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MIURA THE FIRST REUSABLE EUROPEAN MICROLAUNCHER
LAUNCH CAMPAIGN KICK OFF

Abstract

PLD Space is a European company with the goal of becoming the European Microlauncher Company, a reference within the sector with reusable rockets dedicated to the launch of small satellites. For this, PLD Space is developing two reusable launch vehicles, MIURA 1 and MIURA 5.

MIURA 1 is a one-stage suborbital sounding rocket which uses a liquid propulsion system fully designed and built by PLD Space, while MIURA 5 is a two-stages launch vehicle for small satellites with also fully in-house propulsion, structures, and avionics development.

The company has also developed its own engine, TEPREL-B, which last 2021 became the first KeroLOX rocket engine developed in Europe qualified for space flight.

MIURA 1 will be the first launch mission of a European rocket in history. This maiden flight is set to take place from the historical Spanish launch site “El Arenosillo” (Huelva), in the south-west of Spain. The company is already working on its first MIURA 5 reusable orbital rocket, which is expected to be ready to carry out its first mission in 2024, and which will mark the start of the firm’s commercial satellite launches.

MIURA 5 key components have been mostly derived from MIURA 1, providing fast capability to integrate onboard fully qualified components with rigorous testing heritage. As part of the system qualification, PLD Space has successfully completed the full mission test of MIURA 1 last September. Launch Campaign Kick Off in ongoing.

MIURA 5 first stage is powered by 5 independent TEPREL-C engines while second stage is powered by a single TEPREL-C vacuum engine, same engine than the first stage one but adapted to the vacuum conditions of space.

MIURA 5 can deliver payloads to a variety of altitudes and inclinations from CSG, from equatorial injection to polar and SSO orbits. As a baseline, this orbital rocket is capable of launching 540 kg of payload into a 500 km Sun Synchronous Orbit (SSO) from the Guiana Space Centre in French Guiana.

First launch vehicle to fly will be MIURA 5 block 1.0, a fully expendable version that will make the first 2 launches. After those flights, the company will introduce a reusable version for the subsequent flights, paving the way for a commercial reusable booster in Europe.