Paper ID: 60397
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IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Launch Vehicles in Service or in Development (1)

Author: Mr. Giorgio Tumino
European Space Agency (ESA), France

Mr. Renato Lafranconi
ESA european space agency, Italy
Mr. Stefano Bianchi
European Space Agency (ESA), Italy

THE VEGA PROGRAMME

Abstract

The Vega maiden flight took successfully place on 13 February 2012, followed by additional thirteen successful flights, performing missions ranging from equatorial to sun synchronous orbits, with orbital and suborbital paths, with single and multiple payloads release, for commercial and institutional customers, confirming full suitability for entering the commercial exploitation phase.

The Vega C development programme was approved by the European Ministers in December 2014, within a global programmatic frame including both the Ariane and Vega developments, with the objective to consolidate today's Vega performance in the short-term.

The Vega C development is currently focusing on the consolidation of the Vega fulfilment of the reference market needs, with significant increase in performance, nearly double payload fairing volume, without increasing the price with respect to Vega Launch Service today. The development is currently completing the Phase D with the objective to start the Ground Qualification Review by Q2-2020 and perform the maiden flight by Q3-2020.

In parallel, considering the growing worldwide competition, a number of preparatory activities were performed with the aim to build on the Vega C achievements, and to further increase the Vega competitiveness without overlapping the Ariane market. These preparatory activities have led to the definition of dedicated products and services, lately approved by the European Ministers at the occasion of Space19+ for implementation, including: • the Dual Launch Service (DLS-C) development, through a generic payload fairing and adapter concept, enabling the access to space for dual medium size payloads; • the Small Spacecraft Mission Service (SSMS-C) development, through generic adapters for small and/or light payloads, enabling the access to space for multiple small and/or light size payloads, building on the results of the Proof of Concept flight planned with Vega in Q1-2020; • the Vega Electric nudge Upper Stage (VEnUS) design consolidation, enabling the transfer from orbit to orbit for medium size payloads; • the Space Rider development, enabling the operation in space and return from space of payloads instrumentations for multiple applications, for which a dedicated paper is presented; • the Vega evolution preparation, focusing on the maturation of a cryogenic lox-methane based upper stage, replacing Vega C 3rd and 4th stages and contributing to the reduction of launch service costs.

The IAC paper and presentation will provide an up-to-date insight of the status of all developments, including the results from the upcoming SSMS Proof of Concept flight with Vega.