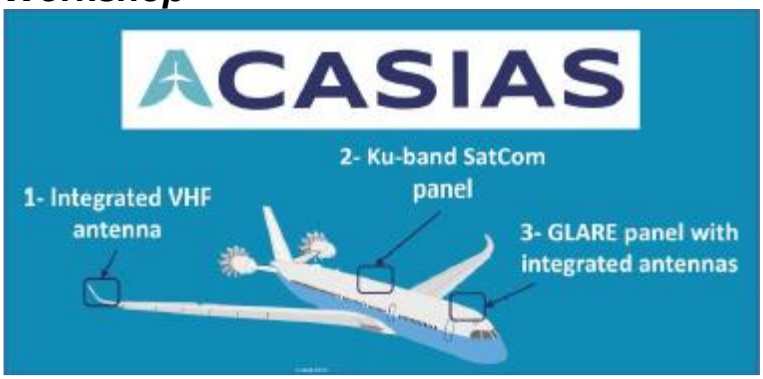
H2020 Project ACASIAS (GA N° 723167) - Antennas for Integration into aircraft structures

Abstract

Antennas which are structurally integrated into aircraft components will contribute to the sustainability of future aircraft because they cause less additional aerodynamic drag than protruding antennas. Furthermore, such antennas will reduce the overall weight by eliminating structural build-ups required for conventional antennas, and they reduce maintenance costs since they are less sensitive to breaking down due to collisions. Results are presented for the structural integration of VHF, GNSS and Ku-band communication antennas in fuselage panels and winglets. The results are obtained in the ACASIAS project (Advanced Concepts for Aero-Structures with Integrated Antennas and Sensors, http://www.acasias-project.eu/) which receives funding from the EU H2020 program under grant agreement No 723167.

Workshop



The workshop consists of 6 presentations:

1. Keynote presentation on Structural Integration of Antennas into an Aircraft -Robert Sekora (Airbus Defence and Space)
2. Overview and main achievements of the ACASIAS project
3. VHF communication antenna for integration into an aircraft winglet
4. VHF/GNSS antennas integrated into a classical Fibre Metal Laminate fuselage panel
5. Ku-band SatCom antenna for integration into a novel Fuselage Panel
6. 6. Innovative cooling system for of active components in structurally integrated phased arrays antennas.

Robert Sekora, Airbus Defence and Space GmbH, Team Leader and Expert, responsible for development of technologies for structural integrated antennas for military aircraft applications.

Harmen Schippers, NLR, senior scientist, coordinator ACASIAS project.

Zdeněk Řezníček, Evektor, Senior Aviation Engineer, Head of EMC & CEM group.

Yuri Konter, NLR, Research engineer, design of airborne integrated antennas.

Jaco Verpoorte, NLR, senior engineer and project manager, experience in airborne antennas, EMC, radar and satellite navigation.

Marta Martínez-Vázquez, IMST GmbH, senior engineer and project manager, design and applications of antennas for mobile devices, arrays, sensors, and radio-frequency systems.

Conference Topic

Applicable Tracks: T02 Millimetre wave 5G; T06 Aircraft (incl. UAV, UAS, RPAS) and automotive; T07 Defence and security

Topics: A17 Array antennas, antenna systems and architectures (incl. radomes), A14 Active and integrated antennas.