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

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THE COMMERCIAL COMPETITIVENESS OF THE ARIANE 5ME/6 LAUNCH VEHICLES

Abstract

In September 2012, students and young professionals from around the world met in Herculaneum, Italy, for the annual Space Generation Congress (SGC). During the Congress, amongst others, the Industry Working Group was formed, with a focus on Space Transportation. The group was composed of 27 people from 16 different countries and, during the 3 days of the Congress, the members of the group discussed at length the role of new actors with launch capabilities, the economic considerations of European launchers, and policy and regulatory considerations of space transportation. Several recommendations were made in order to foster development of the launch sector with regards to the different parties.

This paper focuses specifically on the decision of the ESA Ministerial Council to concurrently pursue the development of the Ariane 5ME and the Ariane 6 launchers. The decision of the Ministerial Council will be compared and contrasted with the analyses and recommendations to the European launch industry made during SGC.

Discussions during the SGC found that the Ariane program suffers competitively from the need for geo-return and extensive European Space Agency (ESA) technical oversight not present in direct commercial competitors (for example, SpaceX). The recommendations of the conference were hence to loosen ESA restrictions with regards to both geo-return and technical oversight in an attempt to decrease costs and remain competitive in an increasingly crowded market. The use of heritage technologies was identified as a method that can decrease costs associated with both development and risk.

In addition to contrasting the Ariane 5ME/6 decision with the findings of the SGC, this paper will also assess the economic impact of the decision on the global launcher market. Particular attention will be paid to direct commercial competitors, including SpaceX's Falcon 9 and Sea Launch's Zenit-3. A key

consideration is the differing funding structures between the ESA supported Ariane launch family and the more commercially supported companies such as Sea Launch and SpaceX. Furthermore, challenges to Arianespace arising from the present situation and planned future launches and technologies will be identified and considered.