

STATUS, RESULTS, POTENTIALITY AND EVOLUTION OF COSMO-SKYMED, THE ITALIAN EARTH OBSERVATION CONSTELLATION FOR RISK MANAGEMENT AND SECURITY

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ABSTRACT

COSMO-SkyMed is a Dual – Use program, devoted to produce both civilian and military applications, and as such it is required to have a fast response time, to avoid conflicts and to optimize resources.

In order to provide operational continuity to COSMO-SkyMed mission, the Italian Space Agency (ASI) and Italian Ministry of Defense (It-MoD) are conceiving the next generation of the system. The new system, called “COSMO-SkyMed Second Generation” (CSG), starting from the well established design of the first generation, will provide the end user with outstanding characteristics consolidating its position in the frame of SAR Systems. After a description of the current COSMO-SkyMed unique in-orbit performances, functionalities and Dual-Use operations, with examples and potentialities of the data already acquired in the last few years, the paper will summarize:

- ◆ the lesson learned and the needs evolution up to now collected from the Scientific, Technological and User Communities, also through the experiments performed in the frame of the AO Program sponsored by ASI;
- ◆ the evolution that is planned for the second generation of the COSMO-SkyMed System to provide the involved Civilian and Defense Communities with adequate imagery capabilities and global performance.

In particular are discussed:

- ◆ the new/improved architectures and technologies necessary in the Space, in the Ground and in the Integrated Logistics & Operations Segments to provide new/improved operative modes, performances, applications, interoperability and modularity features, life-cycle costs, et cetera;
- ◆ the compatibility and synergy with the MULTinational Space-based Imaging System for surveillance, reconnaissance and observation, MUSIS.

- ◆ the implementation plan of the necessary technical improvements;
- ◆ the COSMO–SkyMed Second Generation development and deployment plan.

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