

KSTAR Case Study

KSTAR C&I ESS Cases BluePulse Series

KSTAR C&I ESS Installation Worldwide

EU



8,000+
units installed



480+ MW



755+ tons
CO₂ saved

Global



10,000+
units installed



600+ MW



942+ tons
CO₂ saved



BluePulse Series

KSTAR

Safe & Reliable

CATL LFP Battery Cell
Double Fire Suppression System Design
1+1 Redundancy Design

Simple & User-friendly

Pre-installed in Factory for Easy Installation on site
Integrated BMS/EMS, Suitable for Various Applications
Effortless Operation, Cloud Control

Economical & Efficient

Save CapEx, Expanding as Required
Efficient and Energy-saving HVAC Design



KAC50DP2
BC107DE2

KAC125DP2
BC233DE2

KAC(20~50)DP2-BC208DLE
KAC(80~125)DP2
BC208DLE / BC260DLE

KAC125DH
BC233DE2

2*KAC50DP
BC197DE2

Project Cases - Peak Shaving and Energy Management

Location:

Ruurlo, the Netherlands

Capacity:

125kW / 215kWh

DC Charger 240KW and KAC125DP2-BC215DE2

A 125 kW / 215 kWh battery cabinet paired with a 240 kW DC charger shaves peak demand, maximizes solar self-consumption, and keeps EV charging cost-effective at Cafe Nijenhuis.



Project Cases - Self Consumption & Backup

Location:

Tarczewski, Poland

Capacity:

100kW / 197kWh

2 units KAC50DP, 1 unit BC197DE

Doubled the PV to 100 kW, capped export at 50 kW, and tied in a diesel generator — all through two KAC50DP2 units and a BC197DE2, so the mine consumes more on site and stays powered no matter what.





Project Cases - Self Consumption

Location:

Ferma Zgierzynka, Poland

Capacity:

100kW / 107kWh

1 unit KAC50DP2, 1 unit BC107DE2, 1 unit G50KT

A poultry operation expanded its PV by 100 kW but limited export to 50 kW — the KAC50DP2 and BC107DE2 capture the extra generation so the farm uses more solar on site instead of selling it cheap.



Project Cases - Self Consumption

Location:

Gnejsy, Poland

Capacity:

150kW / 220kWh

1 unit KAC125DP2, 1 unit BC220DE2A

New PV feeds directly into KSTAR to cover the mine's own load first — zero export, full self-consumption.



Project Cases - Energy Independence (off-grid)

Location:

Girona, Spain

Capacity:

3*KAC50DP2+ 6* BC197DE2 + EMS01D + G50KT

150kW / 1.2MWh, 100% Off-Grid with Diesel

Generator



Project Cases - Self Consumption

Location:

Mirador de Agulo, Spain

Capacity:

100kW / 197kWh

2 units KAC50DP, 1 unit BC197DE2, STS100, DG
system offgrid mode



Project Cases - Energy Independence (off-grid)

Location:
Hansen, Ukraine

Capacity:
750kW / 1290kWh

6 units of KAC125DP2-BC215DE

Six KAC125DP2 and six BC215DE units deliver uninterrupted backup power to the Hansen village, supporting up to 700 kW during outages.

