

Call for pitches – Guidelines for R&T topics

Topic of interest: Space capabilities - end to end chain.

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Short description of research topic:

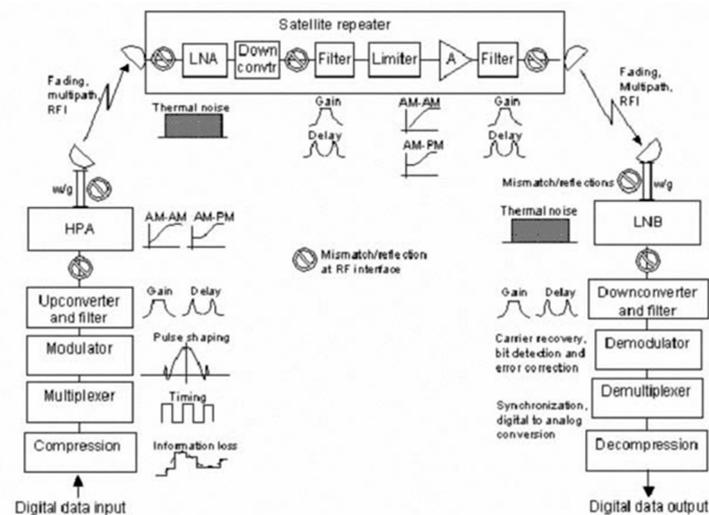
Efficient and secure use of spectrum for military satellite technologies.

Detailed areas of research proposed:

This area of research focuses on the use of novel technologies to improve the efficiency, covertness and security of transmissions for military satellite communications.

The focus of proposals will be on the use of novel communication and security techniques in the areas on transmission, emission and security. It will include relevant areas for the complete satellite end-to-end communication chain and involved systems, both for software and hardware.

The development of new methods, techniques or principles improving the equipment, platforms, end-to-end system or any particular part of the functioning and use will be of interest for the area of focus of the proposed research and technology projects.



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

The future for satellite communications is to be more and more widespread, with a simplification of all the systems involved and a very high availability. They will need at the same time to offer higher bandwidth. The modern systems will need to be flexible, scalable, resilient and allow users and operators a high degree of flexibility with an ease of use and fast or automatic (re-)configuration.

The results foreseen for the research are an improvement of efficiency, cost-effectiveness, quality and security of military satellite communications, making them more and better adapted to future scenarios where they will be more and more widespread and can be performed with smaller, easy-to-use, always ready equipment under most circumstances. This will benefit the military but also public and para-public security organizations allowing them a more efficient coordination and operation thanks to a seamless exchange of information at all levels.

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The objective will be to develop a three to five year project maturing valid technologies that can be applied in future satellite communication products and systems.

Understanding the current state of the art, the steps will be drafted to take a low TRL technology and mature it towards a proof of concept or demonstrator which can show its benefits and possibilities if it would be integrated on a future Airbus platform.

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

The understanding of the military use-cases, needs and particularities would be good but not a must.

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.