Press Release

Route de Vinon sur Verdon 13115 Saint Paul lez Durance France www.iter.org

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Contact:

Ms. Deepti Choubey
Head of Communications
media@iter.org

Comments:

ITER INSTALLS SEVENTH SECTOR MODULE IN ITS TIGHTEST LIFT YET

Seven of nine tokamak sector modules are now in place. The first insertion into a gap between two installed neighbours demonstrates that assembly is sustaining its pace even as complexity increases.

SAINT-PAUL-LEZ-DURANCE, France (27 November 2026) – The ITER Organization has successfully installed the seventh of nine tokamak sector modules, leaving only two of the 40-degree segments of the machine's torus-shaped core still to be installed. In a first for ITER, assembly teams manoeuvred a five-storey-tall sector module into position between two previously installed modules. The operation involved a suspended load of nearly 1,400 tonnes, including the lifting rig, with clearances of approximately five centimetres on either side. Machine assembly is currently progressing approximately six months ahead of the schedule established in Baseline 2024.

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ITER assembly teams have been installing the sector modules since April 2025, reaching the two-thirds milestone in July 2026. In each of the six previous installation operations, there was unobstructed space on at least one side of the suspended load. The installation of the seventh module, completed over 24 hours on 25 and 26 November, marks a new level of complexity in the machine assembly sequence.

"For the first time, we lowered a load of nearly 1,400 tonnes into a gap with about five centimetres to spare on each side, and it went exactly to plan," said ITER Director-General Pietro Barabaschi. "This is the result of the expertise and close cooperation of the ITER Organization, the Domestic Agencies, and our industrial partners. Sustaining the pace of assembly as the work becomes more complex, without compromising safety or quality, is what gives us confidence in Baseline 2024."

The lifting and installation operation required extensive engineering preparation and the close coordination of crane operators, engineers, metrology specialists, and safety teams. During the module's 30-metre descent into the tokamak assembly pit, programmed pauses allowed the natural oscillations of the suspended load, known as the pendulum effect, to subside. Data from tilt sensors and strain gauges, together with live images from cameras monitoring critical clearances, enabled teams to track the position and structural behaviour of the module throughout its descent between its neighbours and onto temporary supports.

The installation of the seventh sector module builds on other major achievements in ITER machine assembly in recent months. With the delivery of the ninth and final vacuum vessel sector in October, all major components of the tokamak core are now on site. The recent completion of the repair campaign on the vacuum vessel sectors and thermal shields has also significantly reduced technical and schedule risks associated with machine assembly. ITER is now on track to install the two remaining sector modules by the second quarter of 2027. Once the ninth module is installed, teams will begin welding the sectors together to close the torus—a key step on the path to the Start of Research Operation.

Background

The ITER vacuum vessel will provide the primary confinement boundary for the fusion plasma. The completed vessel will measure approximately 19 metres across and 11 metres high and will weigh about 5,200 tonnes before the addition of in-vessel components. Its double-wall structure will accommodate shielding and cooling water and provide support for equipment used to heat, diagnose and control the plasma.

Each of the nine sector modules comprises a 40-degree section of the vacuum vessel, its associated thermal shield and two superconducting toroidal field coils. The sector module weighs approximately 1,100 tonnes; including the lifting rig, the suspended load under the bridge cranes weighs nearly 1,400 tonnes. Once all nine modules are in place, the vacuum vessel sectors will be aligned and welded together to form the tokamak's toroidal plasma chamber.

About ITER

ITER is designed to demonstrate the scientific and technological feasibility of fusion power. Fusion research is aimed at developing a safe, abundant, and environmentally responsible energy source. ITER is also a first-of-a-kind international collaboration that serves as a scientific and technological foundation for the growth of a global fusion industry. As host, Europe contributes almost half of the cost of construction, while China, India, Japan, the Republic of Korea, the Russian Federation, and the United States contribute equally to the remaining costs. The ITER project is under construction in Saint-Paul-lez-Durance, in the south of France. For more information, visit: **www.iter.org**.

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