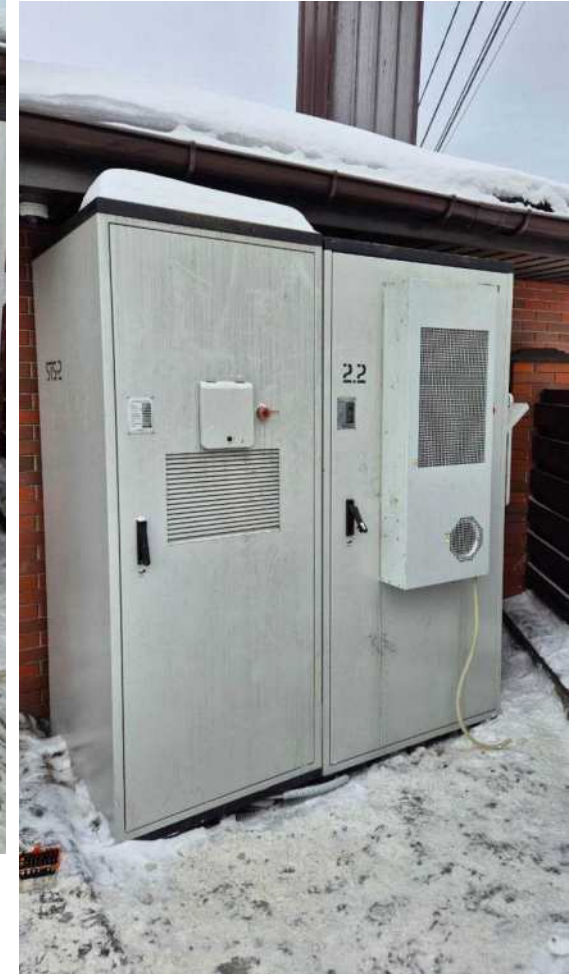


Project Cases - Energy Independence (off-grid)

Location:
Lisnyky, Ukraine

Capacity:
50kW / 100kWh
KAC50DP-BC100DE+STS100D

When the grid fails, a single KAC50DP paired with BC100DE and STS100D keeps the homeowner's lights on and essentials running.





Project Cases - Self Consumption

Location:

IMTechnika - Kruszewo, Poland

Capacity:

50kW / 107kWh

KAC50DP2-BC107DE2

A water filters supplier paired a KAC50DP2 with BC107DE to stop selling solar cheap and buying grid power dear — now they consume more on site, and stay lit when the grid trips.



Project Cases - Self Consumption

Location:
Psary Małe, Poland

Capacity:
50kW / 107kWh
KAC50DP2-BC107DE2

The system was installed early and set to self-consumption — it starts shaving costs and putting surplus solar to work the moment the building goes live.



Project Cases - Peak Shaving

Location:

**Two installations: ZETMARK 1 office and
ZETMARK 2 produkcja , Poland**

Capacity:

50kW / 107kWh

each KAC50DP2-BC107DE2 for each installation
AC-coupled to the existing SolarEdge PV, each installation
shaves peak loads and keeps production within connection
limits — while putting surplus solar into the battery instead of
selling it cheap to the grid.





Project Cases - Self Consumption

Location:

BST SOLARTECH s.r.o. ,Hungary

Capacity:

500kW / 1MWh

4 units KAC50DP-BC100DE, 3 units of KAC50DP, 6 units of BC100DE

This solution maximised solar self-consumption to cut grid reliance and bills, lowered operating costs by avoiding peak tariffs, offered a scalable 500kW/1MWh design, enabled real-time control via KEMS, and proved its performance in Hungary to help the customer achieve energy independence and cost stability.

Project Cases - Self Consumption

Location:

Cooperativa Casearia Poggioli, Italy

Capacity:

500kW / 1MWh

4 units KAC50DP-BC100DE

3 units of KAC50DP, 6 units of BC100DE

Installed outdoors at a Parmigiano Reggiano dairy, the system works alongside 8 SMA inverters to power daily milk processing from four member farms.





Project Cases - Peak Shaving & Energy Management

Location:

Orentano Madonna Del soccorso, Italy

Capacity:

100kW / 200kWh

2 units of KAC50DP-BC100DE+EMS01D

A large nursing home with high electricity demand uses two KAC50DP and BC100DE units, orchestrated by EMS01D, to shave peaks and keep energy costs under control — all KSTAR, all outdoors.

Project Cases - Energy Independence (off-grid)

Location:

Dakhla, Morocco

Capacity:

200kW / 400 kWh

4 units KAC50DP, 2 units BC197DE, 1 unit EMS01D

The off-grid system is used for irrigation of a plantation following seawater desalination. The diesel generator previously had to run 24 hours a day; now it only needs to operate for about one hour per day, with the remaining demand supplied by PV and battery storage. The system is installed near the Sahara Desert.



