## PA 12: Technologies for Aerospace and Earth Observation

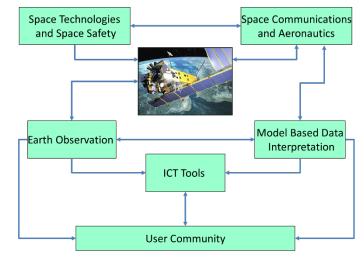
**Objective:** The Project Area (PA) has the objective of coordinating the CNR activities of the sector, of encouraging the development of innovation, research and experimentation activities, as well as maintaining and increasing the interaction with the space agencies and the industrial component, in line with the priorities defined by European level. The main concern of the PA regards the development of upstream and downstream technologies devoted at exploring the space and the Earth.

Specific objectives regard security in space, technologies for space exploration and space telecommunications, aeronautics and navigation, Earth Observation (OT) technologies and ICT tools.

**Approach:** The PA embraces a wide number of topics in the forth-and-back path involving the upstream segment, for the development of the enabling space infrastructure (platforms, sensors, etc.), and the downstream segment for the development of products and services. The PA activities encompass security in space, technologies for space exploration and space telecommunications, aeronautics and navigation, OT technologies and ICT tools. Regarding EO, the skills are broad and cover sensors operating from the optical band up to the microwaves and gamma rays of cosmic origin, electromagnetic modeling and statistical data analysis with the ICT technologies and infrastructures for their management, processing and representation. The skills and expertise of its researchers guarantees the PA can actively participate in all phases of aerospace and EO projects from instrumentation design, up to information extraction and dissemination

## Figure: Basic AP diagram

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Scientific Impact/Results: The PA is substantial and well established in the framework of aerospace and EO activities at national and international level exhibiting a large number of projects and facilities. The scientific scenario for the future appears robust and consistent since several important programs and missions are foreseen in the framework of ESA and ASI initiatives. Projects are scientifically and technologically sound, consistent and sometimes well-funded. The technological impact of the PA on modern society is unquestionable. Issues as satellite technology, for navigation, communications, meteorology and Earth observation are fundamental. The social impact is relevant since PA outcomes affect agriculture planning, disaster management, medicine, land monitoring, transportation, many other fields of anthropic interested and could be a valid tool for policy makers



