

# Aerospace Europe Conference 2023

## Joint 10<sup>th</sup> EUCASS – 9<sup>th</sup> CEAS Conference

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Abstract #XXX (to be filled by the organizers)

Preferred Topics: AEROFLIPHY / TESTING

Corresponding author: STOLIAROFF Dimitri

e-mail of corresponding author: [dimitri.stoliaroff@ariane.group](mailto:dimitri.stoliaroff@ariane.group)

Type: Poster

Status of corresponding author: Regular

For student corresponding author: student member of one of the following:

3AF / AAAR / AIAE / AIDAA / CzAeS / DGLR / FTF / NVvL / PSAA / RAeS / SVFW / EUROAVIA

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### Title

## Ariane 6 IMA separation tests

### Authors

Dimitri Stoliaroff<sup>1\*</sup>,

*\* Corresponding author*

<sup>1</sup> ArianeGroup

Route de Verneuil – 78133 LES MUREAUX - FRANCE, [dimitri.stoliaroff@ariane.group](mailto:dimitri.stoliaroff@ariane.group)

### Abstract

Ariane 6 is the new European launcher with two versions A62 and A64. Its performances to geostationary transfer orbit will be 5 tons (A62 with 530 t weight at lift-off) and more than 10,5 tons (A64 with 860 t weight at lift-off).

Ariane 6 development is in progress. First flight is planned in few months.

Ariane 6 launcher is composed of:

- a Central Core providing thrust with a Lower Liquid Propulsion Module (LLPM) equipped with a Vulcain engine and an Upper Liquid Propulsion Module (ULPM) equipped with a Vinci engine;
- two (A62) or four (A64) Equipped Solid Rockets (ESR) boosters depending on the Ariane 6 Launcher configuration;
  - an Upper Part including the fairing, the Launch Vehicle Adaptor, the Payload Adaptor Fitting (to fit with payload interface diameter) and any system allowing to perform dual launch or multiple launch.

The Ariane 6 project is under qualification process and system test are performed to consolidate and contribute to this qualification. According to the development logic of the ARIANE 6 launcher, the dynamic test activities are a major part within the ULPM upper stage qualification process, including a separation test. This separation test is a scale-1 test of the separation between ULPM stage and LLPM stage of Ariane 6, in particular with a flight representative separation system (pyrotechnical skirt activated by 4 opto-pyro detonators) and a flight representative distancing system (12 cartridges of 2 springs each). It has been performed in IMA facilities.

The main objectives of separation test, the test configuration (test conditions, test measurements and instrumentation) and the main test result exploitation are proposed to be presented during EUCASS conference 2023, through a poster presentation.

### References