

IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Launch Services, Missions, Operations, and Facilities (2)

Author: Mr. Olivier Bugnet
Centre National d'Etudes Spatiales (CNES), France

CNES ACHIEVEMENTS ON ARIANE 6 DEVELOPMENT

Abstract

Ariane 6 has entered into its final phase toward qualification and first flight. CNES is directly responsible of Launch Base development and qualification, of Launch Range adaptation, of Launcher / Launch Base combined tests realization and of safeguard. Besides, CNES brings an essential support to ESA in its responsibility of Launch System Architect and Launcher System procuring entity through integrated project teams and through technical insight. In addition, CNES technical support is also brought to ArianeGroup for some hot topics by external experts.

This paper will present CNES Ariane 6 Tightened Project core Team organisation and main processes, and an overview of CNES achievement in A6 development in term of technical results, launch base qualification and combined tests.

In order to improve CNES efficiency and coherency, an Ariane 6 "tightened" CNES project team has been put in place beginning of 2020. The overarching objective is to ensure the utmost contribution of CNES to Ariane 6 development success. The tightened team aims at making closer CNES actors and entities to improve efficiency.

On a technical point of view, CNES contributes in different roles and mandates to all segments development through technical risk assessments, independent technical activities and expertise. It covers main fields of launch system from equipments to engine and launcher/launch systems.

Ariane 6 Launch Pad – ELA4 – and Launch Range adaptation are reaching qualification in 2021. Manufacturing phase is ending and more and more integrated tests will allow to deliver a qualified launch base for combined tests realization and maiden flight campaign and flight in 2022.

At last, two aspects of the preparation of the combined tests will be treated : CNES role in the early combined tests and in the final combined tests themselves. The early combined tests are events - upfront the complete launcher-ground final system tests, in which some launcher elements were being tested with some launch base elements with system purpose. CNES is test conductor for these tests and ensure the consistency with launch base development. The final combined tests will be the first time the full launcher will meet its launch base. CNES as test conductor is preparing them for months with ESA, as combined tests principal, and with Arianegroup as Launcher Design Authority and future operator.