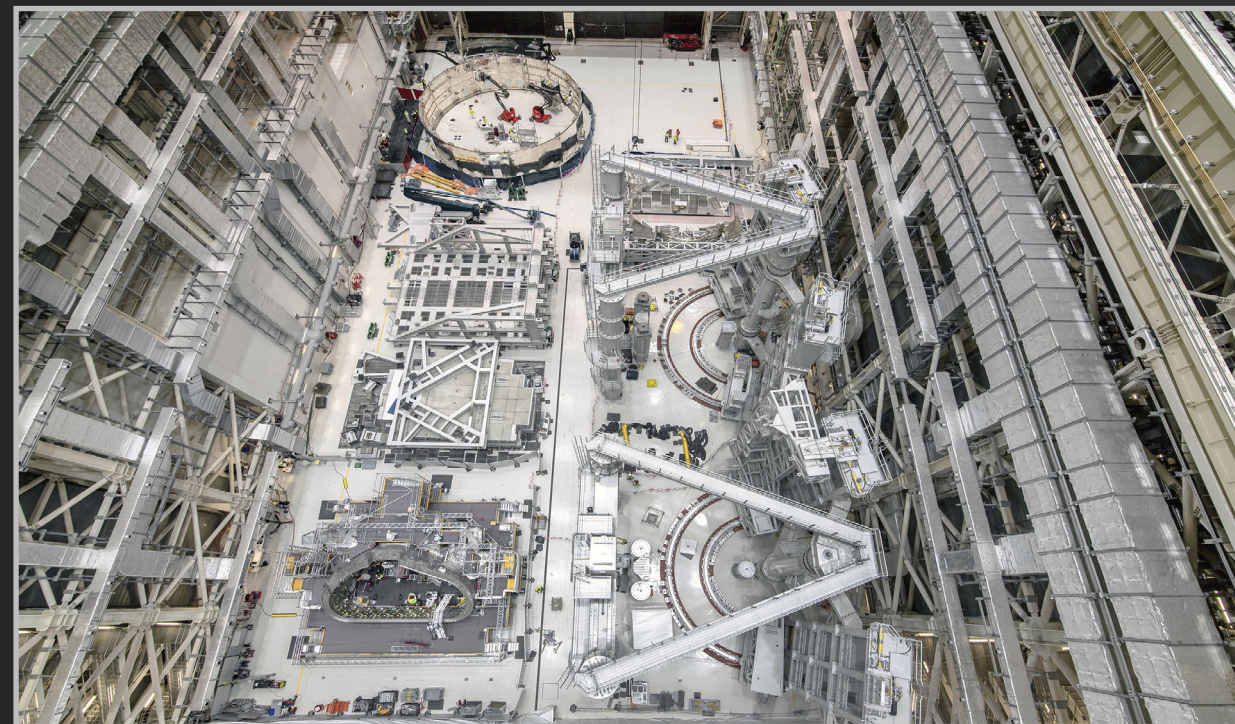


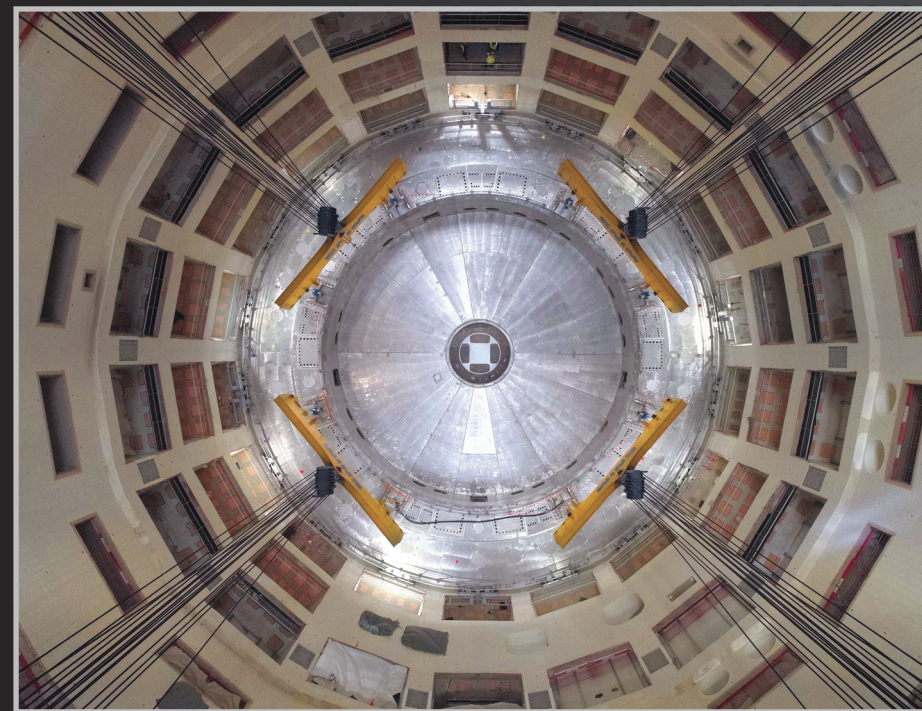
ITER ORGANIZATION

ASSEMBLY UNDERWAY

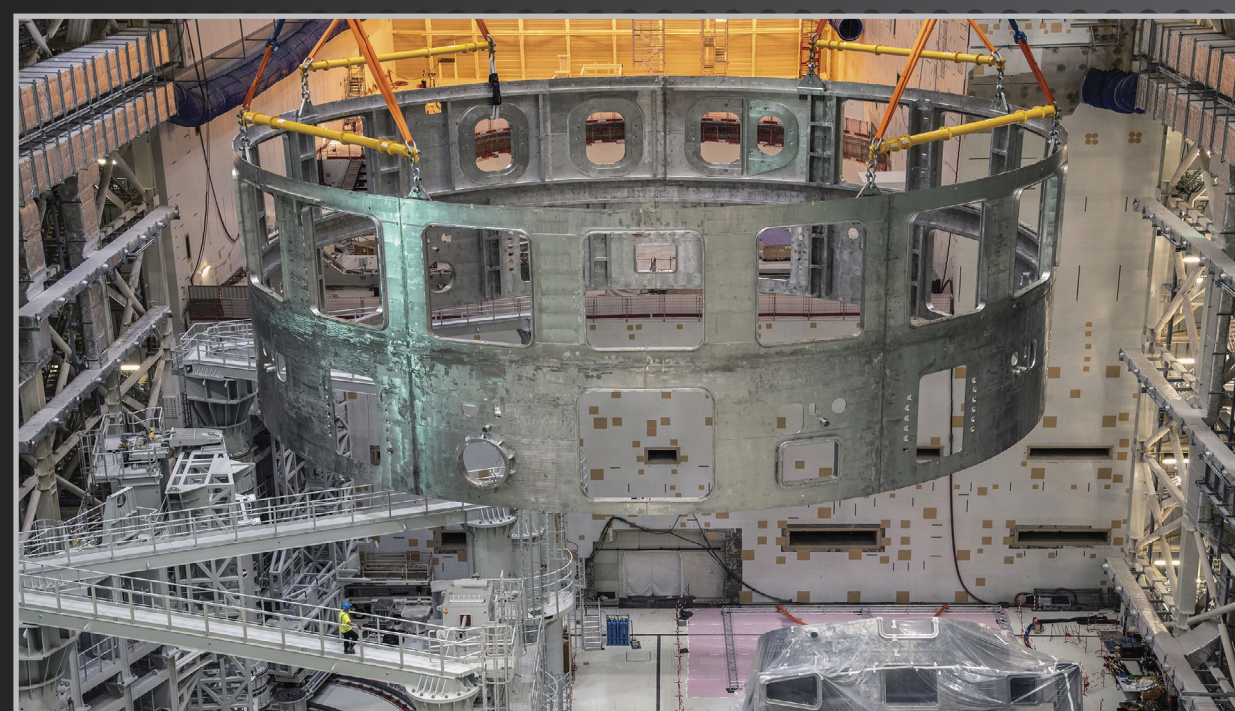
The ITER Organization has the responsibility of integrating and assembling the components delivered to the ITER site by the seven ITER Members. Machine assembly was launched in May 2020 with the insertion of the first machine component – the cryostat base – into the Tokamak pit. Five years will be necessary to complete first-phase assembly tasks, which will end with the closure of the cryostat lid.