Project Cases - Peak Shaving

Location:

Wachirabenchathat Park, Bangkok, Thailand

Capacity:

50kW / 100kWh

KAC50DP-BC100DE

The project integrates a 50 kW / 100 kWh ESS with one set of KAC50DP.

During the daytime, the battery is charged from the PV system while the main loads are supplied directly from the utility grid.

At night, the stored energy is discharged to supply electricity for street lighting and CCTV at Ladprao Intersection, enhancing energy security, reducing nighttime electricity costs, and supporting renewable energy utilization.





Project Cases - Dynamic Control

Location:
Rayong, Thailand

Capacity:
50kW / 100kWh
KAC50DP-BC100DE+STS100D,
On-grid inverter 60 kW

System operates fully on-grid. Daytime: battery charged from solar PV via DC coupling excess DC power beyond inverter's 50 kW AC limit . Nighttime off-peak : battery charged from grid. On-peak: battery discharges to support loads, reducing electricity cost. Backup: 45% SOC reserved for critical loads; STS switches on grid outage. Backup load ~20 kW, available energy 45 kWh, duration ~2.2 hours.

01

Case - Self Consumption



Project Cases - Self Consumption & Energy Independence (off-grid)

Location:

Agriculture, Germany

Capacity:

100kW / 197kWh

1 unit KAC50DP, 2 units BC197DE

AC-coupled to the customer's existing Fronius PV, the system opens the backup function as a future option and consolidates all data — including external solar production — into a single third-party EMS platform.



Project Cases - Energy Independence (off-grid)

Location:

Khmelnyskyi district, Vinkovci, Ukraine

Capacity:

100kW / 394kWh

2*KAC50DP-BC197DE + STS100D

Expanded from 197kWh to 394kWh for full off-grid capability

Scalable design allowed for post-installation capacity doubling

100% grid independence for milk farm operations





Project Cases - Energy Independence (off-grid)

Location:

Oaxaca, Mexico

Capacity:

400kW / 600kWh

8 units of KAC50DP + 6 units of BC100DE + 2 units of STS100

Off-grid system running for over 500 ppl on the island



Project Cases - Self Consumption

Location:
Oman

Capacity:

375kW / 591kWh

3 units of KAC125DP2-BC197DE2

In addition to PV, system is utilizing external diesel generator to charge the batteries and feed the loads when needed



Project Cases - Self Consumption

Location:

Social Center, Arões, Oporto, Portugal

Capacity:

50kW / 100kWh

KAC50DP-BC107DE2 + STS100



Project Cases - Self Consumption

Location:

VIVISOL - Home care provider, Barcelona, Spain

Capacity:

100kW / 200kWh

2*KAC50DP2-BC107DE2



Project Cases - Self Consumption

Location:

Waste-to-energy company, Salamanca, Spain

Capacity:

70kW / 100kWh

BluE-20KT + KAC50DP2-BC107DE2





Project Cases - Self Consumption

Location:

GLS - Logistic company, Valencia, Spain

Capacity:

50kW / 100kWh

KAC50DP-BC107DE2 + STS100

Project Cases - Self Consumption

Location:

Producer of cold cuts and meat, Ruse, Bulgaria

Capacity:

376kW / 699kWh

3 units of KAC125DH-BC233DE





Project Cases - Self Consumption

Location:

Ceska Vejce, Czech Republic

Capacity:

600kW / 591kWh

3 units of 2*KAC50DP-BC197DE



Project Cases - Self Consumption

Location:

Druko Strážov, Czech Republic

Capacity:

