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Yokogawa to Provide Integrated Automation and Monitoring System for Pioneering Green Hydrogen Platform at Offshore Wind Farm in Europe

Platform will produce offshore green hydrogen for renewable energy storage

Yokogawa Italia, a Yokogawa Electric Corporation subsidiary, has received an order to supply an integrated automation and energy control and monitoring system for the Baseload Power Hub, a pioneering offshore green hydrogen production and storage pilot plant within a wind farm developed by CrossWind, a joint venture between Shell (80%) and Eneco (20%).

The order was received from the Italian EPCIC* contractor Rosetti Marino S.p.A., the parent company of an internationally operating group of the same name that specializes in the design, construction, and supply of offshore and onshore plants for oil & gas, renewables, and carbon neutrality.

Project Overview

The Baseload Power Hub will be located at the Hollandse Kust Noord offshore wind farm, which is 18.5 kilometers off the Dutch coast. Using excess energy generated by the 69 offshore wind turbines, this plant will employ a megawatt-scale electrolyzer to produce green hydrogen that can be stored and converted on-demand into electricity by fuel cells. As wind is an intermittent power source, this plant will also include batteries for short-term power storage.

From a technical perspective, the Baseload Power Hub has a complex architecture, with multiple independent systems that need to be orchestrated, coordinated, and optimized by a single high-level control and monitoring system.

Yokogawa's Role

At the center of the technology for this project is Yokogawa's Collaborative Information Server (CI Server), a cross-platform supervisory control and information system that integrates industrial control systems, sensors, and artificial intelligence. CI Server allows operators to centrally supervise the integrated control and safety system that is to be delivered as part of this project, and whose principal elements are Yokogawa's CENTUM VP process automation system, ProSafe-RS safety system, and Plant Resource Manager, as well as an energy and control monitoring system provided by BaxEnergy, a Yokogawa company.

Yokogawa takes a holistic view of the automation design to enable such plants to operate as cost-efficiently as possible. The Baseload Power Hub project demonstrates Yokogawa's commitment to supporting its clients in the execution of decarbonization projects that involve the management of complex environments in which different systems must be closely integrated, based on the system of systems (SoS) concept.

This project marks a milestone in the transition towards sustainable energy solutions by combining offshore wind power with hydrogen production. Yokogawa's involvement underscores its commitment to supporting innovative projects that align with global sustainability goals and the advancement of green energy technologies.