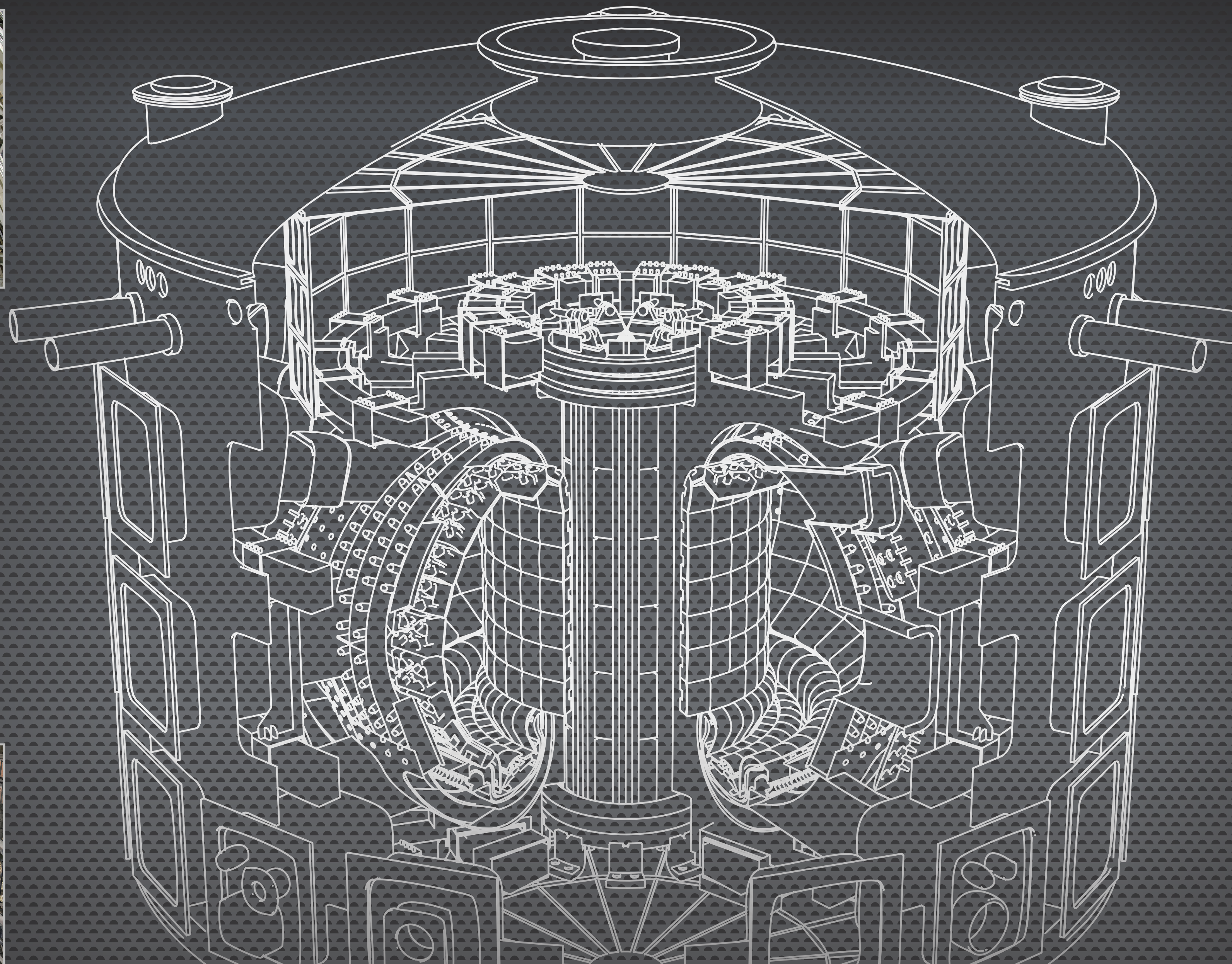
In the ITER Assembly Hall, space has been divided into laydown areas for pre-assembly activities on major components and more permanent areas reserved for assembly tooling. On the right side of this image are the twin vacuum vessel sector sub-assembly tools; on the left, are upending frames to raise heavy components from horizontal to vertical. At top and bottom are two major machine components: the silver-coated lower cryostat thermal shield, and the first vacuum vessel sector to reach ITER (sector #6, from Korea).