600kW / 591kWh

3 units of 2*KAC50DP-BC197DE



Project Cases - Self Consumption

Location:
Fire station, Poland

Capacity:
50kW / 197kWh
KAC50DP2-BC197DE





Project Cases - Self Consumption

Location:
Poland

Capacity:
50kW / 197kWh
KAC50DP2-BC197DE



Project Cases - Self Consumption

Location:
Poland

Capacity:
50kW / 100kWh
KAC50DP-BC100DE





Project Cases - Self Consumption

Location:
Poland

Capacity:
50kW / 100kWh
KAC50DP-BC100DE
STS100D



Project Cases - Self Consumption

Location:

Case Zlata Krava, Czech Republic

Capacity:

50kW / 107kWh

KAC50DP2-BC107DE



Project Cases - Self Consumption

Location:
Spain

Capacity:

2.125 MW / 1.97MWh

10 units of 2*KAC50DP-BC197DE

11 units of G125KT7



Project Cases - Self Consumption

Location:

Agricultural land, Starnberg, Germany

Capacity:

100kW / 197kWh

2 units of KAC50DP-BC197DE

AC-coupled energy storage system integrated into the customer's existing PV system, monitored by a third-party EMS platform



Project Cases - Self Consumption

Location:

Agricultural land, Starnberg, Germany

Capacity:

100kW / 197kWh

2 units of KAC50DP-BC197DE

Covering the daily power demand of agricultural machinery and equipment, as well as supplying electricity to nearby livestock feed supermarkets and related facilities.





Project Cases - Self Consumption

Location:

Pharmaceutical company, Walldorf, Germany

Capacity:

100kW / 107kWh

G50KT + KAC50DP-BC107DE2

AC-coupled energy storage system integrated into the customer's existing PV system, monitored by a third-party EMS platform



Project Cases - Self Consumption

Location:

Restaurant, Bamberg, Germany

Capacity:

50kW / 100kWh

KAC50DP-BC100DE

Project Cases - Self Consumption

Location:
Madignano, Italy

Capacity:
400kW / 788kWh
4 units of 2*KAC50DP-BC197DE



Project Cases - Self Consumption

Location:

Cluj Napoca, Romania

Capacity:

1MWh

5 units of 2*KAC50DP-BC197DE





Project Cases - Self Consumption & Peak Shaving

Location:

Hansen Village, Nove, Ukraine

Capacity:

200kW / 400kWh & 1MW / 1.72MWh

2*KAC50DP-BC100DE + 2*STS100D for backup power during outages

8*KAC125DP-BC215DE for peak shaving and cost reduction

Dynamic energy solutions for a resilient community

Project Cases - Self Consumption

Location:

Milanovo, Bulgaria

Capacity:

250kW / 494kWh

5*KAC50DP + 2*BC197DE + BC100DE

Reduce utility cost for local dairy factory Parshevitsa



Project Cases - Self Consumption

Location:

Ruse, Bulgaria

Capacity:

3*KAC125DH-BC233DE

Charging from AC-couple installation

Reduce utility cost for local butchery Borimes Ltd.



Project Cases - Self Consumption

Location:

Lovets, Bulgaria

Capacity:

125kW / 215kWh

KAC125DH-BC215DE

Charging from AC-couple installation





Project Cases - Self Consumption

Location:

Dobri Dol, Bulgaria

Capacity:

250kW / 494kWh

5*KAC50DP + 2*BC197DE + BC100DE

Reduce utility cost for local milk farm





Project Cases - Self Consumption

Location:

Bykev, Czech Republic

Capacity:

100kW / 200kWh

2*KAC50DP-BC100DE + STS100

Reliable backup power for cardboard factory

Project Cases - Self Consumption

Location:

Bakov nad Jizerou, Czech Republic

Capacity:

50kW / 197kWh

KAC50DP-BC197DE

Reliable solar solution for energy-intensive veterinary surgery and indoor pool heating





Project Cases - Self Consumption

Location:

Rodnow, Poland

Capacity:

