

Call for pitches – Guidelines for R&T topics

Topic of interest: GEO IoT Connectivity and Enablers

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Short description of research topic:

New Protocols and waveforms for IoT concepts with GEO communication satellites.

Detailed areas of research proposed:

The purpose of this R&D stream is assessment of various protocol and waveforms for IoT concepts compatible with existing (transparent) geo stationary based telecommunication satellites, operating typically in L-band.

The R&D project would address possible waveforms (LoRa, UNB, ...), access design (physical & MAC layer), bi-directional data rates assessment, prototyping of candidate algorithms on SDR solutions and demonstration with currently operating satcoms in GEO.

Target results foreseen (e.g. maturity level to reach, deliverables to produce, estimated timing, etc.):

Various levels, from concept and feasibility studies to design and prototyping of candidate algorithms, demonstration on SDR with telecom satellites in operation.

Other relevant aspects to consider (e.g. previous experience required working in Defence and Space sector, access to specific facilities or laboratories, etc.)

A clear expertise in the technological area and possibilities to bring to the consortia material, laboratories, test-facilities and workforce would be of high interest.

Note that Airbus holds a dedicated expertise in this domain, with demonstrated solutions and concepts and would be very interested to explore in research partnerships the future solutions of satellite IoT connectivity (LoRa-based, NB-IoT, etc.), providing its experience and expertise developed in previous years.