



The Hydrohub MegaWatt Test Center is being built at the Zernike Campus in Groningen.



Enabling Joint Industry Research Project for Low-cost Green Hydrogen Production

All equipment at the Hydrohub MegaWatt Test Centre is ready for the next step.

In the late 1990's and early 2000's, the gas turbine was the fastest growing power generation technology. Quick ramp rates and lower emissions comprised a strong value proposition for the utility industry. However, original equipment manufacturers (OEMs) generally sold gas turbine assets with long-term service agreements (LTSA's), which prohibited owners from fully realizing the asset value by restricting control functionality and data availability.

These automation systems lack implementation standards and advanced control functionality, and often restrict the data that is visible to owners and how they interact with the equipment.

One of the program's projects is the Hydrohub MegaWatt Test Center (HMWTC), whose objective is development of an open-innovation infrastructure for stress-testing of water electrolysis technology at an industrially relevant scale. Construction of the HMWTC started in April 2021 at EnTranCe – Centre of Expertise Energy of the Hanze University of Applied Sciences in Groningen. In addition to ISPT, TNO and Hanze University of Applied Sciences, it has involved collaboration between Shell, HyCC, Yara, Gasunie, PlugPower, Groningen Seaports, University of Groningen and [Yokogawa](#).

On November 2022, ISPT announced that all equipment was in place, ready for commissioning of the test center, including the utility system, Proton Exchange Membrane (PEM) Electrolyser and Alkaline Electrolyser (AE) units. Once commissioning is complete, companies will be able to utilize the facility for practical tests at scale.

Yokogawa's role in the Hydrohub Innovation Program

Yokogawa Europe's involvement and contribution towards success of the project has been significant. Leveraging unique knowledge and experience in plug-and-produce technologies for modular facilities and standardization frameworks such as **NAMUR's Modular Type Package (MTP)** and **Open Process Automation Standard (O-PAS™)**,

Yokogawa Europe has supplied material, engineering services and know-how for supervisory control and process safety. In addition, the company has increased knowledge and understanding of advanced control of the integrated system, especially efficient system ramp-up and ramp-down, as well as safe operation at low load rates.

Yokogawa is proud to be supporting this research project and co-innovating solutions to accelerate achievement of net zero. This research and ISPT's mission are fully aligned with Yokogawa's sustainability goals, which are to help industry to achieve net-zero emissions, make a transition to a circular economy, and ensure the well-being of all by 2050.

