



PRESS RELEASE

Genoa, 13th May 2022

ITER'S "BIG LIFT" IS A SUCCESS

DYNAMIC, company led by Ansaldo Nucleare, transfers the first sector of the Vacuum Vessel inside the Tokamak Pit

The ITER Project achieved a major machine assembly milestone yesterday, as the first sub-section of the ITER plasma chamber was successfully lifted out of tooling and lowered into the machine well.

The first-of-a-kind operation was spectacular at many levels. The sheer weight of the component plus rigging—1,380 tonnes—came the closest yet to the nominal lift capacity (1,500 tonnes) of the double overhead bridge crane in the ITER Assembly Hall. The multilayer rigging arrangement, added to an already tall load, left the crane operators with a clearance of only 20 cm over the concrete wall that delimits the machine assembly well. The teams achieved millimetre-level tolerances in the positioning of a component that towers six storeys high and weighs the equivalent of four fully loaded Boeing 747s.

"This first milestone in the Tokamak assembly marks a new stage in Ansaldo's commitment to support the ITER project, and more generally in the creation of all-round industrial skills, from engineering to construction, to make the exploitation of the fusion nuclear power a real option for the future of energy " declared Roberto Adinolfi, President (and Interim CEO) of Ansaldo Nucleare.

The "piece" of the ITER machine lowered today represents one-ninth of the toroidal plasma chamber. It is a composite assembly, formed from one 40° vacuum vessel sector fitted with silver-coated thermal shields, and two D-shaped vertical superconducting electromagnets called toroidal field coils. Eight other similar assemblies will form the complete chamber and surrounding toroidal field coil superstructure.

The creation of the composite assembly took place on specialized tooling in the ITER Assembly Hall between March and December 2021. The components were first lifted to vertical on a specially adapted "upending" cradle and transferred to a standing tool capable of docking the vacuum vessel sector in its centre and rotating the other components in on its wings.

This major lifting operation took several months to prepare for the entire ITER and DYNAMIC SNC team, the franco-italian joint enterprise in charge of the TAC2 contract and formed by Ansaldo Nucleare, Endel Engie, Orys Group ORTEC, SIMIC, Ansaldo Energia, and Leading Metal Mechanic Solutions SL.

On the ground, the operation was carried out by DYNAMIC SNC with crane operator Foselev and metrologists, coordinated by ITER Organization.

The Ansaldo Energia Group, international leader in the field of power generation and key player of the energy transition, is a company 88% owned by CDP Equity, Cassa Depositi e Prestiti Group, a national promotion institution that has supported the Italian economy since 1850, and 12% by Shanghai Electric.

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The component is currently suspended directly above its supports on the assembly pit floor, as ITER metrologists carry out their final positional measurements. It will be lowered to its supports after that, arriving “home” after a long and complex journey.

“Dynamic and all its partners thanks the ITER organization for having the possibility to contribute to this important milestone for the future development of a more sustainable energy. Ansaldo Nucleare is honoured to be the “gerant” of a such performance team” affirmed Luigi Papini, Project Director of Dynamic.

The colossal work of the entire crew led to this successful lift operation that will be celebrated across the community as a major assembly milestone, bringing the project another step closer to First Plasma.

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