

# Use Cases

## Solar Diesel

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# 5 star Superspar mall South Africa

PV - 360 kWp

Gensets - 559 kVA

Grid-tied



**Application:** Solar diesel integration

**Product:** ePowerControl SD

**System layout:**

- Inverters: 6
- Genset: 1

As load shedding becomes the norm in South Africa, many C&I building are now equipped with site backup gensets and PV panels. This mall in South Africa requires stable power supply to maintain service quality for its customers despite frequent outage episodes.

In order to avoid losing solar production during load shedding episodes ePowerControl SD has been added. It provides safe and autonomous solar integration with 1 genset.

Embedded control system + dedicated UPS ensure optimal PV production while making sure that the genset works at the minimum genset loading all the time during this period.

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# Roland Garros airport Réunion Island



**Application:** Zero Export

DEIE, scope < 1 MW

**Product:** ePowerControl GI S

**System layout:**

- 9 Delta RPI inverters with 450 kW PV capacity
- 1 pyranometer Kipp&Zonen SMP 10
- 2 IMT temperature sensors
- 1 SL700 meter
- 2 meters EM210 Carlo Gavazzi

**Context :** Control and supervision of the solar power plant connected to the ARRG's main Hall grid.

On this project, the Elum controller deals with the double issue of the control of the solar production of the site connected to the HV grid, and the management of the DEIE according to the EDF SEI REF 06 V5 DEIE specifications.

In grid-connected mode, Elum's ePowerControl GI hybrid controller provides injection control to ensure total self-consumption on site and to avoid the transfer of power to the EDF grid. In addition, the controller interfaces with the DEIE terminal block provided by EDF in order to ensure the correct application of EDF's coupling and decoupling requests.

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# Wine & Cheese farm South Africa

PV - 4 x 60 kWp

Gensets - 500 kVA

Grid-tied



**Application:** Solar diesel integration

**Product:** ePowerControl SD

**System layout:**

- SMA inverters: 4
- Genset: 1

This wine farm in South Africa requires stable power supply to maintain service quality despite frequent load shedding episodes. In order to reduce fuel energy cost, a large rooftop PV plant has been added.

Indeed, the goal of this project was to reduce the consumption of fuel and allow self-consumption through PV energy for an industrial building.

Elum Energy ePowerControl SD made possible the integration of 1 solar plant (4 SMA inverters total) on 1 existing diesel genset plants disconnecting with main incomer during outages. It ensures optimal PV production while making sure that the genset works at the minimum genset loading

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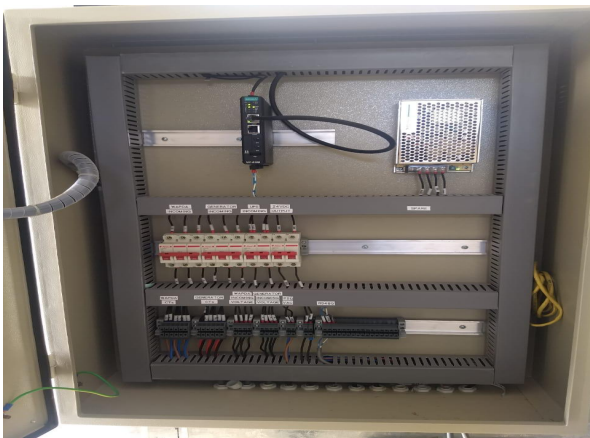


# Public School Pakistan

PV - 100 KWp

Gensets - 200 KVA

Grid-tied



**Application:** Solar diesel integration

**Product:** ePowerControl SD

**System layout:**

- Inverters: 2
- Genset: 1

The public school in Pakistan was depending on Diesel genset as a backup energy source during the load shedding periods. To reduce the fuel consumption, solar panels were implemented to have a grid-tied PV/Diesel system.

In order to increase the reliability and the solar penetration to the system, ePowerControl SD was added and successfully integrated to 2 SMA inverters with 2 Janitza meters to make sure the genset is running at its minimum loading and the system respect the grid code.

Thanks to our onsite platform, the controller was commissioned remotely by the EPC technical team with the support of our deployment team.

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# Export Company Argentina

PV - 160 kWp  
Gensets - 240 kVA  
Off-grid



**Application:** Solar diesel integration

**Product:** ePowerControl HFS

**System layout:**

- Inverters: 2 x Growatt max 80KTL
- Genset: 2

In this project located in the North of Argentina, ePowerControl HFS has been installed to a livestock export company to reduce their diesel consumption and maximize their solar penetration.

Their off-grid facility is equipped with 2 Growatt inverters and 3 gensets.

Decrease fuel consumption, ensure that the generator does not work at more than 30% of its nominal capacity during sun sours so that the PV park delivers the remaining 70%.

Ensure that what the diesel generator produces plus what the PV farm produces is not greater than what the load consumes.

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# Solar Diesel integration on a chemical factory

## Pakistan

PV - 200 kWp  
Gensets - 350 kVA



**Application:** Solar diesel integration

**Product:** ePowerControl SD

**System layout:**

- Inverters: 4 × Growatt MAC50KTL3
- Diesel Genset: 1

Elum Energy provided ePowerControl SD for a chemical factory.

This is a grid-tied project of 200 KW PV Solar with 1 x 350 KW Diesel genset backup. This site is also equipped with 5 x 50 Growatt inverters.

When the grid operates correctly, the client requested that the hybrid system work at its maximum output and export the extra energy back to the grid. However, when the grid doesn't work, ePowerControl SD will reduce the inverter output and allow minimum genset loading.

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