

IAF SPACE PROPULSION SYMPOSIUM (C4)
Liquid Propulsion (1) (1)

Author: Mr. Sven Dietershagen
ArianeGroup, Germany, sven.dietershagen@ariane.group

Mr. Olivier Condaminet
ArianeGroup, France, olivier.condaminet@ariane.group

Ms. Dekorver Valérie
Airbus Safran Launchers, France, valerie.dekorver@airbusafran-launchers.com

Ms. Anna De zorzi
ArianeGroup, France, anna.dezorzi@ariane.group

Ms. Anja Frank
Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR), Germany, anja.frank@dlr.de

Mr. Jean-Marc Fouere
ArianeGroup, France, jean-marc.fouere@ariane.group

Mr. Karsten Froehlke
DLR (German Aerospace Center), Germany, karsten.froehlke@dlr.de

Mr. Daniel Leiss
DLR (German Aerospace Center), Germany, daniel.leiss@dlr.de

ARIANE 6 UPPER LIQUID PROPULSIVE MODULE QUALIFICATION

Abstract

The A6 Upper Liquid Propulsive Module (ULPM) is the cryogenic upper stage of the A6 launcher equipped with the reignitable Vinci engine, and the APU designed to serve multiple missions and versatile capability. The Test Bench P5.2 on DLR site of Lampoldshausen, Germany, was developed by DLR under the management of ESA and ArianeGroup to host the ULPM test campaigns for the development and qualification tests of the Ariane 6 ULPM.

The test campaign at P5.2 is dedicated to the qualification of the propulsive module during boost phases but also for characterization of the ULPM behaviour in ground conditions of the chronology, lower stage flight and coasting phases.

The paper will recall the baseline of the Upper Propulsive Module, will describe the main characteristics of the DLR P5.2 test bench and will present the main results achieved thanks to the Hot Firing Tests and sustaining the launcher system qualification.