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SALTO project prepares for first European hop test attempt as Themis arrives to Esrange Space Center in Kiruna, Sweden

Themis, Europe's first full-scale reusable rocket demonstrator, has arrived at its test site, SSC's Esrange Space Center in northern Sweden, marking the beginning of the SALTO project's ground and flight test campaign preparations. As a consortium partner in SALTO, INCAS contributes to the upcoming hop test by supporting important activities on-site and within the project framework for SHM (structural health monitoring) technology maturation. INCAS is responsible with the instrumentation of a network of FBG optical fibers used to monitor the demonstrator.

The arrival of Themis at the Esrange Space Center, owned and operated by the Swedish Space Corporation (SSC), marks a new chapter for the Horizon Europe project SALTO. The project will now first attempt to demonstrate reusable launch vehicle technologies in-flight, through a test-and-learn approach.

Transported from ArianeGroup Les Mureaux, France, Themis is Europe's first full-scale reusable rocket stage demonstrator, developed under ESA's Future Launchers Preparatory Programme (FLPP).

Now it has reached its temporary home at "Launch Complex 3" in Esrange. Over the coming weeks, teams from ArianeGroup and the Swedish Space Corporation (SSC) will finalize integration procedures inside a newly constructed facility tailored to support Themis operations.

Themis will then undergo several key steps known as "combined tests" where joint operations of launcher and launchpad will be conducted, allowing engineers to validate the performance of the vehicle and of its ground-handling systems, including autonomous cable reconnection procedures.

The first flight of Themis will be a low-altitude vertical take-off and landing, referred to as a "hop test". The data and experience gained during this short but critical maneuver will form the foundation for progressively more advanced test flights.

About Themis

Themis is Europe's first full-scale reusable rocket stage demonstrator, developed under ESA's Future Launchers Preparatory Programme (FLPP) with ArianeGroup as prime contractor. The vehicle is designed to explore the feasibility of recovering and reusing a main stage via vertical take-off and landing—critical capabilities for reducing the cost of access to space.

About SALTO project

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The ongoing SALTO (Structured Agile Launcher Technology Operations) project, funded through the European Commission's Horizon Europe programme, provides the framework and funding for Themis first stage demonstrator hop test campaign. SALTO supports Europe's broader ambition to master reusable launch systems by fostering both technological maturity and operational experience through demonstrator platforms like Themis.

The journey of Themis—from design to deployment—represents not only technological innovation but also pan-European collaboration. The project's consortium involves 25 partners from 12 countries:

- ArianeGroup SAS, ArianeGroup GmbH, MT Aerospace AG, Safran Data Systems, Safran Electronics & Defense, Avio S.p.A., Sabca, Thales Alenia Space Belgium S.A., GTD Sistemas de Información S.A., GMV Aerospace and Defence SA, Deimos Engineering and Systems S.L.U, Sener TAFS SAU, Swedish Space Corporation, Amorim Cork Composites SA;
- Research institutes: German Aerospace Center (DLR), CNES, ONERA, IRT Jules Verne, INCAS;
- Start-ups and SMEs: ID-Services, Shark Robotics SARL, G.L.Electronic s.r.o, SIA WIT Berry, Réaltra Space Systems Engineering, SpaceForest sp. z o.o.

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