

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

Author: Mrs. Catherine Poincheval
Astrium Space Transportation, France, catherine.poincheval@airbus.com

Mr. Andreas Juhls
EADS Astrium Space Transportation GmbH, Germany, andreas.juhls@airbus.com

Mr. Ruedeger Albat
European Space Agency (ESA), France, Ruedeger.Albat@esa.int

Mr. Jérôme Vila
Centre National d'Etudes Spatiales (CNES), France, Jerome.Vila@cnes.fr

A5ME: THE MULTI-MISSION HEAVY LIFT VERSION NEEDED FOR THE END OF THE DECADE

Abstract

A5ME, standing for Ariane-5 Mid-life Evolution, is an upgrade of the Ariane-5 launcher, aiming at fulfilling the future institutional and scientific needs while anticipating the evolution of the commercial market. Thanks to its new re-ignitable cryogenic upper stage powered by the Vinci expandable-cycle engine, A5ME will enable a wide set of institutional and commercial missions, while providing a much higher payload carrying capacity to Arianespace, for the same price, securing Ariane 5 competitiveness on commercial market.

The ESA Council decided at the end of 2008 to launch the preparatory phase, so called Phase1, with the main objective to demonstrate the technical and programmatic maturity through the preliminary definition phase of the project. Important programmatic milestones have been passed in 2010 with the Launch System Concept Review (LSCR) and the Vinci Complementary Preliminary Design Review (C-PDR), and the teams are now looking forward to holding the Launch System PDR in 2011; major technical successes shall also be reported such as the first fire test of the Vinci engine with the long deployed nozzle. The present Phase1 takes place in the perspective of a development decision to be taken at the next Ministerial Council planned initially at the end of 2011, and now postponed by one year.

This paper will thus present the status of the Phase1 activities addressing technical aspects, programmatic aspects, as well as industrial standpoints. Indeed, 2011 will be key for implementing the whole industrial organisation through the boarding of the sub-contractors. Last but not least, this paper will also elaborate on the consequences of the postponement of the Ministerial Council, in particular on the development logic.