

EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Data Management Systems (4)

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DLR CONTRIBUTIONS TO THE GMES PAYLOAD DATA GROUND SEGMENT

Abstract

The European Global Monitoring for Environment and Security (GMES) project aims to create a new European fleet of radar and optical earth monitoring satellites, the Sentinels. These ESA built and ESA and EUMETSAT operated fleet will be accompanied by European national satellite missions, altogether constituting the GMES contributing missions. The German Aerospace Center, DLR, contributes to this fleet of satellites with very high resolution SAR (TerraSAR-X, TanDEM-X) and hyperspectral (EnMAP) earth observation missions. Besides operating the ground segment for these GMES contributing missions, DLR also operates the ground segment for commercial missions operated from and by German companies. DLR is also part of the current ESA network of receiving stations and Processing and Archiving Centers (PACs) as well as a major element of a EUMETSAT Satellite Application Facility (SAF).

From the contributing missions' point of view, this paper gives an overview of the state and plans for German national missions and the current state and plans to integrate DLR facilities and systems into the European ground segment and data management framework for earth observation missions. The aim of this integration is to support earth observation applications such as rapid reaction for emergency response and local monitoring (e.g. ship detection), continental wide monitoring of land cover change and global scale climatic and atmospheric investigations.

Technical issues covered include new data link and transfer concepts (such as optical communication), near polar acquisition stations, sophisticated data and process management as well as harmonized access interfaces.