

EARTH OBSERVATION SYMPOSIUM (B1)
International Cooperation in Earth Observation Missions (1)

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COSMO-SKYMED DUAL-USE AND MULTI-NATIONAL EXPERIENCED CHALLENGES AND
OPERATIONAL IMPLICATIONS

Abstract

COSMO-SkyMed is an Earth Observation space program funded by the Italian Ministry of Research and Italian Ministry of Defence (It-MoD) and conducted by the Italian Space Agency (ASI) in conjunction with It-MoD, which was designed in order to fulfill Dual-Use requirements in terms of different needs of Defence and Civilian Users, such as different requirements in data products, system performances, security needs, response time, request priority management and data accessibility/confidentiality, being a pioneer program in the frame of the Civil and Military Space Duality and representing a reference for future Earth Observation space programs. Furthermore, COSMO-SkyMed was designed in order to achieve Interoperability, Expandability with respect to additional Defence and Civilian Partners and Multi-Mission features, which are the bases for the establishment of international cooperation programs that have been set up by ASI and It-MoD, such as the Italian-French cooperation named ORFEO (Optical

and Radar Federated Earth Observation), and Italian-Argentinean cooperation named SIASGE (Sistema Ítalo Argentino de Satélites para la Gestión de Emergencias). In such a context, a significant example of successful COSMO-SkyMed international partnership is the recent French Defence User Ground Segment (F-DUGS) integration within COSMO-SkyMed system. The aim of this paper is to show the COSMO-SkyMed conceived architecture, the experienced operational implications collected in operating the system from the launch of the first COSMO-SkyMed satellite until the completion of the constellation and the integration of the French Partner into the system, highlighting the lessons learned and the experienced challenges to fulfill very innovative and demanding requirements.