

HONEYWELL PROPELS RESILIENCY & DECARBONIZATION GOALS AT LUGOJ, ROMANIA MANUFACTURING PLANT

Case Study

As part of the broader One Honeywell initiative, the project encouraged internal collaboration between different Honeywell businesses in utilizing Honeywell products and processes for these projects.



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MICROGRID SOLUTION FOR LUGOJ PLANT IN ROMANIA

Honeywell's innovative solutions are not just designed for its customers. New Honeywell technology can also be implemented internally. Keeping with our carbon footprint reduction goals and a vision for more sustainable Honeywell facilities, a program was initiated to identify and study internal sites to develop energy conservation projects.

The Honeywell Life Safety Plant in Lugoj, Romania was selected as part of the program in which key sites were chosen to focus on sustainability, resiliency and reducing carbon footprint.

As part of the broader One Honeywell initiative, the project encouraged internal collaboration between different Honeywell businesses in utilizing Honeywell products and processes for these projects. At Lugoj Plant, Honeywell Building Technologies (HBT) and Honeywell Process Solutions (HPS) came together to solve the plant's resiliency and sustainability issues.



BACKGROUND

The HBT manufacturing site in Lugoj, Romania is one of the most business-critical sites in the EMEA region. During the initial study with HPS, critical issues were found, including problems with aging equipment and building management control systems.

On top of these complications, Lugoj Plant also suffered from major issues with power quality, blackouts and insufficient power backup.

CHALLENGES

A core problem at Lugoj Plant was the frequent loss of grid power which resulted in plant shutdowns. The combined Honeywell team needed to solve this issue, as well as tackling secondary considerations such as emissions reduction and lowering energy costs. Goals were outlined to achieve:

- Grid reliability
- Power Quality and Renewable Integration
- Reduce carbon footprint
- Reduce utility cost



SOLUTION

The Lugoj Plant required a solution that could provide energy to the plant during blackouts and, at the same time, lower CO₂ emissions associated with fossil fuel energy producers like coal or gas.

The team shared a complete study on the electrical system of the plant, showing how a proposed solution with a battery energy storage system (BESS), solar photovoltaics (PV) and a comprehensive microgrid control system could fulfill the needs of the plant.

The Lugoj Plant energy solution featured an on-site microgrid consisting of:

- 1.7 MW solar PV
- 1.6 MWh Honeywell battery energy storage system (BESS)
- Diesel generators
- Honeywell Power Manager with microgrid controls and SCADA

The plant will use the Power Manager solution in Honeywell Forge Sustainability⁺ for Buildings | Power and Demand Management to manage all elements of the microgrid. Power and

Demand Management is the buildings' operating system for energy resilience, monitoring weather conditions, grid status, and utility rates to optimize both the buildings' demand-side consumption and on-site supply side generation assets (solar PV, BESS, diesel generators). It leverages Honeywell Forge Sustainability⁺ for Buildings and its ability to integrate with third party systems to provide powerful tools for emissions and energy management across a building portfolio.

The facility improvement measures also included the addition of a modern Building Control System (BCS) which is planned to connect all the buildings' operational technology and associated data into a single management system to increase efficiency and support sustainability goals.

SUMMARY AND RESULTS

The solution was designed to increase site power resiliency, hedge against potential blackouts and reduce the levelized cost of electricity. It integrated the key elements of a solar PV plant and a BESS into one common EMS platform resulting in a user interface that is unmatched in the industry.

The platform can not only scale and seamlessly integrate additional plants in a cost-effective manner, but it can also adapt to energy evolution over time.

From an electrical energy perspective, the Lugoj Plant was transformed into a virtually self-sustained site after implementation. With a 1.7 MW solar PV installation combined with a 1.6 MWh Honeywell BESS and backup generators, the plant now has complete electrical power back-up during grid blackouts and lower electrical bills. By applying the load shedding and limiting techniques provided by Honeywell Forge Sustainability⁺ for Buildings | Power and Demand Management, the facility can now reduce energy use and waste after hours, which is projected to deliver 10% energy savings. Its carbon footprint has also been successfully lowered, achieving all the goals set by the Honeywell collaborating team of HBT and HPS.

In addition, the utility electricity cost of the Lugoj Plant was reduced by 30% annually.

For more information

To learn more about Honeywell's remote and autonomous solutions, visit process.honeywell.com or contact your Honeywell account manager.

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