SPACE OPERATIONS SYMPOSIUM (B6)
New Operations Concepts and Commercial Space Operations (2)

Author: Mr. Gianni Casonato
Italian Space Agency (ASI), Italy, gianni.casonato@asi.it

Dr. Giuseppe Francesco De Luca
Italian Space Agency (ASI), Italy, giuseppefrancesco.deluca@asi.it
Mr. Fabio Covello
Agenzia Spaziale Italiana (ASI), Italy, fabio.covello@asi.it
Mrs. Claudia A. M. Fiorentino
Italian Space Agency (ASI), Italy, manfredi.porfilio@asi.it
Mr. Davide Di Domizio
Italian Ministry of Defense, Italy, davide.didomizio@am.difesa.it
Mr. Emanuele Giacomoni
Thales Alenia Space Italia, Italy, emanuele.giacomoni@thalesaleniaspace.com
Dr. Alessandro Di Bona
Telespazio S.p.A., Italy, alessandro.dibona@telespazio.com

A COST EFFECTIVE APPROACH FOR THE MANAGEMENT AND MAINTENANCE OF THE OPERATIONAL PHASE OF COSMO-SKYMED SECONDA GENERAZIONE TOGETHER WITH THE FIRST GENERATION SYSTEM

Abstract

COSMO-SkyMed (CSK) is a dual-use program based on a 4 SAR satellite constellation able to carry out continuous and accurate Earth observation over time, in all weather and illumination conditions, with parameters that ensure reliability, stability and continuity of the service. CSK System is operative since 2010, providing the users with its state-of-art services thanks to a background team in charge of all day-by-day operational logistic, engineering and management activities needed to keep the system up and running at top performance. COSMO-SkyMed Seconda Generazione (CSG) represents the technical and operational evolution of CSK. It is currently completing the B Phase and as from 2016, it will significantly upgrade CSK's System. In accomplishing the transition from CSK to an integrated system accounting of both CSG and CSK, operational continuity to CSK will be guaranteed, meaning that CSK services provided to Users will be granted in a seamless manner. Instead, from the System's point of view, an increased cost-effectiveness ratio will be achieved, thanks to significant optimizations of the operational processes, together with a wide use of automatic means aimed at specific system operations, as well as monitoring and control tasks. The aforementioned solutions will allow to reduce the number of operators, as well as the maintenance effort required during the operational phase, with a positive impact on the overall system's operational cost. The foremost objective of operational cost reduction is a cornerstone in CSG development, as it drives the design of respectively the Ground Segment as well as the Integrated Logistics Support and Operation Segment. For this reason a complex life-cycle cost analysis focused on CSG's operations and maintenance cost categories has been already performed. So starting from CSK's operational cost breakdown and introducing the concept of continuity of CSG with CSK, though adapting it to the CSG's new exigencies, specific trade-offs have been executed on the cost elements, challenging the technological goals of the mission against the minimization of operational costs and the re-use of existing CSK infrastructures, in order to identify the best architectural compromise.

The abovementioned activities will make CSG an environment able to provide Users with state-of-art system services and performances in a real cost-effective manner.