

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Future Space Transportation Systems Technologies (5)

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THE ITALIAN SPACE AGENCY VEGA GNC PROJECT. FEASIBILITY OF A NATIONAL
GUIDANCE, NAVIGATION AND CONTROL FOR THE VEGA LAUNCHER.

Abstract

The successful launch of the VEGA space transportation system of February 13th, 2012, marked a key milestone in the European race for independent access to space. The VEGA project, fostered by Italy and adopted by the ESA Council in 2000, saw up to seven European countries working on the launcher and on the ground segment of the launcher, with Italy being involved to the 58

The Guidance Navigation and Control system of the launcher has also been developed within the ESA workframe, nevertheless Italy decided in 2009 to start a parallel activity on national basis to assess potential innovative capabilities of the Flight Program Software (FPS) to be eventually used onboard of a future evolution of the VEGA launch vehicle. This activity was also supposed to foster national skills among Research Centers, Industries and Universities to create a workforce capable to approach innovative GNC algorithms and laws with the aim of a real in flight utilization.

In the article herein the new philosophy approach for the national FPS being studied are described, focusing on the areas of innovation being explored.