

AIRBUS SAFRAN LAUNCHERS

Kourou, 17 November 2016

Ariane 5 once again demonstrates its flexibility, launching four Galileo satellites simultaneously

- **Ariane 5 has just made its 75th consecutive successful flight, thus beating the record set by Ariane 4.**
- **The launcher demonstrated its flexibility by placing 4 Galileo European navigation satellites in orbit during the course of the same flight.**
- **This Ariane 5 ES version was adapted for this specific mission, with the upper stage powered by the reignitable Aestus engine.**

The Ariane 5 launcher completed its mission from the European space port in Kourou (French Guiana) for the 75th time in a row, thus beating Ariane 4's record for consecutive successful launches.

On the occasion of this 233rd launch, Ariane 5 once again demonstrated its flexibility and adaptability by successfully placing 4 satellites in orbit to complete the European Galileo constellation. In this version of Ariane 5, the upper stage was powered by the re-ignitable Aestus engine, already used successfully for launches of the European ATV space vehicle.

"This 6th launch of 2016 combines a new record with innovation. Not only has Ariane 5 broken the consecutive successful launch record of its predecessor Ariane 4, but it has once again demonstrated its flexibility by placing 4 satellites in a circular orbit simultaneously and at an altitude of 22 922km", declared Alain Charmeau, CEO of Airbus Safran Launchers. "I wish to congratulate the industrial teams who once again demonstrated the extraordinary flexibility of Ariane 5. This year, in addition to the usual dual launches, the launcher has shown itself capable on two occasions of placing a single satellite in orbit for commercial customers, and now it has successfully carried out this quadruple launch for a European institutional customer. I wish to thank ESA, the European Commission, Arianespace and CNES for their confidence and for their constant support."

The launch performance of this Ariane 5 ES is 3276 kg to circular orbit at an altitude of 22,922 km, (of which 2858 kg were accounted for by the 4 satellites of 714 or 715 kg each). They were injected into orbit by a 418 kg dispenser specifically developed and built by Airbus Safran Launchers for the Galileo launches.

Ariane 5 is the spearhead of European scientific know-how and one of the most wide-ranging and ambitious space programs in the world. The launcher once again demonstrated its flexibility, enabling it to carry heavy payloads into low Earth orbit, two satellites into



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geostationary transfer orbit, a single satellite with an optimised service lifetime, or several satellites to medium Earth orbit, as was the case today.

In keeping with the constant aim of enhancing the competitiveness of the Ariane 5 System, this launch was also the first opportunity to fly a Vulcain engine part produced by additive layer manufacturing (ALM) using direct metal laser sintering, thus significantly shortening the production cycle and reducing the quantity of material lost through machining.

Airbus Safran Launchers is lead contractor for the Ariane 5 launchers. The company coordinates an industrial network of more than 550 companies in 12 European countries (including more than 100 Small and Midsized Enterprises - SMEs). Airbus Safran Launchers oversees the entire industrial chain, from management of launcher performance upgrades, to production management, to final adjustment and supply of the mission flight software. This chain includes equipment and structures, engines manufacturing, integration of the various stages and finally launcher integration in French Guiana.

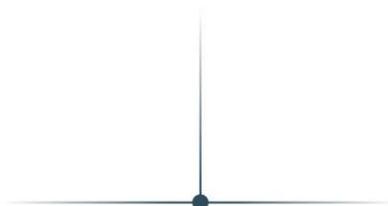
Airbus Safran Launchers is also industrial lead contractor for Europe's future Ariane 6 launcher, which is scheduled for a first flight in 2020 and which will replace Ariane 5 in about 2023.

The Ariane 233 flight in figures:

- 89th launch of an Ariane 5,
- 6th Ariane 5 ES launcher equipped with its reignitable Aestus engine
- 12th Ariane 5 launch with Airbus Safran Launchers as lead contractor,
- 63rd consecutive success by a launcher fitted with a Vulcain[®] 2 engine,
- 21st consecutive success by a launcher fitted with the Aestus engine.

About Airbus Safran Launchers

Airbus Safran Launchers develops and supplies innovative and competitive solutions for civil and military space launchers. As lead contractor for the European Ariane 5 and Ariane 6 launcher families, as well as for the French oceanic deterrent force's missiles, its expertise encompasses state-of-the art launch and propulsion system technologies. Airbus Safran Launchers is a joint venture equally owned by Airbus Defence and Space and Safran, which came about as a result of the desire by the two groups to take the European space industry to the highest possible level. With estimated sales of 2.5 billion euros, it employs more than 8,000 highly qualified staff on more than 13 main sites in France and Germany.



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PRESS RELEASE

