



LeoLabs Provides Tracking Support for ESA's Historic Assisted Satellite Reentry

The company provided reliable tracking of ESA's Aeolus satellite during the semi-controlled reentry, illustrating LeoLabs' tracking capabilities in a high-drag environment.

MENLO PARK, California, 14 August 2023 — LeoLabs, the leading commercial provider of Space Traffic Management (STM) and Space Situational Awareness (SSA) services, today shared their support for the European Space Agency's (ESA) successful assisted reentry of Aeolus, an Earth observation satellite, over Antarctica on 28 July 2023.

This assisted reentry was considered the "first-of-its-kind" because the satellite, named Aeolus, was not designed for a controlled reentry when launched by ESA in 2018. ESA successfully performed a series of maneuvers between 24 – 28 July 2023 to lower the satellite's orbit from an altitude of 320 km to 120 km, positioning Aeolus over a planned Atlantic ground track to prevent any remaining debris following its atmospheric reentry from causing harm. Without these actions, Aeolus would have experienced an uncontrolled reentry, increasing risk of space debris falling onto habited areas.

LeoLabs supported this mission as a tracking partner, receiving ephemeris data prior to and after each maneuver from ESA Mission Control. This data was used by LeoLabs to task its global radar network to track the satellite, helping ESA verify and monitor orbital changes after each de-orbit maneuver.

"ESA values the support provided by LeoLabs during the Aeolus re-entry, which contributed to a novel ending for the mission that successfully reduced space debris and enabled a safe re-entry," said Tommaso Parrinello, ESA Aeolus Mission Manager, "By testing space tracking capabilities for assisted and controlled re-entries, we're one step closer to achieving sustainable space."

This partnership served as a successful test of LeoLabs' object tracking capabilities in very low Earth orbit (VLEO), which includes altitudes below 400 km. LeoLabs was able to demonstrate its ability to reliably track objects in VLEO. This is difficult due to several factors, including higher aerodynamic drag and stronger gravitational pull on the object while on orbit. By illustrating these capabilities, LeoLabs builds confidence in the ability for satellite owner/operators to safely deorbit objects; the final, critical stage of future active-debris removal missions.

"LeoLabs is proud to support this groundbreaking effort by ESA," said Edward Lu, LeoLabs Co-founder and Chief Technology Officer, "It represents a milestone towards making space safer and more sustainable, illustrating how responsible behavior by owner/operators can normalize space safety measures and contribute to growing expertise in active debris removal."



About LeoLabs (www.leolabs.space) LeoLabs is transforming the way satellite operators, commercial enterprises and federal agencies across the world launch and track missions in low Earth orbit. Through its vertically integrated technology system, Vertex™, LeoLabs delivers the superior information needed to succeed in today's space race. With unmatched LEO coverage, real-time tracking and powerful insights, companies and governments rely on LeoLabs to safely innovate and execute a wide array of operations in space.

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