

## Member News

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# **HITEC LUXEMBOURG ANNOUNCES THE FIRST SUCCESSFUL COMMISSIONING OF A HITEC ANTENNA SERVO KIT FOR THALES ALENIA SPACE**

HITEC Luxembourg recently finished a project with Thales Alenia Space (TAS) whose objective was to adapt the HITEC Antenna Servo Kit (HASK) to the TAS limited motion antennas for integration in new deliveries as well as for refurbishment and upgrading of already existing antennas.

The HASK is composed of the HITEC Antenna Control Unit (HACU), the HITEC Servo Control Unit (HSCU), the HITEC Antenna Drive Unit (HADU) and some peripheral equipment. The different components were already successfully implemented in the past in HITEC Luxembourg's own and other 3rd party antennas.

The purpose of the antenna control unit (ACU) is to calculate the correct pointing angles of a ground station antenna towards a satellite. The ACU is one of the central elements of a ground station antenna: it resides at the intersection of radiofrequency, astrodynamics, servo control and mechanics and is the main interface towards the ground station control center for everything related to the antenna movement. It consists of a dedicated software application running on a server inside or next to the antenna and can point the antenna towards a satellite given a physical model of its trajectory and can handle the automatic tracking of this target across the hemisphere of the sky by sending appropriate commands to the antenna axis control system.

The ACU closely interacts with the servo control unit (SCU) which is installed inside the antenna drive unit (ADU) and which compares the position set points it receives from the ACU to the axis encoder signals to control the motors of the antenna.

The first HASK for TAS was successfully commissioned by HITEC in October 2020. In addition, the product "HITEC Antenna Servo Kit (HASK)" is now a certified supply product in the TAS procurement catalogue.



## **ABOUT HITEC LUXEMBOURG AND ITS SATELLITE GROUND SEGMENT HERITAGE**

HITEC Luxembourg S.A., a 100%-owned Luxembourg company, has developed its business activities in the field of innovative and quality products and services and offers high technology solutions covering different business areas: satellite ground segment, specific and standard

equipment for testing and measuring of physical properties, traffic management and mission critical.

At HITEC Luxembourg a dedicated team of skilled and experienced engineers and project managers provides recognized expertise in engineering, field integration and overall project management.

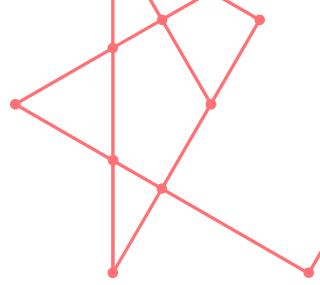
HITEC Luxembourg has a strong and successful heritage in the satellite ground segment field and has participated in numerous institutional (ESA, EC, national governments, defence), research and commercial (SES, Thales, Telespazio, OHB, DLR, AIRBUS) procurements. The key foundations of HITEC Luxembourg's success are the 360° customer service focus, combined with the professional cross-disciplinary engineering and project management expertise and the commitment to unrivalled quality and reliability of our products and services, also illustrated by the different certifications HITEC Luxembourg was able to collect over the years of service.

Since several years, HITEC Luxembourg has increased its activities in the field of limited motion antennas. The company is continuously developing its product range for mid-sized high precision antennas in Ka-Band for geostationary communications. Further 6.8m and 9m limited motion antennas operating in either X- or Ka-band have been delivered for instance to institutional and defence customers in Luxembourg and across Europe.

In the range of full motion antennas used for LEO or MEO missions, HITEC Luxembourg has delivered antennas used in the Galileo program such as the 13m TTCF#1 and TTCF#2 antennas. Rich of this heritage, HITEC Luxembourg has also developed full-motion antennas with third axis and with dual-band capabilities.

HITEC Luxembourg has also developed positioners for custom antennas and arrays derived from its full-motion antennas.

In terms of subsystems, HITEC Luxembourg has in its portfolio a full range of Antenna Control Units (ACU) with program track, step-track and monopulse capability for precise pointing to and tracking of satellites. The antenna control system's servo loop features among others HITEC Luxembourg's patented backlash compensation for two or more drive trains per axis. HITEC Luxembourg S.A.'s portfolio also includes a complete servo-kit called HASK for new antennas or for refurbishment projects that can be adapted with custom mechanical interfaces.



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