DG

LFP 258kWh

The 20ft container BESS Driven by Sinexcel located in middle of desert to power the **petro-pump** by using the renewable energy from solar panel and replace the existing Diesel Gen-set. **The system can be rearranged to the next project location once this project over.**

NSW, Australia

2019.1

Off-grid microgrid

PWG2-50K-EX
62.5kW PV

PV & DG

LFP 103kWh

There is an off-grid project in NSW, Australia. In a farm of Gundaroo, 50kW/103kWh energy storage system has been integrated into a 62.5 kW solar system to satisfy the entire farm’ s electricity need, so the farm can be independent from the grid.

Zimbabwe

2021.6

Microgrid

40ft BESS + 500KW PCS
DC coupled 600kw PV

Grid & DG & PV

1.28MWh LFP

24h×7d

The project is powering a commercial building, where the local utility grid is quite unstable. After the installation of the **DC-coupled ESS system**, there is no limit of power usage during the day. Diesel consumption also diminished as much as possible.

Ghana

2019.6

Off-grid microgrid

500KW PCS
PWS1-500KTL
AC coupled 720kw PV

PV & DG

LFP 1MWh

The 20ft Container BESS is built to power a local hospital together with external Diesel Gen-set to maintain continuous operation.

Australia

2020.6

microgrid

250KW PCS
PWS1-500KTL-4 M
250kw PV

PV & DG

LFP 615kWh

The 250kW/615kWh BESS is built to power a private villa with near 1000 square meter in Australia, together with external Diesel Gen-set to maintain continuous powering without electricity bill.

Mexico

2022.1

Microgrid

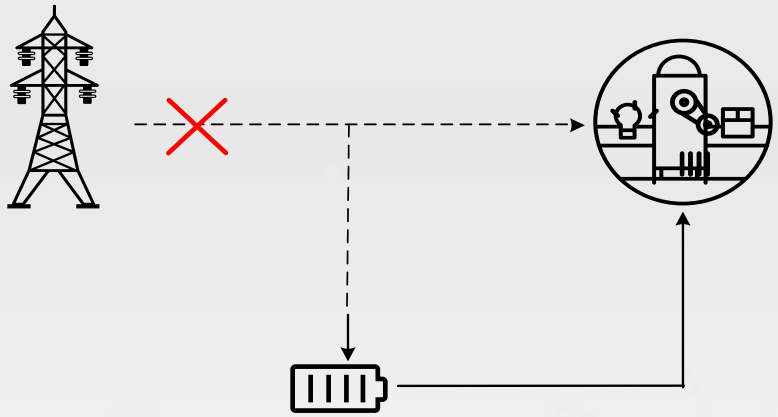
500KW PCS
DC-coupled 200kw PV

PV & DG & Grid

LFP 540kWh

The Indoor 500kW/540kWh ESS is built to power a community close to the sea. It works with 500kW Genset power combined with the PV power and optimizing fuel consumption when loads demand is low.

Backup power



Energy Freedom
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Montevideo, Uruguay

2021.11

Micro-grid

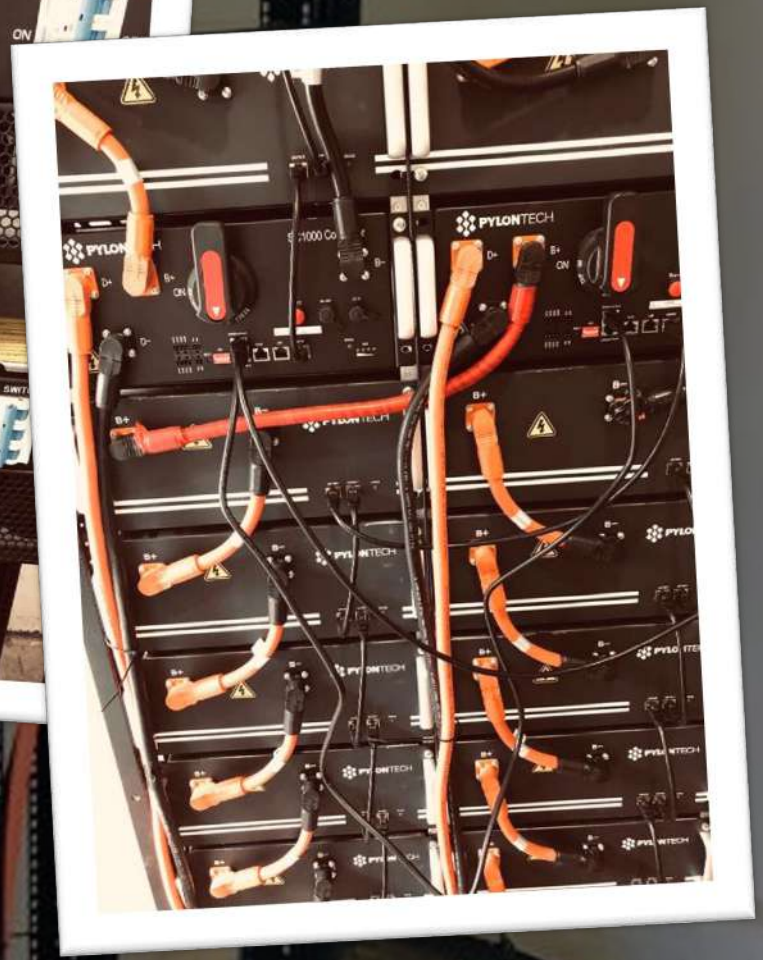
80kW PV
60kW Storage Inverter

Grid & PV panel & DG

LFP, 130kWh

24h×7d

In-door ESS power to loads in a small commercial building when the grid fails. The Diesel Genset will be turned on only when the SOC of battery system is below 15%.



BKK, Thailand

2016.10

Micro-grid

125kW Hybrid PCS

Grid & PV panel

LFP, 30kWh

24h×7d

Smart grid in building owned by MEA (Metropolitan Electricity Authority) in Thailand.

Luxi Island, China

2013

Peak shifting

500kW x 4 storage PCS

Grid & Wind & PV

Lead-carbon, 4MWh
Ultra-Cap, 30s*500kw

24h×7d

China State Grid owned 2MW Island Hybrid project funded by 863 PROJECT is used to support off-grid power and grid support.

Anguilla, UK

2019.05

Off-grid & Backup

PWS1-500KTL w/4 modules

250kW PV

LFP 378kWH
Expandable to 756kwh

24h×7d

20ft Container BESS driven by Sinexcel in the hotel to replace the Diesel Gen-set and to reduce the peak-hour electric bill, which is charged by external PV farm and could be upgraded to 500Kw/756kWh.

Mongolia

2018.11

Backup

PWG2-100K

Grid
100kWp PV & 100kVA DG

LFP 400kWh

24h×7d

A 100kW/400kWh energy storage system have been installed in Qiqian County, Mongolia. To work with PV and DG, this energy system is fully capable of **providing stable electricity for the county even under extreme weather conditions** such as blizzard, storm etc, during almost half the year.

Zhongshan, China

2019.02

Off-grid

PWS1-500KTL

100kVA DG

LFP 400kWh

24h×7d

The project is powering offshore construction site, where the power supply often relies on off-grid diesel Genset for offshore piling operations. Most of the loads are drilling machines and air compressors with large instantaneous inrush currents. It keep DG running **in the best efficiency** range and reduce the consumption of diesel.

THANK YOU

www.sinexcel.us

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