50kW / 100kWh

KAC50DP-BC100DE + STS100D

Integrated with existing PV and diesel generator

Decreased grid dependency with seamless backup for entire bakery

Optimized diesel generator usage through STS integration



Project Cases - Self Consumption

Location:

Deszk, Hungary

Capacity:

250kW / 500kWh

5 Units of KAC50DP-BC100DE + STS250

On/off grid switching for regional blackouts

Stable power supply for water pumps, help with agri-PV





Project Cases - Self Consumption

Location:
Bulgaria

Capacity:
100kW / 394kWh
2 units of KAC50DP-BC197DE



Project Cases - Self Consumption

Location:

Molding Factory, Lichtenstein, Germany

Capacity:

100kW / 200kWh

2 units of KAC50DP-BC100DE



Project Cases - Self Consumption

Location:
Murovane, Ukraine

Capacity:
100kW / 394kWh
2 units of KAC50DP-BC197DE + EMS01D

Project Cases - Self Consumption

Location:
Verona, Italy

Capacity:
100kW / 100kWh
40kW on-grid inverter with KAC50DP-BC100DE





Project Cases - Self Consumption

Location:

Casaleggio vappio, Italy

Capacity:

100kW / 197kWh

2*KAC50DP-BC197DE

Project Cases - Self Consumption

Location:

Milk farm, Chernihivskyi region, v. Tarasa
Shevchenka, Ukraine

Capacity:

200kW / 394kWh

2 units of 2*KAC50DP-BC197DE + STS250D



Project Cases - Self Consumption

Location:

Petrol station with car wash, Chromna, Poland

Capacity:

50kW / 100kWh

KAC50DP-BC100DE + STS100D



Project Cases - Self Consumption

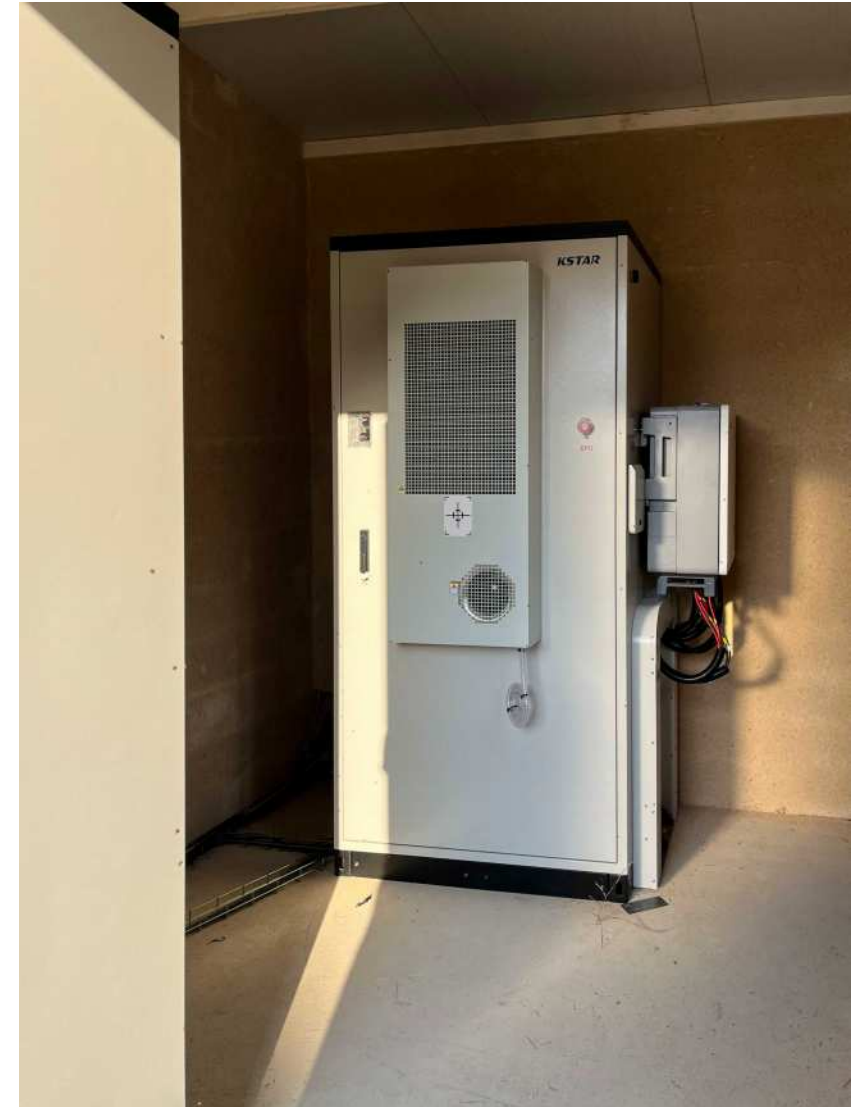
Location:

