



Photo: Sala Polivalentă Cluj-Napoca Facebook

Romania’s most advanced entertainment and sports arena powered by solar and storage

Customer Overview

Ecovolt is a leading renewable energy solutions provider in Romania, with over 10 years of experience designing and integrating solar PV systems, wind turbines and micro hydro energy systems. In the last 10 years, Ecovolt has completed hundreds of projects across Romania, including the most complex and sophisticated off-grid systems in remote areas.

Challenge

When Hurricane Katrina struck the Gulf Coast of the United States in 2005, tens of thousands took refuge in New Orleans’ sports stadium, then called Louisiana Superdome. The Superdome suffered extensive damages to its impressive structure, and power failed immediately. The back up generator was no match for the most destructive storm to hit the US. This is one example of many public storm shelters that exist throughout urban cities. Whether the site operates as a protection shelter, school, or entertainment arena, it’s important to consider if they are equipped to brave extensive grid outages in the event of natural disasters or power failures.

In Romania, the Cluj-Napoca City Hall was ready to transform the new Polyvalent Hall (Sala Polivalentă), a sports and entertainment arena, into a hybrid fortress that would provide reliable energy during critical grid outages. This spectacular multi-purpose venue can hold up to 10,000 people, and is located in Romania’s second most populated city. The result is a 36kW back up and self-consumption solar and storage system. Ecovolt’s strong technical expertise and experience were the key factors in providing a robust long-term solution.

SUMMARY

Customer Profile

Ecovolt Romania

<http://www.ecovolt.ro/>

- Leading solutions provider of renewable energy systems
- Mission: to deliver quality services and proven products from within the renewable energy industry in the most efficient manner possible

Challenge

Select a reliable back up and self-consumption system that will allow the arena to be energy independent and power critical systems during grid outages.

Solution

- 6x Conext XW 6048 230 50 battery-based inverter/chargers
- 10x Conext MPPT 60 150 solar charge controllers

Solution

This 36kW DC-coupled grid-interactive hybrid system includes PV arrays with 120 panels in total at 250W each, and an integrated battery bank with a capacity of 4600 amp hours at 48 volts, holding about 220kWh of energy when connected to the following from Schneider Electric:

- 6x Conext XW 6048 230 50 battery-based inverter/chargers
- 10x Conext MPPT 60 150 solar charge controllers

The **Conext XW inverter/charger** proved to be the perfect choice for Ecovolt for this installation. The system now powers the sports and entertainment complex for more than eight hours during the night and fifteen hours during the day, using solar energy that is stored into the battery backup system. The most important success factor was to define a reliable technical structure that would meet the power demands of Polyvalent Hall and for the arena to be fully equipped for energy independence for decades to come. With Schneider Electric's patented algorithm, the system coordinates the export of surplus power to the grid, while maintaining fully charged batteries for emergency backup events. Furthermore, the lifecycle of the battery backup system is guaranteed with a daily top up charging scheme.

Another key success factor was to integrate a high performance remote communications and monitoring solution. "Our customer also expected a response system that would allow us to quickly address issues on-site without a truck roll, which required a remote connectivity solution that provides full access to the system. The Schneider Electric Conext XW inverter/charger and ComBox communications device was the perfect match for this project," said Florin Fleseriu, Manager, Ecovolt Romania.



"The project needed a hybrid solution that combined the best of both worlds: a grid-interactive system that maximizes local PV generation and a reliable extended back-up system to power the toughest loads during grid outages."

*– Florin Fleseriu,
Manager, Ecovolt Romania*



About Schneider Electric

As a global specialist in energy management with operations in more than 100 countries, Schneider Electric offers integrated solutions across multiple market segments, including leadership positions in energy and infrastructure, industrial processes, building automation, and data centers/networks, as well as a broad presence in residential applications. Focused on making energy safe, reliable, and efficient, the company's 150,000 plus employees achieved sales of 24 billion euros in 2013, through an active commitment to help individuals and organizations "Make the most of their energy".

Contact us at <http://solar.schneider-electric.com/purchase-products> to discuss your solar energy needs.