

## Vega: eleventh consecutive successful mission The first launch of a Moroccan satellite

Colleferro, 8 November 2017 – An eleventh consecutive mission has been successfully completed by Vega, the European launcher that was conceived, designed and built by Avio. It is an accomplishment that has further consolidated its leading international status in terms of precision and reliability.

On its third and final mission in 2017, Vega delivered into orbit the MOHAMMED VI-A Earth observation satellite, which was built for Morocco by Thales Alenia Space and Airbus.

The mission lifted off from the space centre in Kourou, French Guiana, at 10:42 pm on 7 November (02:42 am on 8 November CET).

"Vega has kept up its track record of consecutive successes," stated Giulio Ranzo, CEO of Avio. "We are proud to have helped to open up access to Space for a new country: the Kingdom of Morocco. This achievement underlines the effectiveness of our partnership with Arianespace and our European industrial partners."

"Furthermore, thanks to the high levels of confidence in us among our customers, Arianespace has recently signed a new contract for six Vega launches and four Vega C launches, giving a total of ten flights between 2019 and 2021," added Ranzo. "In the meantime, in our facilities in Colleferro we're continuing to develop launchers that are capable of offering ever greater performance. We have completed the second P120 casing and we're now ready for the bench-test firing of the first Z40 engine, for the second stage of Vega C."

## Vega

Vega is a European launcher that was designed, developed and built in Italy by Avio, through its subsidiary ELV (30% owned by ASI, the Italian Space Agency). It belongs to a new generation of vehicles designed to transfer satellites into low Earth orbit (between 300 and 1,500 km from Earth) for institutional and scientific purposes, in order to observe the Earth and monitor the environment. 65% of the funding for Vega came from Italy and it was built in the Avio production plant in Colleferro, near Rome. It complements the family of European launchers and it is capable of placing into orbit satellites with masses of up to 2,000 kg.

## Press contacts

## 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.