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

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THE ARIANE 6 LAUNCH SYSTEM, STATUS

Abstract

In December 2014, the ESA Council at Ministers level in Luxemburg has decided the launch of the Ariane 6 / VEGA-C programme development. The project is composed of several elements: - Launcher System with Airbus-Safran-Launcher (ASL) as Prime Contractor - Launch Base with CNES as Prime Contractor - The motor P120C, common element between Ariane 6 and Vega C projects will be jointly developed by ASL and ELV (VEGA Prime Contractor). ESA has the role of Procuring entity and Launch System Architect

The overarching aim of Ariane 6 is to provide guaranteed access to space for Europe at a competitive price without requiring public sector support for exploitation.

The concept, so called PHH, is composed of the following main elements, building on the well-known Ariane 5 concept: - LOX/LH2 Main Stage (LLPM) loaded with 140 tons and with a Vulcain 2.1 engine, upgraded Vulcain 2 engine - LOX/LH2 Upper Stage (ULPM) loaded with about 32 tons and with the re-ignitable Vinci engine - Upper part compliant with single and dual launch capability with a fairing inherited from Ariane 5 - P120C common solid rocket motor in the class of 130 tons A Launcher modularity is achieved considering the number of SRM, two or four. The A-62 configuration, mainly devoted to institutional missions is sized to launch 4.5 tons in SSO and 5 tons in GTO. The A-64 configuration is sized to launch 9.5 tons net P/L in GTO.

A new Launch Complex ELA-4 is under development. The operational scenario consists in: - The integration of the Main Core (ULPM+LLPM) in a dedicated building (BAL) that is transported to the Launch Pad under a Mobile gantry - The integration of the SRM's and upper part is performed under the Mobile Gantry on the Launch Pad.

The maiden flight is planned in 2020 and a full operational capability in 2023. The project development has been voted up to completion, with a verification key point milestone to be implemented mid-2016, after the Launch System definition review, allowing Participating States to decide on the continuation of activities based on the achievements after completion of phase B.

This paper will present the current status in 2016 on the above-mentioned topics of the project at Launch System level and outcome of the Launch System PDR.