Geophysical Research Abstracts
Vol. 14, EGU2012-4381, 2012
EGU General Assembly 2012
© Author(s) 2012

GMES Space Component: Programme overview

J. Aschbacher (1) and M.P. Milagro-Perez (2)

(1) ESA - ESRIN, Head of the GMES Space Office, Frascati (RM), Italy (josef.aschbacher@esa.int, 00390694188700), (2) ESA-ESRIN, GMES Expert, Frascati (RM), Italy (maria.milagro@esa.int, 00390694188707)

European Geosciences Union General Assembly, Vienna, Austria, 22-27 April 2012
Session: GI 2.5: GMES Sentinel Satellites: New Possibilities for Science
Title of the oral presentation: "GMES Space Component: Programme overview"
Authors: J. Aschbacher, M. P. Milagro-Pérez
Affiliation of the authors: GMES Space Office, ESA/ESRIN, V. G. Galilei, c.p. 64 00044 Frascati, Italy
E-mail: Josef.Aschbacher@esa.int, Maria.Milagro@esa.int

ABSTRACT

The European Union (EU) and the European Space Agency (ESA) have developed the Global Monitoring for Environment and Security (GMES) programme as Europe's answer to the vital need for joined-up data about our climate, environment and security. Through a unique combination of satellite, atmospheric and Earth-based monitoring systems, the initiative will provide new insight into the state of the land, sea and air, providing policymakers, scientists, businesses and the public with accurate and timely information.
GMES capabilities include monitoring and forecasting of climatic change, flood risks, soil and coastal erosion, crop and fish resources, air pollution, greenhouse gases, iceberg distribution and snow cover, among others.
To accomplish this, GMES has been divided into three main components: Space, In-situ and Services.
The Space Component, led by ESA, comprises five types of new satellites called Sentinels that are being developed by ESA specifically to meet the needs of GMES, the first of which to be launched in 2013. These missions carry a range of technologies, such as radar and multi-spectral imaging instruments for land, ocean and atmospheric monitoring. In addition, access to data from the so-called Contributing Missions guarantees that European space infrastructure is fully used for GMES. An integrated Ground Segment ensures access to Sentinels and Contributing Missions data.
The in-situ component, under the coordination of the European Environment Agency (EEA), is composed of atmospheric and Earth based monitoring systems, and based on established networks and programmes at European and international levels.
The European Commission is in charge of implementing the services component of GMES and of leading GMES overall. GMES services, fed with data from the Space and In-situ components, will provide essential information in five main domains, atmosphere, ocean and land monitoring as well as emergency response and security. Climate change has been added as a new GMES service and cross-cuts all these domains.
Even if GMES is built to primarily serve operational services, there is a large benefit for science users as well. In addition, science will be crucial to advance services and provide critical input to the definition of new observation systems.
Access to Sentinel data is governed by the Sentinel data policy, which is part of a wider GMES data and information access policy.
The Sentinel data policy envisages free and open access, subject to restrictions only if security or other European interests need to be preserved.

The programme will enter the operational phase in 2014, when the first dedicated spacecraft, the Sentinel missions, will be in orbit. The main programmatic challenge is to ensure the programme's long-term sustainability.

This session aims at informing users about the current programme's overall status and its potential for users in the services and scientific fields.