

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Launch Vehicles in Service or in Development (1)

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ARIANE 5: LAUNCHER EXPLOITATION ACCOMPANIMENT ACTIVITIES

Abstract

ARIANE 5 launcher is the European workhorse, leader of the market, with a high demonstrated reliability after a long series of successful flights in a row (i.e. 70 by February 2016); This is the success of the European Aerospace Industry led by the Prime contractor Airbus-Safran Launchers (ASL) in charge of the launcher production and Arianespace the Launch Service Provider. The European Space Agency (ESA), mandated by the Ariane Programme Participant States, contributes also to this success through different qualification related actions. ESA is in charge of the Launchers Exploitation Accompaniment Programme (LEAP) that covers different fields of activities: - Contribution to the treatment of launcher obsolescence, anomalies, sampling and testing, post-flight detailed data analysis and to the maintenance of ESA owned engines test facilities (Operational Launch System or OLS project) - Maintenance in operational conditions of ESA owned manufacturing and launch facilities and means (Ground Segment or GS project) - Extension of the Ariane 5 qualification domain for specific future missions and performance increase (Future Missions or FM project) ESA is also in charge of the Qualification Monitoring and Verification for the Launch System.

This paper will focus on OLS project activities. It will briefly give an overview of the technical activities performed in the frame of the project and in particular, will focus on some relevant examples linked to anomalies and sampling and testing related to cryogenic propulsion (Vulcain 2) and solid propulsion (MPS). Through these examples, it will describe the objectives, the results and its interactions with the launcher system and with the running production. Finally the paper will show how the OLS process contributes to maintain the Launch System qualification.

The paper will also provide a view on the FM project activities preparing Ariane 5 for new launch missions (i.e. Galileo European localization system, JWST telescope, Bepi-Colombo mission to Mercury).