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ITALIAN ROLE IN THE COMMERCIAL UTILIZATION AND SERVICES OF LEO INTERNATIONAL  
SPACE STATION**Abstract**

The future of the International Space Station is under discussion and under evolution. Despite its lifetime is currently extended to 2028 for most of the elements, the upcoming cislunar Gateway is putting the agency NASA and ESA to open more and more the LEO utilization to commercial services and users. ISS still represent a relevant outpost for science and astronauts long experience in space, but it must be taken into account the unavoidable obsolescence of the ISS HW infrastructure, while a smooth transition from institutional-based to commercial-based ISS scenario is on going. Since the first Cygnus PCM in early time of first commercial services, Thales Alenia Space was involved in this new way to support the ISS. In the recent time Thales Alenia Space initiate the production of additional 4 units of Cygnus (getting to 22 commercial logistics elements for the ISS) for Northrop Grummar. Recently Thales Alenia Space, with eits cooperation with Nanorack, supported the delivery to the ISS of the Airlock Bishop, opening to a new approach for experiments exploitation on the ISS. Finally, since 2020, Thales started a relevant collaboration with AXIOM for the provision of new elements for a full commercial station. Despite the Thales Alenia Space role is always as contractor, this opportunity of entering so deeply in the commercial environment for LEO and specifically for ISS allowed a relevant growth to see similar needs from a quite different perspective. This paper will provide a description of Thales Alenia Space role in the commercial services for the ISS via a description of the experience and challenges of the various products, Cygnus, Axiom element and Airlock and will provide an outlook of possible evolution.