

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

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ARIANE 6 THE FUTURE EUROPEAN LAUNCHER

Abstract

The phase A/B1 of the ARIANE 6 project has been voted in November 2012 during the last Ministerial Council in Naples at the same time of the two following projects: Upper Stage commonalities searched between the upper stage of A5ME and ARIANE 6 A5ME adapted, considering the selected commonalities. The period activities shall allow to prepare the next ministerial council decision planned mid-2014 where the full development decision is expected for both ARIANE 6 and A5ME adapted.

ARIANE 6 is motivated by prospective analysis that anticipate scenarios where there will a fierce competition in the launch service and drastic change in the commercial demand. Then the main objectives of ARIANE 6 can be summarised as follow:

To provide guaranteed access to space to Europe without requiring public sector funding for the support of its exploitation. To serve the European institutional needs and perform commercial missions in order to support a cost efficient exploitation. To be optimised for single launch.

As part of the project, several important decision were endorsed, they are:

The ARIANE 6 concept is PPH, meaning that the concept staging is imposed and shall be composed of Solid motors, except the upper stage that will be cryogenic (LOX/LH2) propelled by VINCI engine.

The ARIANE 6 shall be sized for a performance of 6.5 ton in GTO, for a recurring launch service cost of 70 M.

The ARIANE 6 maiden flight shall occur in 2021. Synergies with VEGA launcher or its evolutions will be identified and implemented.

The phase A of ARIANE 6 at launch system level is expected to be achieved in July 2013. At that time, the PPH concept selection shall be achieved. It will have to satisfy the requirements and in particular the recurring cost. Synergies with the VEGA launcher or its evolutions shall also be considered in the selection process. The phase B1 will last 12 months up mid 2014.

The ARIANE 6 project includes a technology maturation programme addressing Solid Propulsion and Avionics demonstrators.

This paper will present: The ARIANE 6 mission requirements. The challenges and the stakes of the project. The main achievement at launch system level including Upper Stage Commonalities output. The progress at technology demonstration level.