

DATAWATT RTUS, VITAL TO THE NETHERLANDS' SUSTAINABLE HORTICULTURE



THE CHALLENGE

The Netherlands is undergoing an energy transition, shifting from fossil fuels to renewable energy in horticulture. Ronald Robbertsen project engineer for remote telemetry from Ovarro emphasizes the crucial role of smart grids and remote telemetry units (RTUs) in achieving carbon neutrality by 2050. Around 80% of the energy consumed in the Netherlands' Westland municipality is attributed to horticulture businesses. While this industry is pivotal for the country's renewable energy transition, it has historically relied heavily on natural gas. To enhance sustainability, what measures can be taken within the Netherlands' horticulture sector?

A smart grid is essential for implementing diversified national energy strategies, especially as the Netherlands embraces various alternative sources like wind, wave, marine, hydro, biomass, and solar. Managing these sources efficiently relies on capturing, storing, and interpreting extensive data from physical assets. As the country's smart grids expand with more cables, stations, and solar-powered homes, challenges emerge. The increasing prevalence of photovoltaic systems, constituting 6.79% of the Netherlands' total energy consumption in 2020, brings new dynamics. Solar panels, operating at low or medium frequencies, pose challenges for grid operators, affecting stability and introducing periodic energy feed-ins that may disrupt the grid.



THE SOLUTION

Ovarro addresses the limitations of conventional network monitoring systems by providing smart grid operators with a precise, cost-effective control technology. This technology enhances productivity, energy efficiency, security, and higher levels of Quality of Service (QoS) in managing smart grids. Utilizing Remote Telemetry Units (RTUs), Ovarro's solution captures, stores, and interprets extensive data from physical assets, making RTUs essential for present and future smart grids in power generation and distribution operations.



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WATER



MONITORING
& CONTROL



RTU'S



Ovarro's Datawatt Smart Grid (DSG) series, tailored for water, energy, and industrial sectors, prioritizes flexibility and maximum security to meet the unique demands of low- or medium-voltage networks. The DSG boasts real-time protocol implementation (IEC104, COAP, Modbus), accommodating additional protocols upon request. It supports easy creation of new protocols through the Linux operating platform and C# programming language. Moreover, it enables programmable logic controller (PLC) programs conforming to the latest Codesys standard (IEC61131-3), widely adopted in control programs by national and international organizations.



“Ovarro has developed Datawatt Smart Grid (DSG) that makes it possible to manage smart grids productively, energy-efficiently, securely, and with higher levels of quality of service (QoS).”

Ronald Robbertsen, Project Engineer for Remote Telemetry at Ovarro



OPERATIONAL BENEFITS

Juva, a Netherlands-based grid operator in Westland, improved its low-voltage frequency monitoring with Ovarro's DSG system. The DSG, chosen for its departure from standard templates, offers real-time flexibility, an accessible Linux interface, and robust protocol handling. According to Juva, the DSG simplifies problem-solving, telemetry system design, and maintenance. Its multi-protocol capability enhances network security, enabling firewall functions to safeguard numerous inputs/outputs (I/Os) and detecting instances of illegal energy use.

Juva enhances the DSG with StreamWebscada from Ovarro, an HTML5 web application. StreamWebscada collects real-time process data, offering scalable management and control of geographically dispersed processes. StreamWebscada notifies the customer of abnormal current levels via email or telephone.

These telemetry solutions empower smart grid operators like Juva to monitor and control low- and medium-voltage renewable energy sources effectively, gaining insights into horticultural companies' behavior for implementing innovative cultivation techniques. This approach serves as a potential model for global smart grid operators contributing to carbon neutrality goals, aligning with Albert Einstein's philosophy of looking "deep into nature" for global energy advancement.

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