

Online manufacturer supports assembly work at the world's largest stellarator fusion reactor with CNC-machined special parts

FACTUREE supplies components for fusion research facility at the Max Planck Institute for Plasma Physics

Berlin, 24 July 2020 – The Max Planck Institute for Plasma Physics (IPP) with facilities in Garching and Greifswald is one of the largest centers for fusion research in Europe. Wendelstein 7-X at the IPP facility in Greifswald is the world's largest and most modern “stellarator” fusion reactor. Here, the researchers aim to demonstrate the suitability of this special type of facility as a power plant in continuous operation, making it a key element of international fusion research. In order to achieve their goal, the IPP depends on the efficient procurement of high-quality components. The Max Planck Institute therefore relies on the online manufacturer FACTUREE (www.facturee.de) to supply components for assembly work at the fusion research facility.

Being one of the largest centers for fusion research in Europe with facilities in Garching and Greifswald, the Max Planck Institute for Plasma Physics (IPP) is a flagship project. With its experimental and theoretical basic research, the institute aims to reproduce the physical processes of the sun on Earth and generate energy from the fusion of atomic nuclei.

In this endeavor, the IPP uses the world's largest and most modern stellarator fusion reactor, Wendelstein 7-X, which is located in Greifswald and began operating in 2015. As a pioneer in international fusion research, the project's objective is to investigate the suitability of this special type of facility as a power plant in continuous operation. At the heart of the facility are five superconducting coils that generate a magnetic field cage in which a milligram of hydrogen gas is heated to temperatures greater than 100 million degrees to reach the plasma state.

Higher heat output and plasma discharge require special components

The fusion facility is currently being converted so that even higher heat output and longer plasma discharges can be achieved in the next operating phase. For supplying the assembly tools, support structures, tread plates, special parts for scaffolding, and

aluminum and stainless components required for the modification work, IPP relies on “FACTUREE – the online manufacturer”.

Broad production network ensures short delivery times

FACTUREE is a brand of cwmk GmbH and has an extensive production network in the fields of CNC machining, sheet metal forming, 3D printing, and finishing technology. The company can draw on a broad range of network partners, production technologies, and finishing treatments that enable fast supply times, a high potential for cost savings, and short-term deliveries on schedule. All FACTUREE partner companies are subject to continuous ISO 9001 certified data-driven quality management.

Andree Benndorf, employee in the Department of Assembly Technology at the Max Planck Institute for Plasma Physics (IPP), says: “We requested several quotes in accordance with the German procurement and contract procedures (VOL). FACTUREE provided their quote very quickly, within one to two days. We were impressed by their broad range of services as well as their pricing structures and short delivery times. FACTUREE has met 100% of its delivery dates up to now. We are also very satisfied with the quality of the components and will push to continue this cooperation.”

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Wendelstein 7-X fusion research facility, photo: IPP, Jan Michael Hosan