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Author: Dr. Annamaria Piras
Thales Alenia Space Italia, Italy

# HALO DELIVERY: THE FIRST PILLAR OF THE LUNAR GATEWAY STATION

**Abstract**

In 2025 Thales Alenia Space delivered to Northrop Grumman in its facility in Gibert, Arizona the first element of the Lunar Gateway Station, where the element will complete its assembly and integration Phase before going to KSC for launch. HALO is the first pressurized module of the Gateway where Artemis astronauts will live and work while in lunar orbit. It has docking ports for spacecraft like Orion, which will bring crews to Gateway, and lunar landers, which will carry them to the surface of the Moon, as well as for the Logistics Resupply of the gateway. Thales Alenia Space delivered a System that is made up of over 1500 parts and pieces of equipment, weighing approximately 3100 kg. This includes everything from essential components like 3 hatches and adapters for vehicle and module docking, meteoroid and debris protection, cables, fluidic lines, electrical connectors, and valves to support cabin pressure control. A full qualification and acceptance campaign of the structure and the components has been successfully conducted and main results are outlined. The element leak test has been concluded successfully. The paper will mostly describe the achievements, the experience built, the challenges and the Lesson Learned moving from the Low Earth Orbit experience to Lunar Gateway experience. The paper will also address the importance of this element for the future European and TASI role in the Gateway station.