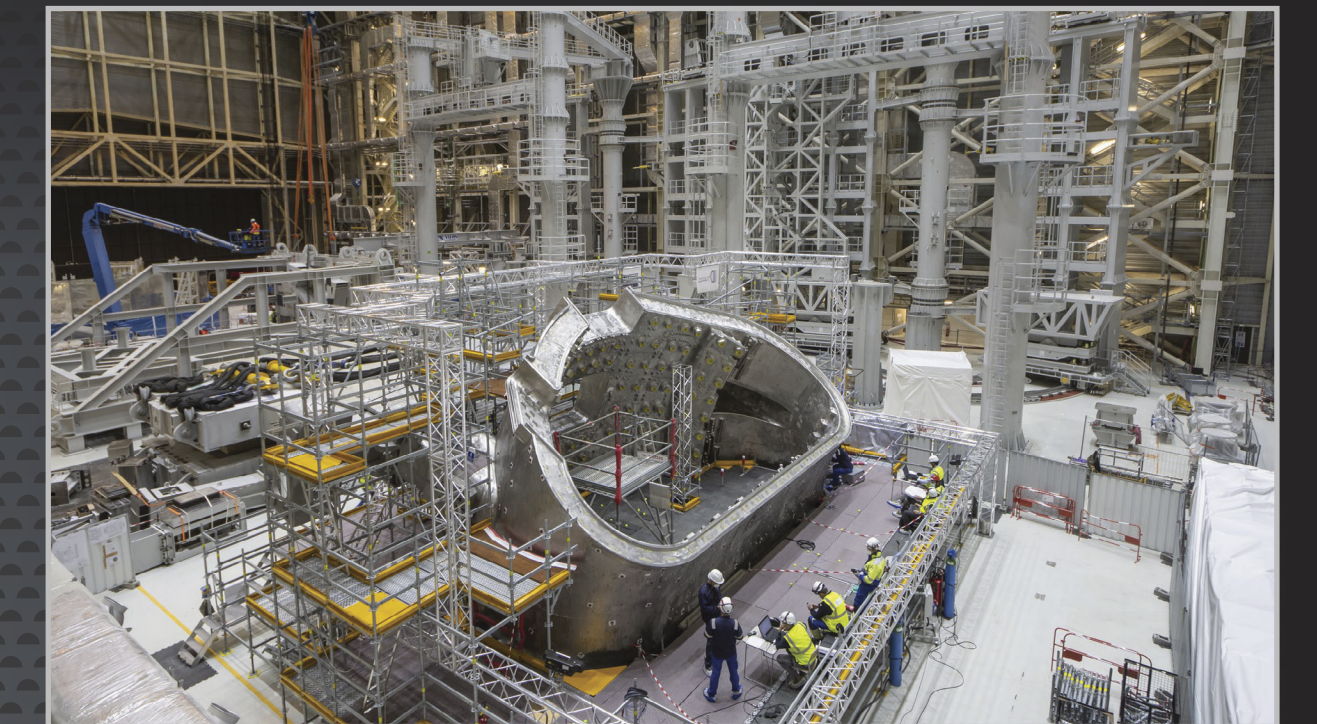
The 1,250-tonne cryostat base is lowered by crane into the Tokamak pit in May 2020, officially kicking off the machine assembly phase.



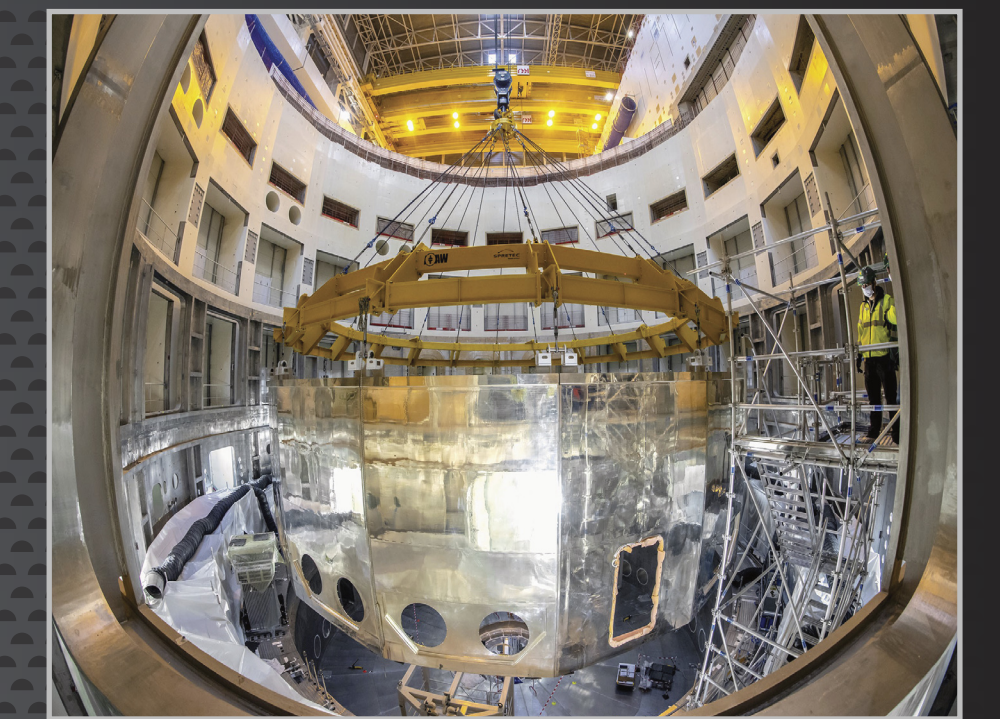
The second piece of the puzzle – the lower cylinder of the cryostat – follows in August 2020. Each lift operation is carefully planned, rehearsed and executed by ITER assembly contractors in close coordination with the ITER assembly teams.



