

EARTH OBSERVATION SYMPOSIUM (B1)
International Cooperation in Earth Observation Missions (1)

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GMES SPACE COMPONENT - PROGRAMME OVERVIEW

Abstract

GMES (Global Monitoring for Environment and Security) is the most ambitious operational Earth Observation programme to date. Once operational it will provide joined-up, timely, reliable and easily accessible information in domains such as natural disaster planning and response, the environment, agriculture, land use, ocean monitoring, climate change and security.

GMES has three main components: Space, In-situ and Services Component. The European Union is responsible for the overall GMES initiative, setting requirements and managing the services. The In-situ component is composed of atmospheric, airborne and Earth based monitoring data collection systems owned and operated at national, regional and intergovernmental levels inside and outside the EU. An initiative to document in-situ needs and assets is being coordinated by the European Environment Agency (EEA).

The Space Component, led by the European Space Agency (ESA), will serve users with satellite data which will come from two different sources: dedicated Sentinel missions and GMES Contributing Missions. The former are specifically developed by ESA to meet specific GMES user needs while the latter are missions designed for other purposes by European, national and international partners, but provide some of their observation capacity also to GMES.

Five families of Sentinel missions are being developed. They will provide a unique set of observations using SAR, multispectral, altimeter and atmospheric chemistry sensors. The satellites will be launched from 2013 onwards.

Marine environmental monitoring: marine safety and transport, oil spill monitoring, water quality, weather forecasting and the polar environment;

Land monitoring: water management, agriculture and food security, land-use change, forest monitoring, soil quality, urban planning and natural protection services

Atmospheric monitoring: air quality, ultraviolet radiation forecasting, greenhouse gases, climate forcing;

Emergency management response: help mitigating the effects of natural and manmade disasters (e.g. flood, forest fire, earthquakes), and humanitarian aid;

Security: support for peace-keeping efforts, maritime surveillance and border control.

Climate change monitoring: which cross-cuts all of the above domains.

Contributing Missions follow different data policies according to each operator's business plan. Concerning the Sentinel missions, some data policy principles have already been agreed between the EC and ESA which promote a full and open access to Sentinel data.