

IAF EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Systems (2)

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SATELLITE COMMUNICATION MANAGEMENT DOMINO, FOR CONSTELLATION AND
GROUND STATION AS A SERVICE INTERCONNECTION

Abstract

The management of the communication links between EO satellite and the ground segment strongly impacts the mission KPI such as data timeliness, download capacity and the whole system reactivity (workplan update, weather forecast refreshment). Supported by ground stations (owned and/or rental) the communication links also represent a significant part of the system cost (CAPEX and/or OPEX).

With the development of constellations, the degree of complexity of this concern is drastically increased. Meanwhile, the ground station network providers have also evolved toward new “on-demand” service models allowing flexible communication slots booking. This approach is a significant game changer, compared with the classical installation of physical ground stations for each mission. This is particularly true for export programs, by enabling the industry to deliver more cost-effective solutions.

This presentation will describe the current works on the Satellite Communication and Resources Management Service (SCRMS), which aims at providing an optimized solution to this complex problem. This service is developed in the context of the Domino-E project, supported by ESA and the European Commission. It is based on the Domino Architecture, developed by the French initiative Domino-X. This is a modular, secured and evolutive architecture for Earth Observation Ground Segments aimed at providing a standardized architecture shared by industry and institutions in Europe.