

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

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APPLICATION OF THE FRENCH SPACE OPERATION ACT FOR THE ARIANE 5 ES GALILEO  
MISSION AND OPERATIONS

**Abstract**

The Ariane 5 ES launcher is an evolution of the initial Ariane 5 generic launcher with the more powerful lower composite from the Ariane 5 ECA and reusing the small storable propellant upper stage (EPS) which has been upgraded to allow re-ignition and long coast phases. The performance of the launcher into target orbit is maximised by the re-ignition, that is needed to deploy four Galileo FOC constellation satellites into their operational orbit. ESA (European Space Agency) is in charge of the adaptation of Ariane 5 to this new mission.

Every new or adapted launch system that lifts-off from French territory (French Guiana) shall demonstrate its compliance to the French Space Operation Act (FSOA).

For the A5 ES Galileo adaptation, the compliance to the FSOA has been submitted by ESA to CNES (French Space Agency) during the development phase for each major milestone (Launch Concept Review, Launcher Critical Design Review and Launcher Qualification Commission), and also as soon as possible anticipated by Safety submissions.

For these compliance studies, two regulations are taken into account : the Technical Regulation and the Exploitation Regulations of the CSG (French Guiana Space Center). The aim of these regulations is to insure that the launch system sufficiently mitigate the safety risks induced on people and property, together with the protection of public health and the environment. Mitigation measures are based either on the reliability of the launch system, or on the neutralisation of the launcher using a safety system controlled by ground teams of the launch range (CSG).

This paper will address the current status and main results of the studies concerning the safety aspects and the conformity to the French Space Operation Act performed in the frame of the Ariane 5 ES development for Galileo FOC mission for a first launch foreseen in 2016.