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EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Applications and Economic Benefits (5)

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MULTITEMPORAL COSMO-SKYMED DATA APPLICATIONS: OVERVIEW ON SMALL AND MEDIUM ENTERPRISES OPPORTUNITIES

Abstract

COSMO-SkyMed (Constellation of Small satellites for Mediterranean basin Observation) is an Italian Earth Observation Dual-Use (Civilian and Defense) Space System for global environmental monitoring, scientific and commercial purposes and strategic applications (Defense and National security). The constellation, based on four mid-sized satellites equipped with Synthetic Aperture Radar (SAR) operating at X-band , is fully operational starting from 2011. The high geometric accuracy of CSK images as well as its space and temporal high resolution are incisive instruments to provide information for land stability analysis such as urban subsidence, for landslide and volcano monitoring, for infrastructure monitoring as railways, pipeline, dams, bridges, , for accurate change detection techniques around sensitive targets such as industrial plants and borders, for maritime surveillance and rapid mapping and security . This paper focuses on applications developed in the framework of projects related to the first call for Small and Medium Enterprises (SMEs) on Earth Observation, published by Italian Space Agency (ASI) in 2010. In these projects, recently concluded, prototypes of monitoring services and systems were developed to detect specific human and natural phenomena, based on the integration of measurements achieved using different kinds of sensors with the information extracted from the CSK data. An integrated approach of identification and analysis has been developed to characterize and monitor natural phenomena such as subsidence, landslides, volcanic or tectonic movements, in addition to monitor facilities and infrastructure as cultural heritage sites, gas transmission network, industrial means. In the framework of the Announcements of Opportunities (AO) for the CSK data exploitation published by ASI, the call mentioned above is one of the recurring ASI initiatives to support the development and growth of the national SMEs in the space field, through the co-financing of selected projects. In this context, the proposals should be focused on development of prototypes for the implementation of specific technologies, and innovative applications. In addition to this call, a further call on "Navigation and Earth Observation" has been published by ASI in 2014. The evaluation of the received project proposals recently ended. Finally, ASI has just published two Open Calls related to the exploitation of CSK data for scientific purposes and development of new applications and services. The first call is addressed to the international scientific community, while the second call is addressed exclusively to national SMEs. These initiatives is going to assign to the selected projects a CSK data set free of charge.