# COSMO-SkyMed CSG-FM3 Launched: Defense Enhances Earth Observation

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Italy strengthens its leadership in Earth Observation with the successful launch of **COSMO-SkyMed CSG-FM3**, the third satellite of the second generation of the program promoted by the **Ministry of Defense** and the **Italian Space Agency (ASI)**. The launch took place from the **Vandenberg Space Force Base** in California, at **18:09 PT** (at **03:09 Italian time** on **January 3, 2026**), aboard a **SpaceX Falcon 9**. A milestone that consolidates the national space supply chain and Italy's role as an international reference in radar observation.

The **COSMO-SkyMed** program confirms itself as a unique asset: a **dual, civil-military** system, capable of high performance and operational continuity in multiple scenarios, from security to emergency management, to environmental monitoring. The president of ASI, **Teodoro Valente** , emphasized how the constellation represents concrete proof of Italian technological excellence and the ability to transform long-term vision and investments into benefits for the community, research, and public policies.

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## CSG-FM3 Innovations and Operational Benefits

**CSG-FM3** ensures the continuity of radar observations between the first and second generation, but also introduces more advanced monitoring capabilities thanks to innovations that increase **precision, flexibility, and efficiency**. The satellite integrates a **new generation radar antenna**, lightened with components made in **3D printing** and capable of **dynamically orienting** to acquire different areas more quickly and in greater detail, overcoming the limits of conventional SAR modes.

Onboard is also the **Laser Retroreflector Array (CORA-S)** developed by **INFN**, which will allow determining the orbital position with **millimetric accuracy**, further improving reliability and data quality. The characteristics of the new acquisitions enrich the CSG system's portfolio in terms of performance and available information, offering even more versatile radar images to support scientific research, defense, security, and emergency management.

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## The Constellation and the Italian Industrial Chain

The **COSMO-SkyMed** program is based on a constellation of satellites with synthetic aperture radar (**SAR**) in **X-band**, capable of operating **day and night** and **in all weather conditions**. It is designed to monitor the environment, climate, and terrestrial, marine, and coastal territory with high precision, enabling stability analysis and change detection for applications ranging from urban planning to maritime, from energy to forests.

The constellation currently counts **4 fully operational satellites** (two first-generation CSK and two second-generation CSG), to which **CSG-FM3** is now added. So far, the total acquisitions have produced a catalog of about **4,300,000 images**. The system is realized thanks to the collaboration of the national industrial chain: **Thales Alenia Space** (satellites and space segment), **Telespazio** (ground segment and operations), **e-GEOS** (data commercialization), and **Leonardo** (onboard technologies and systems). With the second generation, the **Ministry of Defense** and **ASI** strengthen a strategic infrastructure that combines innovation and vision, benefiting security, environment, and economy.

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**News link:** https://www.asi.it/2026/01/lanciato-con-successo-cosmo-skymed-csg-fm3-potenziato-il-sistema-italiano-di-osservazione-della-terra/