

Quantum communication at Airbus

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Abstract

Quantum Communication addresses Quantum Cryptography and Quantum Internet: 2 domains of high interest for Airbus, with a lot of synergies with classical optical communication systems (Airbus is a worldwide leader).

Airbus leads all the preparatory activities under the umbrella of the EuroQCI flagship of the European Commission, with the partnership of ESA:

- Qosac, large system study in 2020
- QUBITS, phase A for the space component in 2021-2022
- Oqtavo, preliminary system definition of the overall system focuses on the terrestrial network

Airbus is preparing to be the prime system integrator of the future satellite, user segment and ground segment, for both the QKD system and the Quantum Internet systems. The technical solution are already under preparation, and are based on the large heritage of Airbus on optical communication and optical observation satellites. These solutions offer high throughput systems that are necessary to build a quantum communication systems, and achievable now thanks to past heritage.

For the terrestrial network, the role of Airbus is to lead the design and implementation of the SDN and associated control and management plan, in order to offer a consistent secured system in synergy with the future USC, the European Connectivity Constellation.