GLOBAL MONITORING FOR ENVIRONMENT AND SECURITY

GMES in Central and Eastern Europe: Role for Private Sector

Global Monitoring for Environment and Security (GMES) is a European programme that deals with natural hazards, humanitarian aid, environmental protection, risk and disaster management, and security. The authors have analysed penetration of GMES within Central and Eastern Europe and conclude that it is still not well known there. They advocate that this should be changed by, among other measures, the active role of the private sector.

Recent years have confronted mankind with many natural and manmade catastrophes. Today’s technology enables early warning, prevention and rescue operations. Disaster management is an important topic, as witnessed by many articles in this journal too. Important here is the availability of timely information. This has been recognised by European authorities (see sidebar) and led to the creation of the GMES programme. GMES aims at using remote-sensing data, especially today’s wealth of very high-resolution satellite data, to improve monitoring of the European and global environment for sustainable management of resources and security of citizens. The programme should ensure European independence in terms of critical data sources and is considered a European flagship programme next to the Galileo navigation system. Future high-resolution satellites should also be of European origin, and not exclusively American.

GMES Diamond


The goal of these conferences has been to agree on an Action Plan for GMES for 2007-2015, with identified milestones. The Graz conference explored how a market might be developed for GMES beyond the mostly national governmental institutions. GMES is based on four interrelated components: services, observations from space, in-situ (including airborne) observations and data integration and information management capacity. Together these have been called the GMES diamond. The data is made available via GMES services. A few already exist; however, the majority is still to be developed. The goals of GMES are:

- Informational: creation of a European Shared Information System (ESIS) for exchange of a wide range of information on environment and security matters. By 2008 the ESIS, together with the GMES Information Highway, should have been established, using both in-situ and satellite data
- Collaborative: bringing data and information providers together with users to increase mutual understanding and agreement on how to make environmental information available to the people who need it. By 2008 has to be a Partnership of Key European Actors working together
- Organisational: creating permanent dialogue through a specific authority and funding framework. By 2008 a GMES Secretariat and Advisory Council, and the Programme Office, should be off the ground.

Bipolar Organisation

The two major organisational entities are the Advisory Council and the Programme Office. The Advisory Council has to warrant
political ownership of GMES and to provide strategic guidelines for integration of users with services to safeguard harmonisation of data and interoperability, co-ordinate European and national activities, and facilitate establishment of partnerships for development of services. The Advisory Council brings together representatives from the EU/ESA member states, EC and ESA and other stakeholders on an ad hoc basis. The latter include relevant international organisations, representatives of end users, industry, service providers, research organisations and universities. Members will be high-level, authoritative individuals with decision-making capability, who should be able to contribute significant advice and influence stakeholders in planning operational and research programmes.

The GMES Programme Office (GPO) is responsible for operational management and has to support common EC and ESA goals by preparing further calls for proposals and tenders, developing different scenarios for long-term organisation, and finding ways of establishing partnerships. The GPO core group consists of EC and ESA representatives supported by experts from member states and relevant international organisations. EU member states participate via the PECS (Plan for European Co-operating States) mechanism, which describes activities, projects and budget for each country’s co-operation with ESA. Another, easier, option is the ESA Programme participation mechanism.

**Risk Reduction**

'The geo-hazards, floods, earthquakes, windstorms and droughts have been identified as the most costly for Europe in terms of humanitarian costs (people killed) and related damages (people affected). Considering these hazards together with extreme temperatures, forest and scrub fires, and volcanic eruptions, GMES could reduce the overall risk and therefore losses of life and losses due to damage to the value of â‚¬74 million by improved monitoring. This would increase to â‚¬370 million by improved understanding of these events, and to over â‚¬1,000 million if significantly improved forecasting and prediction could be achieved.'


**New Members**

Following the May 2004 enlargement of the EU, new member states have to become part of the GMES programme. This was the goal of the conference ‘Integration of the new EU Member Countries into the GMES Programme’ that took place from 12th to 14th December 2005 in Warsaw, Poland (see also www.eurisy.org). Conference participants agreed that:

- formal integration needed to be accelerated
- legislation needed to be adapted to facilitate development and deployment of Earth-observation applications, either at national or EU level, following the example of water-framework regulations
- timely availability, pricing and licensing of data, services and products were crucial for the deployment of GMES and needed to be anticipated in legal instruments
- partnerships were a key factor for integration, so that bilateral partnerships had to be encouraged.

**Broad Benefits**

It is the vision of GMES that everybody benefits from the services. These benefits include more cost-effective collection of information, improved accuracy of decisions, increased availability of reliable information, more citizen participation in democratic processes and enhanced trust in government data. Many users could benefit from GMES. Public-sector organisations may access reliable, timely and cost-effective information on environment and security issues. Scientists may benefit by better access to data for their research work, which might involve pressures on climate and environment. Citizens can directly view high-quality data for weather forecast, assessing their exposure to risk and exercising their democratic rights. Industry may become an operator in the value chain, or might use new environmental and security information for higher-quality services or products. However, looking at the present projects, it seems that the public-sector, and in particular European institutions, will be the main beneficiaries.

**Raising Awareness**

In general, end users such as citizens are not aware of GMES and do not directly benefit from it. The situation is worse in Central and Eastern Europe. In this Poland is the most advanced country, but even here there seems to be no real activity apart from very active research participation. The situation is similar in other countries: the research side is very active, primarily as a result of EC ‘6th Framework Programme’ funding. National governments in many countries of Eastern Europe need to be far better informed about the GMES initiative. So there is a clear need for more awareness raising regarding GMES in these countries. Some projects for the promotion of GMES are underway, with a few concentrating on Central and Eastern Europe. The major and ‘official’ GMES dissemination project is GENACS: GMES European-wide Network Assistance and Co-ordination Support. The main objective for GENACS is to raise awareness of GMES, particularly within New European Union Member States. One means used is the website www.gmes.info. GENACS is funded by the 6th Framework Programme as Support Action to the EC, as GMES still lacks supporters in new EU member states; it is due to historical reasons that ‘old’ EU member states are working together on GMES issues. In the near future the GENACS Consortium will inform institutional stakeholders in new EU member states on opportunities for taking part in projects funded by the 7th Framework Programme.

**Concluding Remarks**

Before GMES can eventually reach the citizen the private sector has to adopt an active role. It is not only public administrations that have an obligation to follow European Programmes such as GMES, but the private sector has to realise the opportunities offered by such programmes for future and innovative services and revenue creation. The private sector is particularly asked to take a more proactive stance. Existing projects demonstrate that there is also space for both small and medium-sized enterprises.