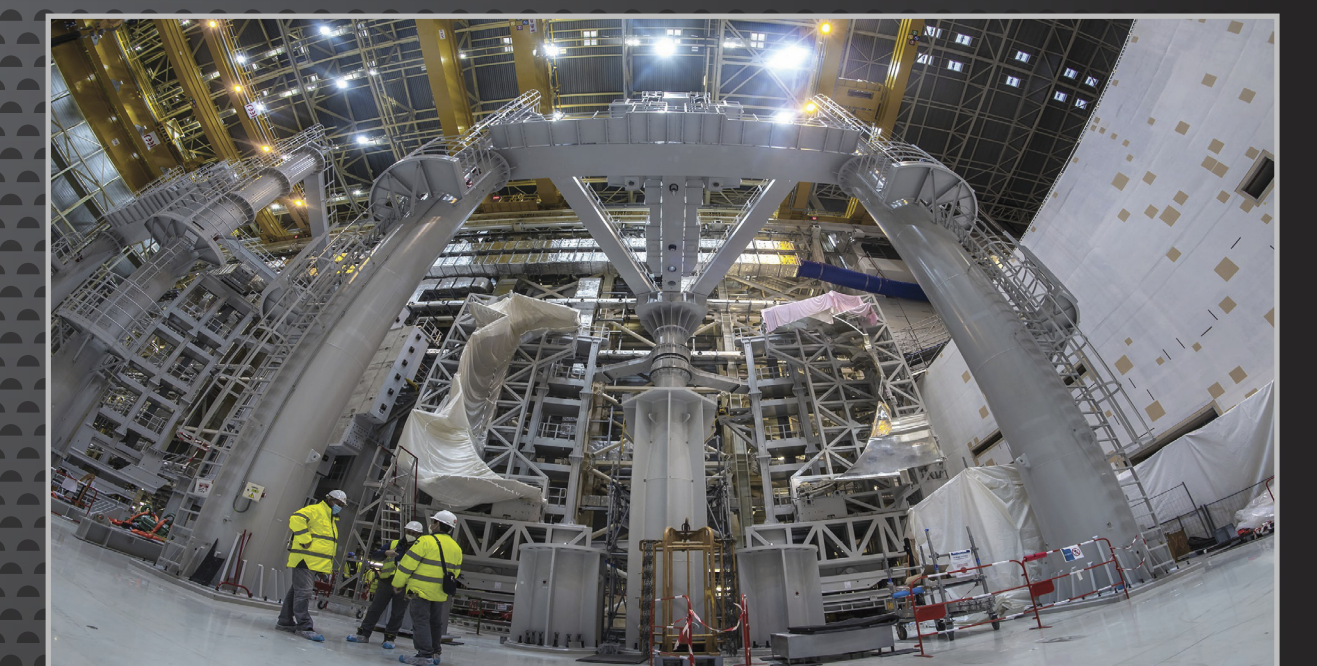
DURING ASSEMBLY PHASE I, THE ITER ORGANIZATION WILL FOCUS ON THE ASSEMBLY OF THE CORE MACHINE AS WELL AS SYSTEMS ESSENTIAL FOR FIRST PLASMA OPERATION. THIS PERIOD IS FOLLOWED BY INTEGRATED COMMISSIONING, CULMINATING IN FIRST PLASMA.



This first-of-a-kind component – one of the most challenging of the ITER machine – is successfully delivered to ITER in August 2020 by the Korean Domestic Agency. Vacuum vessel sector #6 is one of nine 440-tonne sectors that make up the ITER vacuum vessel.



In January 2021, a third major element is introduced into the Tokamak pit. The lower cylinder thermal shield is a silver-plated component, circular in shape and five metres tall, which fits inside the depression in the cryostat base to form a heat barrier to protect the superconducting magnets.



This 22-metre-tall sector sub-assembly tool will suspend the vacuum vessel sectors while carefully positioning and installing – via the rotary motion of the “wings” – thermal shield panels and two toroidal field coils. Actuators will permit the components to be positioned with the highest degree of accuracy. Two thermal shield panels have already been mounted on the tool.