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

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SOYUZ AND VEGA MULTIPLE LAUNCH CAPABILITY

Abstract

The three missions of Soyuz in French Guiana in the fall of 2011 and Vega in the first quarter of 2012 successfully completed the family of launch vehicles operated by Arianespace. Together with Ariane 5, the three launchers will considerably enlarge Arianespace offer to customers, ranging from large payloads in single or dual launch with Ariane to small/medium and constellation satellites with Soyuz and Vega.

To draw full benefit from the capabilities offered both by Soyuz and Vega launch systems, multiple payload carrying structures have been developed for identical or individual payloads delivery to different orbits during the same mission.

For small missions built on small size platforms, a new "Arianespace Structure for Auxiliary Payloads" that increases Arianespace solutions to launch small satellites with Soyuz has been developed a few years ago and has flown end of 2011. In parallel, a new carrying structure, so-called VESPA and dedicated to Vega, has also been developed, with a first application foreseen on the second Vega launch in 2013.

For constellation missions, several large dispenser structures were successfully developed since 1999 for Ariane and Soyuz to accommodate from two to six satellites launched at a time. To complement this capability, a specific launch structure is under final study to offer dual launch capability to Soyuz/Fregat for medium sized SSO missions.

In this publication, Arianespace will present the different multiple launch systems already flight proven or under development for Soyuz and Vega, and what they offer to satellites in terms of allowable volume, mass possibilities, environment, interface, accommodation. This paper will also emphasize the coherence between the solutions offered by the two launch vehicles of Arianespace family, which are mainly dedicated to the Low and Medium Earth Orbits.