

ArianeGroup to deliver propulsion system for Germany's Heinrich Hertz communications satellite

Lampoldshausen, 12.December, 2018

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- **Germany's Heinrich Hertz mission is to test and validate new satellite communications technologies in space, and to provide secure communications for the German Armed Forces**
 - **ArianeGroup develops and produces bi-propellant propulsion systems designed to deliver payloads into target orbit and to provide in-orbit attitude control**
 - **Design, production, and integration will take place at ArianeGroup sites in Lampoldshausen and Bremen**
 - **The satellite will be launched by Ariane 5 in 2021**
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ArianeGroup has been awarded the contract to supply a chemical propulsion system to place Germany's experimental telecommunications Heinrich Hertz satellite (H2Sat) into geostationary orbit and to provide attitude control during the 15-years of its life in service. ArianeGroup will supply a bi-propellant propulsion system comprising a 400N apogee kick motor and twelve 10N thrusters.

ArianeGroup is responsible for the propulsion design, development, production, testing, and integration of the system as a whole. The thrusters are to be developed and manufactured at ArianeGroup's Lampoldshausen site and the associated fuel tanks will be supplied by ArianeGroup's Bremen plant. The overall propulsion system/satellite integration will also take place at the Lampoldshausen facility, where recently-developed Shape Memory Alloy (SMA) valves, required for pressure system passivation, will be deployed for the first time. They will replace the current pyro valves, one major advantage being a significantly longer service life.

"We are pleased to contribute to this important communications satellite and technology demonstrator program with our chemical propulsion capabilities. This is a key opportunity to test new technologies in space," explained Stefan Hässler, head of ArianeGroup Orbital Propulsion Products, Equipment and Services. "The Heinrich Hertz mission is a showcase for key competencies and competitiveness. This is why, from the start of this propulsion system development, our team has been working on both technological advances and the optimization of industrial processes to ensure even more efficient and cost-effective production."

The Heinrich Hertz program is managed by the German Aerospace Center (DLR) Space Administration on behalf of the Federal Ministry for Economic Affairs and Energy (BMWi) with the participation of the Federal Ministry of Defense. The prime contractor is OHB System in Bremen, which manages satellite development, production, and launch of the satellite. The main objective

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of the mission is to test and validate new satellite communications technologies in orbit, as well as conduct as well as to conduct a series of scientific and technical communications experiments. Using a separate military payload on board the satellite, another aspect of the mission will be to provide communications for the German Federal Armed Forces.

The satellite is a Small Geostationary Satellite (GEO) platform, equivalent in size to a light light utility vehicle. In addition to a chemical propulsion system, the platform also includes an electrical propulsion system that takes over part of the attitude control function throughout the mission. The satellite will circle the Earth in geostationary orbit at an altitude of approximately 36,000 kilometers. The Heinrich Hertz satellite is scheduled for launch towards the end of 2021 on board an Ariane 5 launcher.

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About ArianeGroup

ArianeGroup develops and supplies innovative and competitive solutions for civil and military space launchers, with expertise in all aspects of state-of-the-art propulsion technologies. ArianeGroup is lead contractor for Europe's Ariane 5 and Ariane 6 launcher families, responsible for both design and the entire production chain, up to and including marketing by its Arianespace subsidiary, as well as for the missiles of the French oceanic deterrent force. ArianeGroup and its subsidiaries enjoy a global reputation as specialists in the field of equipment and propulsion for space applications, while their expertise also benefits other industrial sectors. The group is a joint venture equally owned by Airbus and Safran, and employs approximately 9,000 highly qualified staff in France and Germany. Its 2017 revenues amounted to 3.4 billion euros.

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