Valladolid, Spain; Agrivoltaics with water pump and diesel generator

Capacity:

50kW / 100kWh

KAC50DP-BC100DE + STS100D



Project Cases - Self Consumption

Location:

Esztergom, Hungary

Capacity:

250kW / 500kWh

KAC50DP-BC100DE + STS100D

Continuous off-grid operation for regional blackouts

Stable power supply for Zen Temple

Zero export to grid



Project Cases - Self Consumption

Location:

Andalucía, Spain

Capacity:

100kW / 197kWh

2*KAC50DP-BC197DE

Reduce electricity bill for project owner





Project Cases - Self Consumption

Location:
Azerbaijan

Capacity:
100kW / 396kWh
2 units of KAC50DP-BC197DE + STS100D

Project Cases - Self Consumption

Location:

Bukovel ski-resort, Polianytsa, Ukraine

Capacity:

100kW / 197kWh

2*KAC50DP-BC197DE



Project Cases - Self Consumption

Location:
Brescia, Italy

Capacity:
50kW / 100kWh



Project Cases - Self Consumption

Location:

Factory and house mixed, Brescia, Italy

Capacity:

50kW / 100kWh

Mainly used for charging EV





Project Cases - Self Consumption

Location:
Lithuania

Capacity:
100kW / 197kWh
2*KAC50DP-BC197DE



Project Cases - Self Consumption

Location:
Italy

Capacity:
50kW / 100kWh



Project Cases - Self Consumption

Location:
Badajoz, Spain

Capacity:
150kW / 300kWh (Retrofit)





Project Cases - Self Consumption

Location:

Gabrovo, Bulgaria

Capacity:

100kW / 197kWh

2*KAC50DP-BC197DE



Project Cases - Self Consumption

Location:

Magánkórház, Hungary (Hospital)

Capacity:

100kW / 200kWh

STS100 (on/off grid switching)





Project Cases - Self Consumption

Location:

Varna, Bulgaria

Capacity:

125kW / 215kWh

KAC125DH-BC215DE



Project Cases - Self Consumption

Location:

Westhoek, Netherlands

Capacity:

50kW / 100kWh

Project Cases - Self Consumption

Location:

Olive Oil Mill, Ignazia BN, Italy

Capacity:

50kW / 100kWh



Project Cases - Self Consumption

Location:

Kazanlak Kazanlyk, Bulgaria

Capacity:

50kW / 100kWh



Project Cases - Self Consumption

Location:

2*2kW AC Charge Stations, Turkey

Capacity:

50kW / 100kWh





Project Cases - Self Consumption

Location:
Dunavecse, Hungary

Capacity:
150kW / 300kWh



Project Cases - Energy Independence (off-grid)

Location:

IBRI BESS solar project, Oman

Capacity:

375kW / 591kWh

3 units of KAC125DP2-BC197DE2

System is working completely off-grid. In addition to PV, system is utilizing external diesel generator to charge the batteries and feed the loads when needed. Installed in outdoor environment in Oman.

