

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

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ARIANE 6 NEW CONCEPT, NEW GOVERNANCE STATUS AND PERSPECTIVES

Abstract

In December 2014, the ESA Council at Ministers level in Luxembourg 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)

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 and up to 20 tons in LEO.

A new Launch Complex ELA-4 will be developed. 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 development is very challenging with a maiden flight 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.

A new governance scheme has been implemented, defining the new management and responsibilities between Industry and Agency.

This paper will present the current status on the above mentioned topics of the project at Launch System level, at the middle of the phase A/B.