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Exploiting new satellite connectivity means to conduct efficient measurement missions

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The digitalization of airborne scientific operations has become a must to secure and optimise efforts engaged on field campaigns. Thanks to affordable communication and information technologies, the potential of these special operations can be maximized.

ATMOSPHERE has developed PLANET, a network-centric operations platform that answers the specific needs of research missions. It enables efficient coordination through real-time sharing of information between mission's stakeholders. It is now used routinely in atmospheric and Earth observation missions, such as the measurement of traces of gases and aerosols performed by the DLR Dassault Falcon D-CMET. PLANET has recently played a major role in challenging international campaigns involving aircraft, vessels, and drones (ATOMIC/EUREC4A, MOSAiC).

Under the ESA ARTES programme, ATMOSPHERE is now leveraging the solution to provide enhanced services relying on the Iridium Next satellite constellation.

This paper reviews measurement campaigns in which the use of satellite connectivity was essential, and describes how the exploitation of new ATMOSPHERE's applications can benefit the scientific community.