

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Small Launchers: Concepts and Operations (7)

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ARION 2: THE EUROPEAN AND REUSABLE ROCKET LAUNCHER FOR SMALL SATELLITES

Abstract

In the Q4 of 2020 the European orbital rocket, Arion 2 will have its maiden flight. Arion 2, a liquid-propelled rocket launcher that is being developed by PLD Space, will lift-off from the launch facilities that the company will have in the South of Spain, concretely in Huelva.

PLD Space, a Spanish start-up rocket company established in 2011, has been focused during the last years in the development of liquid-propulsion rocket engines that will power their family of rockets. After having tested successfully the first reusable rocket engine in their test facilities at the airport of Teruel, PLD Space is concentrating its efforts in developing the entire Arion 1 sounding rocket, the predecessor of Arion 2.

Arion 1, a reusable suborbital rocket, will enable PLD Space to test and mature all the critical and required technologies that will be on-board of Arion 2.

Arion 2, the first-ever reusable orbital rocket in Europe dedicated to the small satellites market, will be able to inject 150 kg of payload mass into a 400 km Low Earth Orbit in a nominal mission. Arion 2, a three-stage liquid-propelled rocket will count with all the required technologies to be partially re-used a number of times.

With this paper, PLD Space wants to introduce the Arion 2 rocket launcher, its capabilities as well as the advantages of a liquid-propelled based reusable rocket with respect to other traditional space launch systems.

Arion 2 aims to be the orbital rocket reference in Europe for small satellites, providing affordable, flexible and simple access to space to industry, space agencies, research centres and academia.