



## **An Airborne Large Scale Facility for Environmental Monitoring: ICTS-PAI**

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Aerial Platforms for Research (PAI) is a unique infrastructure conceived as a comprehensive monitoring and measurement capability. It provides support to the requests and needs of the atmospheric, remote sensing and R&D scientific instrumentation communities, and it is available as well, in a commercial and competitive basis, to all those external users who require airborne data to carry out their projects and studies.

The PAI Infrastructure belongs, since November 2009, to the Spanish Network of Unique Scientific and Technical Infrastructures (ICTS) managed by The Spanish Institute for Aerospace Research (INTA) and coordinated by the Spanish Ministry of Economy, Industry and Competitiveness (MINECO).

Furthermore, the infrastructure has been configured to provide advanced training to the future researcher's in those fields of Geosciences such as atmosphere, oceanography, continental waters, geology, agriculture, forestry, etc.; in which data collected with airborne devices are instrumental.

The setup itself includes an airborne segment: aircraft and airborne scientific instrumentation; and a ground segment which contains all those facilities that, in spite of being placed on the ground, are so closely connected to the airborne component that necessarily all together, must be considered as a whole. In fact, the ground segment essentially consists of a base aerodrome with the aeronautical aids to perform safe air operations, appropriated hangars, a control operation station, technical workshops, scientific laboratories, computing facilities, commonly known as PAF or processing & archiving facilities, rover units for ground-truth measurements, etc.

Eventually, aircraft choice and specific ground support facilities selection are dictated by project needs and constrains. Scientific datasets, after being gathered by airborne and ground sensors, are processed, analysed, calibrated, validated and documented, are delivered to the scientific users. Due to its nature, quite often such products are complex, so that, appropriated support is available to the scientists in order to ease the interpretation and exploitation of the results.

The overall system is presented and made available to the national and international scientific community through specific agreements, contractual or based in joint collaborations, and in the framework of international programs such as EUFAR EC initiative (EUropean Facility for Airborne Research).