



Press Release

Colleferro, 18 September 2017

Inert Propellant Casting Loading of the first full scale P120C SRM completed

18 September 2017 – Regulus, an Avio/ArianeGroup joint venture, has completed the loading with inert propellant of the first Booster Case of the new P120C Solid Rocket Motor in French Guyana. Regulus is in charge of solid propellant manufacturing and casting for Vega and Ariane Launch Vehicles.

About 142 Tons of inert propellant have been produced and cast in the Booster Case, that was shipped this summer from Avio premises in Italy, to demonstrate and validate new manufacturing equipment, machines and process.

It represents the largest single casting of a solid propellant motor ever done. Propellant curing is current on-going and, after cooling and casting tooling removal, the Loaded Case will be submitted to an intensive set of tests and checks (RX inspection, propellant mechanical test) .

This represents an important milestone to free the way to the casting of the active propellant of the first P120C SRM, devoted to the first static firing test foreseen in the first half of 2018. The P120C is the new first stage motor common to the new generation European launchers Ariane 6 and Vega C and it is jointly developed by Avio and the Ariane Group under their joint venture Europropulsion.

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Avio S.p.A.

Avio is a leading international space launcher, spacecraft propulsion and space transport group. It has 5 sites in Italy, France and French Guiana, and employs over 760 people at the consolidated level. In 2016 its revenues totalled 292 million Euros.

The Avio Group manufactures the Vega launcher, with its subsidiary ELV (30% owned by the Italian Space Agency) as prime contractor. This makes Italy one of the very few countries in the world with the ability to produce a complete space launch vehicle.

Avio will build the new Vega C launcher and contribute to the new Ariane 6 launcher by providing the new solid engines and the Vinci and Vulcain liquid oxygen turbopumps. The new solid propulsion engine, currently named P120C, for the Ariane 6 European launch vehicle and the new, more powerful version of the Vega launcher will be developed and built by Europropulsion (J.V. 50% Avio, 50% ASL). To create this engine and the new Zefiro 40 engine (entirely developed, built and tested in Italy by AVIO and designed for the second stage of the Vega launch vehicle), a new composite material made of pre-impregnated carbon fibre will be used. It will be made directly by Avio in Italy, in its research centres in Colleferro (near Rome) and Airola (near Benevento).

Avio has many years of experience in the design and construction of solid and liquid propellant propulsion systems for space launch vehicles and tactical propulsion. Avio built the liquid oxygen turbopump for the Vulcain cryogenic engine, as well as the two lateral solid propellant engines for Ariane 5, the first stage of the Aster 30 anti-missile defence missile. To date, Avio solid propulsion has been used successfully in all of Ariane's launches (which number over 230 in total) and all of Vega's launches.

In the field of satellites, the Avio Group has built and supplied propulsion subsystems for ESA and ASI to put into orbit and control over 30 satellites, including most recently SICRAL and SmallGEO.