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COSMO-SKYMED SYSTEM MONITORING AND COORDINATION FUNCTION (FMCS): NEW  
TOOLS AND PERFORMANCE PARAMETERS

**Abstract**

In the frame of COSMO-SkyMed program, Italian Space Agency (ASI) and Italian Ministry of Defence (MoD) have put at the center of the design the concept of system monitoring as a way to optimize performances, operations and logistics capabilities, and therefore the related costs. As result of that design driver, a system capability dedicated to that scope (System Monitoring and Coordination Function, or FMCS) has been designed and implemented.

In fact, in complex satellite missions like COSMO-SkyMed, ground operations and maintenance activities are directly linked to the results of the logistics support and ground operations engineering and system owner can take important benefits from performance monitoring activity, with the objective of an optimized management of the system.

The FMCS can be seen as a very complex system useful for the above mentioned aims composed mainly of the following building blocks, that are:

1. SAPM, System Availability and Performance Monitor, upgraded in the frame of the last years CSK re-engineering process
2. CMMT, Configuration and Maintenance Management Tool that is the new CSK tool for the management of the configuration and management
3. LDB: Logistic Database
4. MOIS: Mission Operations Information System
5. OSM: Overall Status Manager
6. MMC, Mission Monitoring and Coordination

In the last years, thanks to several lessons learnt gained with the daily operative activity, some improvement has been introduced in the FMCS functionality and will be detailed in this article. In addition to the upgrade of some tools (for example SAPM) and the design, development and installation of other ones (for example the above mentioned CMMT that merges the functionalities that was in charge to the CMT (Configuration Management Tool) and the MMT (Maintenance Management Tool) and adds new capabilities and new reports also thanks to the integration of the previous two tools), this complex CSK MCO ("Mantenimento in Condizioni Operative") re-engineering process has also introduced some new parameters, useful to:

- monitor the performances of the operating tasks using the so-called OP parameters
- monitor the efficiency of the management of the anomalies using ad-hoc designed K parameters
- monitor the efficiency of the management of Non Conformances by the Support Engineering Team using the so-called Kset parameters

In this paper the CSK FMCS functionality will be detailed and then the improvements implemented in the last years will be described.