AIRBUS

Call for pitches – Guidelines for R&T topics

Topic of interest: Quantum technologies.
Airbus Contact Person: Antonio Castillo-Leon
Short description of research topic: Use of Quantum technologies for enhancing future systems security.
Detailed areas of research proposed: This area of research focuses on the use of novel quantum technologies to improve security of information exchange for military but also any type of sensitive information. The focus of proposals will be on the development of novel quantum techniques to protect the exchange of information in what will be more challenging future operating environments.
Target results foreseen (e.g. maturity level to reach, deliverables to produce, estimated timing, etc.): In a future environment where some actors could have access to quantum computing systems, the protection of information needs to be assured. In this sense, the future for sensitive and restricted communications is to be more resilient and have stronger or new generation cryptographic protection. This area of research addresses quantum based technologies in the field of quantum based computing and secure communications, which are considered technology fields which could have major impacts. The results foreseen for the research are an improvement of the understanding of the principles, systems, implementation or experimentation driving to important contributions to developments in areas like QKD (Quantum Key Distribution), QSC (Quantum Secure Cryptography) or similar. But also in the area of quantum computing or advances towards the possible implementation of a quantum computer or understanding its possible operation. The objective will be to develop a three to five year project maturing valid principles or technologies that could be demonstrated for development towards future communication networks. Understanding the current state of the art, the steps will be drafted to mature low TRL principles and technology and mature it towards a demonstration which could illustrate benefits and possibilities if it would be integrated on a future 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.