02

Case - Peak Shaving





Project Cases - Peak Shaving & Self Consumption

Location:

Gilching, Germany

Capacity:

100kW / 197kWh

1 unit KAC50DP, 2 units BC197DE

Lower electricity costs across an entire farm operation: peak shaving and self-consumption now cover agricultural machines, a livestock feed supermarket, and nearby facilities. The system integrates seamlessly with the site's Fronius PV, with backup reserved for future activation and all data unified in one platform.

Project Cases - Peak Shaving

Location:

Meat Processing Factory, Guijuelo, Spain

Capacity:

600kW / 1.2MWh

12 units of KAC50DP-BC100DE





Project Cases - Peak Shaving

Location:

Prebold, Slovenia

Capacity:

150kW / 600kWh

Project Cases - Peak Shaving

Location:
Poland

Capacity:

50kW / 100kWh

BluE-20KT-M1*2 + KAC50-BC100DE + STS100D

STS100D integrates with diesel generator for off-grid backup

Weak grid causes voltage rise on high export and drops on high import

Battery charges during excess generation and discharges during peak grid demand

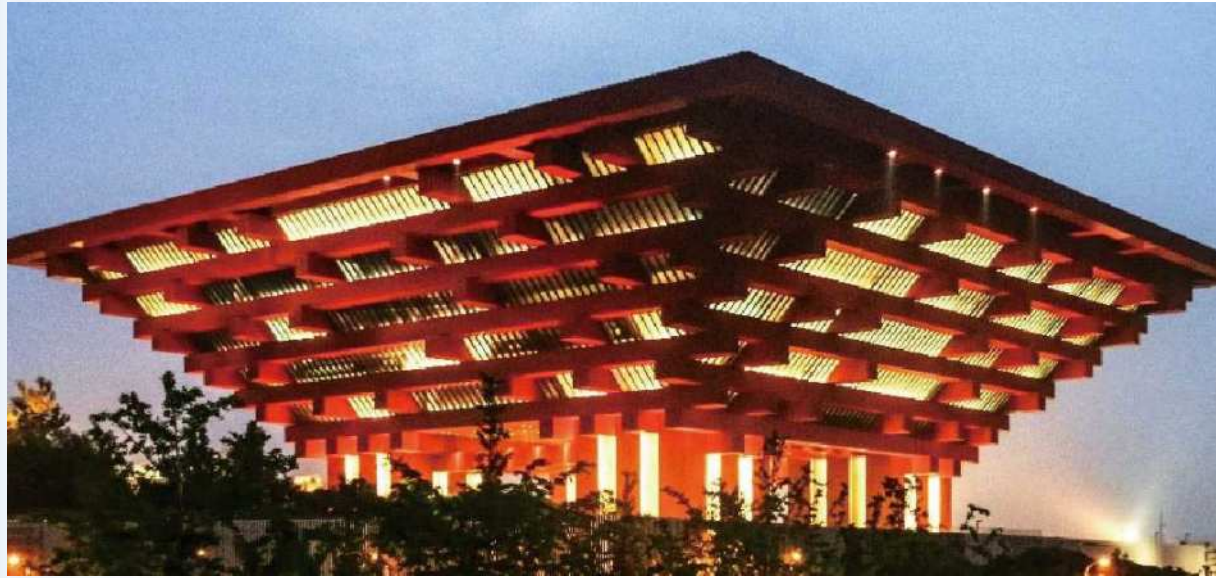




Project Cases - Peak Shaving

Location:
Žirovnica, Slovenia

Capacity:
50kW / 100kWh



Project Cases - Peak Shaving

Location:

World Expo Park, Shanghai, China

Capacity:

50kW / 100kWh

03

Case - Time of Use





Project Cases - Time of Use

Location:
Spain

Capacity:
100kW / 197kWh
2*KAC50DP-BC197DE

Project Cases - Time of Use

Location:

Bakery, Kamiensk, Poland

Capacity:

