

Informazione Regolamentata n. 1771-68-2017	D 3	ata/Ora Ricezione 0 Novembre 2017 13:09:17	MTA - Star	
Societa'	:	Avio Spa		
Identificativo Informazione Regolamentata	:	96558		
Nome utilizzatore	:	AVION01 - Spaziani		
Tipologia	:	REGEM		
Data/Ora Ricezione	:	30 Novembre 2017 13:09:17		
Data/Ora Inizio Diffusione presunta	:	30 Novembre 2017 13:09:18		
Oggetto	:	CONTRACTS SIGNED WITH ESA FOR VEGA E AND SPACE RIDER		
Testo del comunicato				

Vedi allegato.



CONTRACTS SIGNED WITH ESA TO DEVELOP VEGA E AND SPACE RIDER

The new launcher has a liquid oxygen/methane engine with a low impact on the environment. The Space Rider can return to earth at the end of its mission and be reused.

Colleferro, 30th November 2017 – Today, Avio has signed two contracts with ESA, the European Space Agency, in Paris to develop the Vega E launcher and the Space Rider re-entry vehicle, in line with market expectations. The contracts are worth a total of €89.7 million.

The first contract is to develop the Vega E launcher (Vega Evolution), a European project where Avio is the leader of around ten companies. The contract for this activity is worth €53 million.

Vega E is the medium-term evolution of the Vega launcher and, as such, features a high content of technological innovation and more compact three-stage architecture. The upper stage has a revolutionary liquid oxygen/methane engine, technology that gives it a very low impact on the environment and the capacity for multiple reignition, a feature giving the launcher more flexibility during orbital manoeuvres.

Space Rider is a re-entry vehicle, the evolution of the IXV (Intermediate Experimental Vehicle, launched by Vega in February 2015), capable of 'navigating' up to 2 months in low Earth orbit before returning to earth. Re-entry enables the recovery of all the useful load that can be analysed, and the vehicle to be reused for a new mission. The contract signed by ESA with Avio and TAS-I (Thales Alenia Space Italia) is worth a total of €36.7 million for the development of the Space Rider system, consisting of two modules: AOM (Avum Orbital Module) and RM (Re-entry Module). Avio will handle the development of AOM, a specific version of AVUM (fourth stage of the VEGA C) capable of supplying power and services for controlling the vehicle's re-entry attitude during the orbital stage.

The MD of Avio, Giulio Ranzo, added: "signing these important contracts, in this fundamental year for our growth, culminating with the listing on the stock exchange, strengthens the position of Avio as a benchmark player in the market of space

launchers. The recent successes of Ariane 5 and Vega, which set the record of 11 consecutive successful flights a few weeks ago, the contract to develop the Vega C, now at an advanced stage with the tests of the P120 and Zefiro 40 engines, also confirm the expertise and reliability of our company and its main European partners in the global space market'.

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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.