



Accelerating
the future
of aerospace

AEROSPACE SYSTEMS DIVISION

ISR & SPACE UTILISATION

Propagation and Interference

PRODUCTS & SERVICES



Supporting you in solving the increasing demand for
antennas in aerospace

- Assessment of the influence of structures near airports on navigation and radar systems
- Analysis of interference of aircraft structures with installed antennas
- Research into novel radar absorbing materials and structures



WHAT YOU NEED

- Analysis of effects of buildings near airports on navigation, landing and surveillance systems
- Performance of antennas installed on aircraft structures
- Radomes for protection of antennas

WHAT WE DELIVER

- Know-how, tools and facilities for investigation of electromagnetic interaction of antennas with its surrounding structure
- Support the design of structures to minimise effects of interference
- Know-how about electromagnetic radar absorbing materials and structures

OUR CAPABILITIES

PROPAGATION AND INTERFERENCE

We have knowledge and computational tools to analyse the performance of instrument landing systems (ILS) on airports. We can estimate the influence of buildings and moving targets (e.g. taxiing aircraft) on the reception of the localizer and the glideslope signals. We can also estimate the effects of buildings near airports on the propagation of electromagnetic waves of primary and secondary radars. In addition we can assess the radio interference of high voltage transmission lines and broadcast emitters on the performance of on-board communication and navigation receivers.

INSTALLED ANTENNA PERFORMANCE

We have capabilities to analyse the installed performance of several antenna types on aircraft. We can install scaled antennas on a reduced-scale civil aircraft (1:15) for measurements on our outdoor antenna test range or we can install full-scale antennas on our research aircraft for in-flight measurements. The measurements can be supported by computational modelling.

RADOME DESIGN AND ANALYSIS

We have knowledge and capabilities to design and to analyse radomes of aircraft. Several facilities are available to measure the mechanical and electromagnetic properties of radomes.

Furthermore, simulation tools are available to predict the electromagnetic behaviour of radomes. Simulation tools are also available for the analysis of the mechanical and aerodynamic properties of the radome.

RADAR ABSORBING MATERIALS

We also have knowledge and computational tools for the design and analysis of radar absorbing materials and structures. We can estimate effects of inclusion of radar absorbing particles in foams and coatings. Computational tools and measurement facilities are available for the analysis of multilayer radar absorbing panels.



PRODUCTS & FEATURES

- Reduction of the separation distance of landing aircraft
- Reduction of the number of calibration flights on airports.
- Determination of the performance of aircraft radomes
- Design of foams and coatings with radar absorbing particles.