4 units of KAC125DP2-BC233DE2



Project Cases - Time of Use

Location:
Warehouse, Poland

Capacity:
50kW / 107kWh
KAC50DP2-BC107DE2





Project Cases - Time of Use

Location:

Construction materials factory, Poland

Capacity:

50kW / 100kWh

KAC50DP-BC100DE



Project Cases - Time of Use

Location:

Nova Polom, Czech Republic

Capacity:

100kW / 200kWh



Project Cases - Time of Use

Location:

Fish Farm, Zhmerynka, Ukraine

Capacity:

200kW / 394kWh

2 units of 2*KAC50DP-BC197DE



Project Cases - Time of Use

Location:

Rome, Italy

Capacity:

100kW / 400kWh

2 units of KAC50DP, 4 units of BC100DE

With 1 unit EMS01D





Project Cases - Time of Use

Location:

Chelmiec, Poland

Capacity:

50kW / 100kWh

04

Case - Dynamic Control



Project Cases - Dynamic Control

Location:

**VONDOM-Local furniture manufacturer,
Beneixida, Spain**

Capacity:

200kW / 800kWh

KAC50DP-BC100DE

STS250





Project Cases - Dynamic Control

Location:

Squadron Breda, Netherlands

Capacity:

50kW / 107kWh

KAC50DP2-BC107DE

Project Cases - Dynamic Control

Location:

TMO Hulsel, Netherlands

Capacity:

50kW / 107kWh

KAC50DP2-BC107DE





Project Cases - Dynamic Control

Location:

Minitopia, Netherlands

Capacity:

50kW / 107kWh

KAC50DP2-BC107DE





Project Cases - Dynamic Control

Location:
Poland

Capacity:
50kW / 197kWh
KAC50DP2-BC197DE2

Project Cases - Dynamic Control (VPP)

Location:

Murska Sobota, Slovenia

Capacity:

1MW / 2MWh

10 units of 2*KAC50DP-BC197DE

No connected loads but installed as part of the local VPP project

Discharge to the grid at the evening to ease the energy peak



Project Cases - Dynamic Control

Location:

Communicatieweg 29 Mijdrecht, Netherlands

Capacity:

100kW / 200kWh

2*KAC50-BC100DE

Third party EMS with manual control



Project Cases - Dynamic Control

Location:

Mohács, Hungary

Capacity:

100kW / 200kWh

2 Units of KAC50DP-BC100DE + EMS01D

AC-coupled

Stable power supply for health facility





Project Cases - Dynamic Control

Location:
North Macedonia

Capacity:
700kW / 1.4MWh
14 Units of KAC50DP-BC100DE with 1 EMS01D



Project Cases - Dynamic Control

Location:
Radawa, Poland

Capacity:

150kW / 300kWh

Integrate with existing automatic systems in the facility



Project Cases - Dynamic Control

Location:
Poland

Capacity:
100kW / 300kWh
Integrate with existing automatic systems in the facility





Project Cases - Dynamic Control

Location:

Geldermalsen Apple Farm, Netherlands

Capacity:

200kW / 400kWh

Project Cases - Dynamic Control

Location:

Geldermalsen, Netherlands

Capacity:

250kW / 500kWh





Project Cases - Dynamic Control

Location:
Schiedam, Netherlands

Capacity:
150kW / 100kWh

Project Cases - Dynamic Control

Location:

**Charging stations and restaurants on the highway,
Hatvan, Hungary**

Capacity:

50kW / 100kWh





Project Cases - Dynamic Control

Location:
Netherlands

Capacity:
150kW / 300kWh

Project Cases - Dynamic Control

Location:
Ospel, Netherlands

Capacity:
150kW / 300kWh





Project Cases - Dynamic Control

Location:
Cegled, Hungray

Capacity:
50kW / 100kWh

Project Cases - Dynamic Control

Location:
Vessem, Netherlands

Capacity:
100kW / 200kWh



Project Cases - Dynamic Control

Location:
Helmond, Netherlands

Capacity:
50kW / 100kWh



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