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INCAS – National Institute for Aerospace Research "Elie Carafoli" from Romania is involved in SALTO project that will advance forward Europe's first reusable rocket

Funded by the European Commission under the Horizon Europe programme, SALTO project will accelerate the development of the first reusable launchers in Europe. The project's consortium combines Europe's expertise of the major groups, research institutes, innovative start-ups and SMEs to reach the next stage of the development of the Europe's first reusable rocket.

The SALTO project is coordinated by ArianeGroup, selected by the European Commission following a call for project in the frame of Horizon Europe. It started in December 2022 and will be testing vertical landing of a reusable launcher stage prototype. The SALTO project aims to validate the landing phase, which is particularly complex but essential in order to be able to recover a launcher. Two test campaigns of the Themis reusable launcher stage prototype will be conducted in Kiruna, Sweden. During the vertical hop tests the launcher will be lifted up to 30 m -250 m high, using Prometheus® reusable engine demonstrator.

Themis is a European Space Agency (ESA) programme, leaded by ArianeGroup. Eight ESA Member States are participating in the programme: France, Switzerland, Belgium, Sweden, Spain, Netherlands, Poland and Hungary. SALTO enables perfectly synchronised acceleration of the two ESA programmes Themis reusable stage and Prometheus® reusable engine for which ArianeGroup is lead contractor.

The SALTO project and the foreseen tests are complementary and coherent with ESA's Themis reusable stage programme. These developments are the key technological building blocks for the next generation of reusable European launchers that aims to reduce significantly the costs of space launches when compared with the current European rocket fleet. As a result, it will reinforce European Union's strategic autonomy and competitiveness and, will contribute to reducing the environmental footprint from space launches.

INCAS — National Institute for Aerospace Research "Elie Carafoli" from Romania will be responsible for structural health monitoring activities in this project. Daniela Enciu, Head of Mechatronics at INCAS: "INCAS has the privilege of participating in such a large-scale project, reiterating its involvement in activities that contribute to the development of the research sector. The project contributes to the creation of new bridges between research and industry, ensuring competitiveness and sustainability." Ana-Maria Neculăescu, Space Program Manager at INCAS: "INCAS is happy to participate in SALTO activities and to be a part of this ambitions endeavor towards strengthening Europe's position and autonomy in accessing the outer space".

About the project SALTO

The SALTO project will test vertical landing by a reusable launcher stage prototype within the next three years, with a budget of 39 million euros. SALTO stands for "reuSable strAtegic



space Launcher Technologies & Operations". 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, Realtime Technologies Ltd, SpaceForest sp. z o.o.

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