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Author: Mr. Antoine ARVEILLER  
French Guiana, antoine.arveiller@gmail.com

LAUNCH INTEGRATION OPERATIONS IN THE ERA OF SATELLITES CONSTELLATIONS

**Abstract**

The past 10 years have been witnessing a profound evolution in the needs for launch capabilities with an increasing demand for constellation deployment and the development of missions leveraging small satellites. Ariespace had to adapt to respond to this new demand in particular regarding its launch integration operations. Every year, Ariespace welcomes dozens of customers of different nationalities during the preparation and execution of their launch campaigns. From the presentation of the facilities to the launch of their satellites by Ariane 5, Vega or Soyuz, whether at the European spaceport or at the launch sites in Baikonur, Kazakhstan, or Vostochny, Russia.

The main challenges to accommodate those new spacecraft are the diversity of their launch interfaces, the complexity of their deployment sequence and the logistics to accommodate customer requests and integrate their needs in the spaceport operations.

This paper will present the challenges Ariespace integration team have been solving in the context of integration operations, giving an overview of the integration campaign conducted on our launch complexe, then looking at the new challenges presented by the evolution of the space market, the decrease in the size of payloads and their diversification, but above all the increase in demand for launch and the needs for launch campaigns optimization pushed by the ongoing launch operations of the mega constellations that will connect our planet.